TDI - BROOKS INTERNATIONAL, INC.
B&B Laboratories, Inc.
College Station, TX

Arcadis
Mayflower AR Project
(Contract # B0086003.1302)
August 3, 2013 through August 5, 2013
Collection Dates

Determination of:
Aliphatic Hydrocarbons (ALI), Total Petroleum Hydrocarbons (TPH), and Polycyclic Aromatic Hydrocarbons (PAHs) in Sediment Samples

(QC Batch ENV 3082)

September 16, 2013

Technical Report 13-3101

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Introduction

B&B Laboratories received a shipment of three (3) ice chests that were sent by Daniel Mays of Arcadis using FedEx on August 5, 2013 and arrived on August 6, 2013 in College Station, Texas. The ice chests arrived sealed and in good condition.

Cooler Number	Temperature	Samples Received
1	5.0°C 1.6°C (Temp Blank)	Twenty-one (21) soils in 8oz or 4oz jars
2	0.2°C 1.2°C (Temp Blank)	Twenty (20) sediments in 8oz or 4oz jars Two (2) 1L water samples in B/R amber bottles.
3	0.0°C 1.1°C (Temp Blank)	Twenty-one (21) sediments in 8oz or 4oz jars Two (2) 1L water samples in B/R amber bottles.

The water and sediment/soil samples were collected between August 2, 2013 and August 5, 2013 in support of the Mayflower AR, Project (Arcadis-US Contract # B0086003.1302). The water samples were logged in according to B&B Laboratories standard operating procedure (B&B 1009) and were stored in an access-controlled refrigerator (4.0°C) prior to analysis. The sediment/soil samples were logged in according to B&B Laboratories standard operating procedure (B&B 1009) and were stored in an access-controlled freezer (<-16.0°C) prior to analysis. Selected sediment samples were analyzed for Total Petroleum Hydrocarbons (TPH) and C_9 to C_{40} Aliphatic Hydrocarbons (ALI) by GC/FID, Polycyclic Aromatic Hydrocarbons (PAH) by GC/MS-SIM, and selected biological markers by GC/MS-SIM.

The analytical results for TPH, ALI, PAH, selected hopane's, and TAS compounds in the sediment samples are included in this report.

Analytical Methods

The standard operating procedures for TPH, ALI, PAH, hopanes, and TAS are listed in Table 1.

Table 1. Standard Operating Procedures for each analytical test.

Matrix	Extraction	ALI/TPH	PAH
Sediment	B&B 1003	B&B 1016	B&B 1006

Data Reporting

The reporting units for each analyte are listed in Table 2. Analytes that are detected below the method detection limit are qualified as "J". Analytes that are detected in the procedural blanks greater than 3X MDL are qualified with a "B". Analytical interference's that are detected in the sample are qualified with an "I". Analytes not detected in the samples are qualified with a "U". The RPD for analytes in duplicate samples that are <3X MDL are qualified with a "X". Spiked levels of analytes in matrix spikes that are <50% of the native levels are considered invalid spikes and are qualified with a "Y". Any QC result reported to be outside the corresponding QC criteria is discussed in the QA/QC variance section of this report. Data Qualifier Definitions are listed in Table 3. The method detection limits (MDL) for each analyte are listed in Table 4.

Table 2. Analytical reporting units.

Matrix	TPH	ALI	PAH
Sediment	µg/dry g	µg/dry g	ng/dry g

Table 3. Data Qualifier Definitions.

Qualifier	Definition
B	Analyte detected in the procedural blank greater than 3X MDL
D	Diluted Value
E	Analyte concentration exceeds the calibration range of the GC/MS for that specific analysis.
I	Analytical interference
J	Analyte detected below the method detection limit
L	Loss due to matrix effect
NA	Not Applicable
U	Analyte not detected
X	Analyte <3X MDL
Y	Spiked level of analyte <50% of the native concentration
*	Outside QA limits, refer to narrative

Table 4. Method Detection Limits.

Aliphatics	**Sediment MDLs**
Sample size	15 g, 1ml final extract volume
Unit of measure	µg/g
n-C9	0.012
n-C10	0.021
n-C11	0.016
n-C12	0.019
n-C13	0.045
i-c15	0.016
n-C14	0.013
i-c16	0.004
n-C15	0.016
n-C16	0.004
i-c18	0.004
n-C17	0.003
Pristane	0.003
n-C18	0.004
Phytane	0.006
n-C19	0.005
n-C20	0.012
n-C21	0.004
n-C22	0.003
n-C23	0.008
n-C24	0.005
n-C25	0.007
n-C26	0.008
n-C27	0.011
n-C28	0.011
n-C29	0.021
n-C30	0.013
n-C31	0.015
n-C32	0.012
n-C33	0.021
n-C34	0.016
n-C35	0.015
n-C36	0.016
n-C37	0.017
n-C38	0.019
n-C39	0.019
n-C40	0.019
Total Petroleum Hydrocarbons	1.4
Total Resolved Hydrocarbons	1.4
Unresolved Complex Mixture	1.4
Extractable Organic Matter	100

Table 4. Continued. Method Detection Limits.

PAH Sample size Unit of measure	Sediment MDLs 15.0 g, 1ml final extract volume ng/g
cis/trans Decalin	0.132
C1-Decalins	0.263
C2-Decalins	0.263
C3-Decalins	0.263
C4-Decalins	0.263
Naphthalene	0.342
C1-Naphthalenes	1.03
C2-Naphthalenes	0.684
C3-Naphthalenes	0.684
C4-Naphthalenes	0.684
Benzothiophene	0.090
C1-Benzothiophenes	0.180
C2-Benzothiophenes	0.180
C3-Benzothiophenes	0.180
C4-Benzothiophenes	0.180
Biphenyl	0.294
Acenaphthylene	0.041
Acenaphthene	0.103
Dibenzofuran	0.204
Fluorene	0.183
C1-Fluorenes	0.367
C2-Fluorenes	0.367
C3-Fluorenes	0.367
Carbazole	0.150
Anthracene	0.115
Phenanthrene	0.208
C1-Phenanthrenes/Anthracenes	0.077
C2-Phenanthrenes/Anthracenes	0.285
C3-Phenanthrenes/Anthracenes	0.285
C4-Phenanthrenes/Anthracenes	0.285
Dibenzothiophene	0.116
C1-Dibenzothiophenes	0.064
C2-Dibenzothiophenes	0.232
C3-Dibenzothiophenes	0.232
C4-Dibenzothiophenes	0.232
Fluoranthene	0.333
Pyrene	0.136
C1-Fluoranthenes/Pyrenes	0.469
C2-Fluoranthenes/Pyrenes	0.469
C3-Fluoranthenes/Pyrenes	0.469
C4-Fluoranthenes/Pyrenes	0.469
Naphthobenzothiophene	0.128
C1-Naphthobenzothiophenes	0.256
C2-Naphthobenzothiophenes	0.256
C3-Naphthobenzothiophenes	0.256
C4-Naphthobenzothiophenes	0.256
Benz(a)anthracene	0.192
Chrysene/Triphenylene	0.116
C1-Chrysenes	0.232

PAH (continued) Sample size Unit of measure	Sediment MDLs 15.0 g, 1ml final extract volume ng/g
C2-Chrysenes	0.232
C3-Chrysenes	0.232
C4-Chrysenes	0.232
Benzo(b)fluoranthene	0.203
Benzo(k,j)fluoranthene	0.098
Benzo(a)fluoranthene	0.098
Benzo(e)pyrene	0.177
Benzo(a)pyrene	0.101
Perylene	1.27
Indeno(1,2,3-c,d)pyrene	0.050
Dibenzo(a,h)anthracene	0.064
Benzo(g,h,i)perylene	0.088
Individual Alkyl Isomers,TAS, and Hopanes	
2-Methylnaphthalene	1.30
1-Methylnaphthalene	0.546
2,6-Dimethylnaphthalene	0.261
1,6,7-Trimethylnaphthalene	0.127
1-Methylfluorene	0.191
4-Methyldibenzothiophene	0.091
2/3-Methyldibenzothiophene	0.091
1-Methyldibenzothiophene	0.091
3-Methylphenanthrene	0.097
2/4-Methylphenanthrene	0.097
2-Methylanthracene	0.097
9-Methylphenanthrene	0.097
1-Methylphenanthrene	0.097
3,6-Dimethylphenanthrene	0.110
Retene	0.231
2-Methylfluoranthene	0.223
Benzo(b)fluorene	0.125
C29-Hopane	0.575
18a-Oleanane	0.575
C30-Hopane	0.575
C20-TAS	0.575
C21-TAS	0.575
C26(20S)-TAS	0.575
C26(20R)/C27(20S)-TAS	0.575
C28(20S)-TAS	0.575
C27(20R)-TAS	0.575
C28(20R)-TAS	0.575

Quality Assurance/Quality Control - Sediment

Total Petroleum Hydrocarbons (TPH) and Aliphatic Hydrocarbons (ALI)

The quality assurance/quality control procedure for this program included the analyses of a procedural blank, laboratory duplicate, and a matrix spike/matrix spike duplicate per analytical batch of no more than 20 samples. Additionally, a standard reference material (SRM) was analyzed with each data set. The SRM is a petroleum sample (NIST SRM 2779) that is analyzed with each TPH/ALI run and for which controls are established based on performance. Procedural blanks are used to determine that sample preparation and analyses are free of contaminants. The laboratory duplicate sample is used to determine the precision of the analysis. The matrix spike/matrix spike duplicate are used to measure accuracy and precision of the analysis. All QC samples are subject to the identical preparation and analysis steps as samples. The QC criterion for blanks specifies no more than 2 analytes to exceed 3x target MDL unless analyte not detected in associated sample(s) or analyte concentration >10x blank value. The QC criteria for spike recoveries are between 40-120%. The QC criterion for RPDs in valid spiked duplicates is ≤30%. The QA criterion for RPDs for valid laboratory duplicates is ≤30%. The QC criterion for the NIST SRM 2779 is <20% of the laboratory determined mean.

Surrogate solutions equivalent to 5-10X the MDL are prepared for various hydrocarbon analyses. The appropriate surrogate solution is added to every sample including quality control samples. The data are corrected based on surrogate recovery up to 100%. The QC criteria for surrogate recoveries are between 40-120%. Refer to Table 5 for Method Performance Criteria for Aliphatic Hydrocarbons and TPH.

Polycyclic Aromatic Hydrocarbons (PAH)

The quality assurance/quality control procedure for this program included the analyses of a procedural blank, laboratory duplicate, a matrix spike/matrix spike duplicate, and a sediment SRM (NIST SRM 1941b) of no more than 19 samples. A standard reference oil (NIST 2779) was analyzed with this data set. Procedural blanks are used to determine that sample preparation and analyses are free of contaminants. The laboratory duplicate sample is used to determine the precision of the analysis. The matrix spike/matrix spike duplicate is used to measure accuracy and precision of the analysis. A SRM is a material for which a mean and confidence interval are certified for specific analytes. SRMs are selected based on matrix similarities as well as type and level of certified analytes. All SRMs are traceable to NIST. SRMs are used to verify analytical accuracy. All QC samples are subject to the identical preparation and analysis steps as samples. The QC criterion for blanks specifies no more than 2 analytes to exceed 3x target MDL unless analyte not detected in associated sample(s) or analyte concentration >10x blank value. The QC criteria for spike recoveries are between 40-120% (except for Biphenyl which is 40% to 140%, Decalin which is 25% to 120%, and Perylene which is 10-120%). The QC criterion for RPDs for valid spiked duplicates is ≤30%. The QC criterion for RPDs for valid laboratory duplicates is ≤30%. The QC criterion for the reference sediment 1941b SRM is ± 30% the NIST certified concentration range for those compounds whose concentration is greater than the laboratory method detection limit. The QC criterion for the reference oil 2779 SRM is ± 20% the NIST reference range for those compounds whose concentration is greater than the detection limit of10 ng/g.

Surrogate solutions equivalent to 5-10X the MDL are prepared for various hydrocarbon analyses. The appropriate surrogate solution is added to every sample including quality control samples. The data are corrected based on surrogate recovery up to 100%. The QC criteria for surrogate recoveries are between 40-120%, except d12-perylene whose recovery criteria are 10-120%. Refer to Table 6 for Method Performance Criteria for PAH.

Quality Assurance/Quality Control Variances - Sediments

Aliphatic Hydrocarbons (ALI) and Total Petroleum Hydrocarbons (TPH)

Initial Calibration (Six Point)

Observation

- No variances were observed.

Initial Calibration Verification

Observation

- No variances were observed.

Mass Discrimination Ratio

Observation

- No variances were observed.

Internal Standard Area Response

Observation

- No variances were observed.

Continuing Calibration Checks

Observation

- No variances were observed.

Surrogate Recoveries

Observation

- No variances were observed.

Procedural Blank

Observation

- No variances were observed.

Matrix Spike/Matrix Spike Duplicate

Observation

- No variances were observed.

Laboratory Duplicate

Observation

- No variances were observed.

Laboratory Control Standard (Petroleum)

Observation

- No variances were observed.

Additional QC Batch Information

Observation

- No variances were observed.

Polycyclic Aromatic Hydrocarbons (PAH)

Initial Calibration (Six Point)

Observation

- No variances were observed.

Initial Calibration Verification

Observation

- No variances were observed.

Mass Discrimination Ratio

Observation

- No variances were observed.

Internal Standard Area Response

Observation

- No variances were observed.

Continuing Calibration Checks

Observation

- No variances were observed.

Surrogate Recoveries

Observation

- d12-Perylene was detected outside of the QC% recovery limits of 10 to 120% in ten (10) client submitted samples and two (2) internal QC samples (which used client submitted samples; MS and MSD).

Comment

- The recovery of this surrogate outside the QC limits is due to a matrix effect and is qualified with an "L" when appropriate.

Procedural Blank

Observation

- No variances were observed

Matrix Spike/Matrix Spike Duplicate

Observation

- Carbazole, Anthracene, Benzo(a)pyrene and Benzo(g,h,i)perylene were detected outside of the QC %recovery limits of 40% to 120% in ENV3082C MS (SED-DA-012 (0-0.5) MS/MSD)). Carbazole, Anthracene, Benzo(a)pyrene and Benzo(g,h,i)perylene were detected outside of the QC %recovery limits of 40% to 120% in ENV3082D MSD (SED-DA-012 (0-0.5) MS/MSD)).

Comment

- The poor recovery of analytes outside the QC limits is due to a matrix effect in the sediment samples. These analytes are qualified with an "L".

Laboratory Duplicate

Observation

- No variances were observed.

Laboratory Control Standard (Solution, Sediment, and Petroleum)

Observation

- 2-Methylphenanthrene was detected outside of the certified concentration limits of ±20% in MS70060K (AR-SRM2779-WK-4.0-002).

Comment

- It is unknown as to why this analyte was detected outside of the certified concentration limits of ±20% in the reference oil material.

Additional QC Batch Information

Observation

- The concentrations reported for the C1-Naphthalenes, C1-Dibenzothiophenes, and the C1-Phenanthrene/Anthracenes are calculated using the RRF of the parent compound (Naphthalene, Dibenzothiophene, and Phenanthrene). The concentration of these individual isomers is based on their RRF or an individual isomer from the same family.

- Labeling of Perylene outside of the calibration range of the GC/MS with an "E" code was made in consultation with Dr. Ted Sauer.

- Labeling of d12- Perylene outside of the laboratory recovery limits is labeled with the "L" qualifier to indicate a loss due to matrix effect was made in consultation with Dr. Ted Sauer.

- Labeling of the four compounds (Carbazole, Anthracene,Benzo(a)pyrene and Benzo(g,h,i)perylene) outside of the laboratory recovery limits in the MS and MSD internal QC samples are labeled with the "L" qualifier to indicate a loss due to matrix effect was made in consultation with Dr. Ted Sauer.

Table 5. Method Performance Criteria for Alkanes/Isoprenoids Compounds and Total Petroleum Hydrocarbons

Element or Sample Type	Minimum Frequency	Measurement Quality Objective/ Acceptance Criteria	Corrective Action
Initial Calibration (all target analytes, except i-C13, i-C14, i-C15 and i-C18)	Prior to every sequence, or as needed based on continuing calibration/verification check.	6-point calibration curve %RSD ≤ 15	Resolve before proceeding.
Continuing Calibration Verification (CCV)	Every 12 hours or every 10 field samples, whichever is more frequent	%D ≤ 25	Perform Instrument Maintenance. Re-analyze affected samples.
Initial Calibration Verification (Second Source or can be met if CCAL is second source)	Per initial calibration	%R target analytes 80-120%	Resolve before proceeding.
SRM 2779 Reference Oil (Instrument SRM)	One per batch per GC sequence	Baseline resolution of n-C17 from pristane and analytes must be <20% of laboratory derived mean	Resolve before proceeding.
Performance Evaluation Mixture (PEM)	One per batch per GC sequence	%R 75-125%	Resolve before proceeding.
Matrix Spike/Matrix Spike Duplicate (Sediments, Soils, Tissues only)	One per batch/every 20 field samples	%R 40% - 120% for target analytes; average %R 60-120% for valid spikes, RPD ≤30%. No more than 2 analytes may exceed 40-120%	Evaluate impact to data, discuss with manager to determine if corrective action is needed.
Blank Spike/Blank Spike Duplicate	One per batch/every 20 field samples	%R 40% - 120% for target analytes; RPD ≤30%. No more than 2 analytes may exceed 40-120%	Evaluate impact to data, discuss with lab manager to determine if corrective action is needed.
Procedural Blank	One per batch/every 20 field samples	No more than 2 analytes to exceed 3x MDL unless analyte not detected in associated sample(s) or analyte concentration >10x blank value	Resolve before proceeding. QA coordinator may be contacted to resolve issues.
Laboratory Duplicate (not required for aqueous samples)	One per batch/every 20 field samples	RPD ≤ 30% if analyte concentration is 3x greater than the MDL, no more than 2 individual analyte RPDs with conc. 3x MDL can exceed 35%.	Evaluate impact to data, discuss with lab manager to determine if corrective action is needed.
Mass Discrimination	Initial calibration and CCVs (mid-level)	Ratio for the raw areas of n-C36 / n-C20 ≥0.70	Resolve before proceeding.
Internal Standard (IS)	Every sample	50% - 200% of the area of the IS in the associated calibration standard	Resolve before proceeding.
Surrogates	Every sample	%R 40-120%	Re-extract affected samples. Evaluate impact to data, discuss with lab manager to determine if corrective action is needed.

Table 6. Method Performance Criteria for Extended PAH (Parent and Alkyl Homologs) and Related Compounds.

Element or Sample Type	Minimum Frequency	Measurement Quality Objective/ Acceptance Criteria	Corrective Action
Tuning	Prior to every sequence	Tune as specified in laboratory SOP	Resolve before proceeding.
Initial Calibration (All parent PAH and selected alkyl homologue PAH)	Prior to every sequence, or as needed based on continuing calibration/verification check.	6-point calibration curve over two orders of magnitude RPD ≤ 20%	Resolve before proceeding.
Continuing Calibration Verification (CCV)	Every 12 hours or 6-9 field samples	RPD ≤ 25%, No more than 2 analytes can be between 25% and 35% RPD.	Perform instrument maintenance. Re-analyze affected samples.
Initial Calibration Verification (Second Source or can be met if CCV is second source)	Per initial calibration	%R target analytes 80-120%	Resolve before proceeding.
SRM 1941b for sediment; SRM 1974c for tissue If available use SRMs for appropriate matrices	One per batch/every 20 field samples	Within ±30% of NIST 95% uncertainty range for analytes within the quantitation range. No more than 2 analytes may exceed this criterion.	Resolve before proceeding.
SRM 2779 Reference Oil	One per batch/every 20 field samples	Peak resolution >70% of 4/9-methylphenanthrene from 1-methylphenanthrene (m/z 192). Within ±20% of NIST 95% uncertainty range for analytes within the quantitation range. No more than 2 analytes may exceed this criterion.	Resolve before proceeding.
Matrix Spike/Matrix Spike Duplicate (Sediments, Soils, Tissues only)	One per batch/every 20 field samples	%R 40% - 120% for target analytes, except biphenyl (40-140%), decalin (25-120%) and perylene (10-120%); RPD ≤30%, average %R 60-120% for valid spikes. No more than 2 analytes may exceed 40-120% recovery or >35% RPD.	Evaluate impact to data, discuss with lab manager to determine if corrective action is needed.
Blank Spike/Blank Spike Duplicate	One per batch/every 20 field samples	See MS/MSD criteria above.	Evaluate impact to data, discuss with lab manager to determine if corrective action is needed.
Procedural Blank	One per batch/every 20 field samples	No more than 2 analytes to exceed 3x target MDL unless analyte not detected in associated sample(s) or analyte concentration >10x blank value	Resolve before proceeding. Lab manager may be contacted to resolve issues.
Laboratory Duplicate (not required for aqueous samples)	One per batch/every 20 field samples	RPD ≤ 30% if analyte concentration is 3x greater than the MDL, no more than 2 individual analyte RPDs with conc. 3x MDL can exceed 35%.	Evaluate impact to data, discuss with lab manager, and determine if corrective action is needed.

Table 6. Continued. Method Performance Criteria for Extended PAH (Parent and Alkyl Homologs) and Related Compounds.

Element or Sample Type	Minimum Frequency	Measurement Quality Objective/ Acceptance Criteria	Corrective Action
Mass Discrimination	Initial calibration and CCVs (mid-level)	Ratio for the concentration of Benzo[g,h,i]perylene to phenanthrene ≥0.70	Resolve before proceeding.
Internal Standard (IS)	Every sample	50% - 200% of the area of the IS in the associated calibration standard	Resolve before proceeding.
Surrogates	Every sample	%R 40-120% except d12-perylene which is 10-120%	Re-extract affected samples. Evaluate impact to data, discuss with lab manager, if corrective action is needed.

We appreciate the opportunity to serve your analytical needs and please do not hesitate to contact us should you have any questions.

Juan A. Ramirez
Environmental Laboratory Manager

Donell S. Frank
Project Quality Manager

Sample/Analyses Description

B&B Laboratories
Project J13034
Report 13-3101

Arcadis - Mayflower AR
Sample Inventory

Client Project #B0086003.1302

#	File Number	Client Identification	Collection Date	Received Date	Analysis	Matrix	Comments	B&B SDG	Client Project #
1	ARC1648	SED-DA-014 (0.5-1.0)	08/05/13	08/06/13	PAH	Sediment	44 analytes	13080601	B0086003.1302
2	ARC1649	SED-DA-015 (0.5-1.0)	08/05/13	08/06/13	PAH	Sediment	44 analytes	13080601	B0086003.1302
3	ARC1650	SED-DA-015 (1.0-1.5)	08/05/13	08/06/13	PAH	Sediment	44 analytes	13080601	B0086003.1302
4	ARC1651	SED-DA-016 (0.5-1.0)	08/05/13	08/06/13	PAH	Sediment	44 analytes	13080601	B0086003.1302
5	ARC1652	SED-DA-017 (0.5-1.0)	08/05/13	08/06/13	PAH	Sediment	44 analytes	13080601	B0086003.1302
6	ARC1654	SED-DA-008 (0.5-1.0)	08/03/13	08/06/13	PAH	Sediment	44 analytes	13080601	B0086003.1302
7	ARC1655	SED-DA-008 (1.0-1.5)	08/03/13	08/06/13	PAH	Sediment	44 analytes	13080601	B0086003.1302
8	ARC1656	SED-DA-007 (0.5-1.0)	08/03/13	08/06/13	PAH	Sediment	44 analytes	13080601	B0086003.1302
9	ARC1657	SED-DA-007 (1.0-1.5)	08/03/13	08/06/13	PAH	Sediment	44 analytes	13080601	B0086003.1302
10	ARC1658	SED-DA-006 (0.5-1.0)	08/03/13	08/06/13	PAH	Sediment	44 analytes	13080601	B0086003.1302
11	ARC1659	SED-DA-006 (1.0-1.5)	08/03/13	08/06/13	PAH	Sediment	44 analytes	13080601	B0086003.1302
12	ARC1660	SED-DA-005 (0.5-1.0)	08/03/13	08/06/13	PAH	Sediment	44 analytes	13080601	B0086003.1302
13	ARC1661	SED-DA-005 (1.0-1.5)	08/03/13	08/06/13	PAH	Sediment	44 analytes	13080601	B0086003.1302
14	ARC1666	SED-DA-012 (0-0.5)	08/04/13	08/06/13	PAH, TPH, ALI	Sediment		13080601	B0086003.1302
15	ARC1667	SED-DA-012 (0-0.5) MS/MSD	08/04/13	08/06/13	PAH, TPH, ALI	Sediment	1 of 2	13080601	B0086003.1302
16	ARC1669	SED-DA-013 (0-0.5)	08/04/13	08/06/13	PAH, TPH, ALI	Sediment		13080601	B0086003.1302
17	ARC1670	SED-DA-014 (0-0.5)	08/05/13	08/06/13	PAH, TPH, ALI	Sediment		13080601	B0086003.1302
18	ARC1671	SED-DA-015 (0-0.5)	08/05/13	08/06/13	PAH, TPH, ALI	Sediment		13080601	B0086003.1302
19	ARC1672	SED-DA-016 (0-0.5)	08/05/13	08/06/13	PAH, TPH, ALI	Sediment		13080601	B0086003.1302
20	ARC1673	SED-DA-017 (0-0.5)	08/05/13	08/06/13	PAH, TPH, ALI	Sediment		13080601	B0086003.1302

Sediment Samples

Aliphatic Hydrocarbons (C9 – C40)/ Total Petroleum Hydrocarbons/ Extractable Organic Matter Concentrations

Arcadis-Mayflower AR
Aliphatic Hydrocarbon and Total Petroleum Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1666.D	ARC1669.D	ARC1670.D	ARC1671.D
Client Name	SED-DA-012 (0-0.5)	SED-DA-013 (0-0.5)	SED-DA-014 (0-0.5)	SED-DA-015 (0-0.5)
Matrix	Sediment	Sediment	Sediment	Sediment
Collection Date	08/04/13	08/04/13	08/05/13	08/05/13
Received Date	08/06/13	08/06/13	08/06/13	08/06/13
Extraction Date	08/14/13	08/14/13	08/14/13	08/14/13
Extraction Batch	ENV 3082	ENV 3082	ENV 3082	ENV 3082
Date Acquired	20-Aug-2013, 07:10:15	20-Aug-2013, 09:31:37	20-Aug-2013, 10:42:16	20-Aug-2013, 11:52:52
Method	ALI2012.M	ALI2012.M	ALI2012.M	ALI2012.M
Sample Dry Weight (g)	15.0	15.2	15.1	15.1
Sample Wet Weight (g)	18.0	18.7	18.1	23.0
% Dry	83	81	83	66
% Moisture	17	19	17	34
% Lipid (dry)	NA	NA	NA	NA
% Lipid (wet)	NA	NA	NA	NA
Dilution	1X	1X	1X	1X

Target Compounds	Su. Corrected Conc. (µg/dry g)	Q	Su. Corrected Conc. (µg/dry g)	Q	Su. Corrected Conc. (µg/dry g)	Q	Su. Corrected Conc. (µg/dry g)	Q
n-C9	<0.012	U	<0.012	U	<0.012	U	<0.012	U
n-C10	<0.021	U	<0.021	U	<0.021	U	0.019	J
n-C11	<0.016	U	<0.016	U	<0.016	U	0.061	
n-C12	0.018	J	0.013	J	<0.019	U	0.322	
n-C13	0.009	J	0.007	J	<0.045	U	0.654	
i-C15	0.007	J	<0.016	U	<0.016	U	0.817	
n-C14	0.017		0.011	J	<0.013	U	1.357	
i-C16	0.002	J	<0.004	U	<0.004	U	1.501	
n-C15	0.008	J	0.004	J	<0.016	U	1.222	
n-C16	0.023		0.021		<0.004	U	1.428	
i-C18	0.006		<0.004	U	<0.004	U	1.182	
n-C17	0.062		0.005		<0.003	U	1.618	
Pristane	0.001	J	<0.003	U	<0.003	U	1.687	
n-C18	0.014		0.012		<0.004	U	1.326	
Phytane	0.004	J	<0.006	U	<0.006	U	1.969	
n-C19	0.010		0.006		<0.005	U	1.308	
n-C20	0.003	J	0.002	J	<0.012	U	0.954	
n-C21	0.012		0.004	J	<0.004	U	1.049	
n-C22	0.004		0.004		<0.003	U	0.717	
n-C23	0.007	J	0.005	J	<0.008	U	0.535	
n-C24	0.006		0.005	J	<0.005	U	0.612	
n-C25	0.009		0.010		<0.007	U	0.785	
n-C26	0.005	J	0.005	J	<0.008	U	0.473	
n-C27	0.015		0.012		<0.011	U	1.073	
n-C28	0.005	J	0.005	J	<0.011	U	0.496	
n-C29	0.021	J	0.035		<0.021	U	3.437	
n-C30	0.004	J	0.006	J	<0.013	U	0.663	
n-C31	0.019		0.021		<0.015	U	3.557	
n-C32	0.003	J	0.029		<0.012	U	0.234	
n-C33	0.015	J	0.072		<0.021	U	1.791	
n-C34	0.002	J	0.010	J	<0.016	U	0.346	
n-C35	0.005	J	0.031		<0.015	U	1.459	
n-C36	<0.016	U	<0.016	U	<0.016	U	0.474	
n-C37	<0.017	U	<0.017	U	<0.017	U	0.712	
n-C38	<0.019	U	<0.019	U	<0.019	U	<0.019	U
n-C39	<0.019	U	<0.019	U	<0.019	U	<0.019	U
n-C40	<0.019	U	<0.019	U	<0.019	U	<0.019	U
Total Alkanes	0.3		0.3			U	35.8	
Total Petroleum Hydrocarbons	12.5		5.10		<1.4	U	1841	
Total Resolved Hydrocarbons	3.02		3.24		<1.4	U	228	
Unresolved Complex Mixture	9.51		1.86		<1.4	U	1613	
EOM (µg/dry g)	50	J	32	J	28	J	4555	

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)	Su Recovery (%)	Su Recovery (%)
n-dodecane-d26	92	87	90	97
n-eicosane-d42	95	98	96	95
n-triacontane-d62	95	99	98	98

Arcadis-Mayflower AR
Aliphatic Hydrocarbon and Total Petroleum Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1672.D	ARC1673.D
Client Name	SED-DA-016 (0-0.5)	SED-DA-017 (0-0.5)
Matrix	Sediment	Sediment
Collection Date	08/05/13	08/05/13
Received Date	08/06/13	08/06/13
Extraction Date	08/14/13	08/14/13
Extraction Batch	ENV 3082	ENV 3082
Date Acquired	20-Aug-2013, 13:03:29	20-Aug-2013, 14:14:09
Method	ALI2012.M	ALI2012.M
Sample Dry Weight (g)	15.1	15.0
Sample Wet Weight (g)	23.4	20.3
% Dry	64	74
% Moisture	36	26
% Lipid (dry)	NA	NA
% Lipid (wet)	NA	NA
Dilution	1X	1X

Target Compounds	Su. Corrected Conc. (µg/dry g)	Q	Su. Corrected Conc. (µg/dry g)	Q
n-C9	<0.012	U	<0.012	U
n-C10	<0.021	U	0.024	
n-C11	0.006	J	0.032	
n-C12	0.049		0.121	
n-C13	0.022	J	0.235	
i-C15	0.119		0.426	
n-C14	0.048		0.687	
i-C16	0.139		0.931	
n-C15	0.217		0.834	
n-C16	0.122		1.077	
i-C18	0.166		0.874	
n-C17	0.044		1.241	
Pristane	0.017		1.290	
n-C18	0.259		1.108	
Phytane	0.121		1.572	
n-C19	0.132		0.960	
n-C20	0.035		0.781	
n-C21	0.253		0.911	
n-C22	0.113		0.579	
n-C23	0.124		0.591	
n-C24	0.122		0.566	
n-C25	0.245		0.631	
n-C26	0.058		0.384	
n-C27	0.576		0.865	
n-C28	0.407		0.505	
n-C29	2.841		1.078	
n-C30	0.255		0.618	
n-C31	1.870		1.111	
n-C32	0.164		0.352	
n-C33	1.646		0.709	
n-C34	0.178		0.264	
n-C35	1.320		0.682	
n-C36	0.084		0.255	
n-C37	1.233		0.690	
n-C38	<0.019	U	<0.019	U
n-C39	<0.019	U	<0.019	U
n-C40	<0.019	U	<0.019	U
Total Alkanes	13.0		23.0	
Total Petroleum Hydrocarbons	529		1462	
Total Resolved Hydrocarbons	343		168	
Unresolved Complex Mixture	186		1294	
EOM (µg/dry g)	1477		3004	

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)
n-dodecane-d26	98	98
n-eicosane-d42	94	87
n-triacontane-d62	92	84

Arcadis-Mayflower AR
Aliphatic Hydrocarbon and Total Petroleum Hydrocarbon Data
Procedural Blank Report

Sample Name	ENV3082A.D
Client Name	Procedural Blank
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	08/14/13
Extraction Batch	ENV 3082
Date Acquired	20-Aug-2013, 02:27:52
Method	ALI2012.M
Sample Dry Weight (g)	15.0
Sample Wet Weight (g)	NA
% Dry	NA
% Moisture	NA
% Lipid (dry)	NA
% Lipid (wet)	NA
Dilution	1X

Target Compounds	Su. Corrected Conc. (µg/dry g)	Q	Q	3X MDL Conc. (µg/dry g)	Actual MDL Conc. (µg/dry g)
n-C9	<0.012	U		0.037	0.012
n-C10	<0.021	U		0.064	0.021
n-C11	<0.016	U		0.049	0.016
n-C12	<0.019	U		0.056	0.019
n-C13	<0.045	U		0.134	0.045
i-C15	<0.016	U		0.049	0.016
n-C14	<0.013	U		0.039	0.013
i-C16	<0.004	U		0.013	0.004
n-C15	<0.016	U		0.049	0.016
n-C16	<0.004	U		0.013	0.004
i-C18	<0.004	U		0.011	0.004
n-C17	<0.003	U		0.010	0.003
Pristane	<0.003	U		0.008	0.003
n-C18	<0.004	U		0.011	0.004
Phytane	<0.006	U		0.018	0.006
n-C19	<0.005	U		0.015	0.005
n-C20	<0.012	U		0.037	0.012
n-C21	<0.004	U		0.012	0.004
n-C22	<0.003	U		0.010	0.003
n-C23	<0.008	U		0.024	0.008
n-C24	<0.005	U		0.016	0.005
n-C25	<0.007	U		0.021	0.007
n-C26	<0.008	U		0.023	0.008
n-C27	<0.011	U		0.032	0.011
n-C28	<0.011	U		0.033	0.011
n-C29	<0.021	U		0.064	0.021
n-C30	<0.013	U		0.038	0.013
n-C31	<0.015	U		0.044	0.015
n-C32	<0.012	U		0.035	0.012
n-C33	<0.021	U		0.064	0.021
n-C34	<0.016	U		0.049	0.016
n-C35	<0.015	U		0.044	0.015
n-C36	<0.016	U		0.047	0.016
n-C37	<0.017	U		0.052	0.017
n-C38	<0.019	U		0.057	0.019
n-C39	<0.019	U		0.056	0.019
n-C40	<0.019	U		0.056	0.019
Total Alkanes		U			
Total Petroleum Hydrocarbons	<1.4	U		4.20	1.40
Total Resolved Hydrocarbons	<1.4	U		4.20	1.40
Unresolved Complex Mixture	<1.4	U		4.20	1.40
EOM (µg/dry g)	<100	U		300	100

Surrogate (Su)	Su Recovery (%)
n-dodecane-d26	95
n-eicosane-d42	97
n-triacontane-d62	96

Arcadis-Mayflower AR
Aliphatic Hydrocarbon and Total Petroleum Hydrocarbon Data
Matrix Spike Report

Sample Name	ARC1666.D	ENV3082C.D	ENV3082D.D
Client Name	SED-DA-012 (0-0.5)	MS (SED-DA-012 (0-0.5))	MSD (SED-DA-012 (0-0.5))
Matrix	Sediment	Sediment	Sediment
Collection Date	08/04/13	08/04/13	08/04/13
Received Date	08/06/13	08/06/13	08/06/13
Extraction Date	08/14/13	08/14/13	08/14/13
Extraction Batch	ENV 3082	ENV 3082	ENV 3082
Date Acquired	20-Aug-2013, 07:10:15	20-Aug-2013, 03:38:27	20-Aug-2013, 04:49:04
Method	ALI2012.M	ALI2012.M	ALI2012.M
Sample Dry Weight (g)	15.0	15.1	15.0
Sample Wet Weight (g)	18.0	18.3	18.2
% Dry	83	82	82
% Moisture	17	18	18
% Lipid (dry)	NA	NA	NA
% Lipid (wet)	NA	NA	NA
Dilution	1X	1X	1X

Target Compounds	Su. Corrected Conc. (µg/dry g)	Q	Su. Corrected Conc. (µg/dry g)	Q	Recovery (%)	Q Q	Su. Corrected Conc. (µg/dry g)	Q	Recovery (%)	Q Q	RPD (%)	Q	Spike Amount (µg)
n-C9	<0.012	U	0.555		84		0.578		87		4		9.95
n-C10	<0.021	U	0.626		94		0.638		96		2		10.0
n-C11	<0.016	U	0.662		101		0.674		102		2		9.90
n-C12	0.018	J	0.672		98		0.685		100		2		10.0
n-C13	0.009	J	0.687		102		0.696		103		1		10.0
i-C15	0.007	J	NA				NA						
n-C14	0.017		0.697		104		0.708		105		2		9.86
i-C16	0.002	J	NA				NA						
n-C15	0.008	J	0.728		109		0.738		110		1		9.98
n-C16	0.023		0.720		105		0.731		107		1		10.0
i-C18	0.006		NA				NA						
n-C17	0.062		0.722		100		0.736		102		2		9.94
Pristane	0.001	J	0.709		108		0.720		109		2		9.90
n-C18	0.014		0.731		108		0.744		109		2		10.0
Phytane	0.004	J	0.714		108		0.727		109		2		9.91
n-C19	0.010		0.730		109		0.743		110		2		10.0
n-C20	0.003	J	0.724		108		0.734		110		1		10.0
n-C21	0.012		0.721		106		0.728		107		1		10.0
n-C22	0.004		0.732		110		0.738		111		1		9.95
n-C23	0.007	J	0.722		109		0.732		110		1		9.91
n-C24	0.006		0.720		107		0.727		108		1		10.0
n-C25	0.009		0.728		108		0.735		109		1		10.0
n-C26	0.005	J	0.731		110		0.735		110		1		10.0
n-C27	0.015		0.738		110		0.741		110		0		9.89
n-C28	0.005	J	0.741		110		0.743		110		0		10.0
n-C29	0.021	J	0.761		111		0.761		111		0		10.0
n-C30	0.004	J	0.725		109		0.711		106		2		10.0
n-C31	0.019		0.771		113		0.764		112		1		10.0
n-C32	0.003	J	0.725		109		0.718		107		1		10.0
n-C33	0.015	J	0.779		115		0.765		112		2		10.0
n-C34	0.002	J	0.736		110		0.714		107		3		10.0
n-C35	0.005	J	0.757		113		0.746		111		1		10.0
n-C36	<0.016	U	0.737		112		0.703		107		5		9.90
n-C37	<0.017	U	0.758		114		0.714		107		6		10.0
n-C38	<0.019	U	0.762		115		0.705		106		8		10.0
n-C39	<0.019	U	0.772		116		0.711		106		8		10.0
n-C40	<0.019	U	0.772		116		0.702		105		10		10.0
Average %Recovery					108				107				

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)	Su Recovery (%)
n-dodecane-d26	92	94	95
n-eicosane-d42	95	96	95
n-triacontane-d62	95	98	97

Arcadis-Mayflower AR
Aliphatic Hydrocarbon and Total Petroleum Hydrocarbon Data
Laboratory Duplicate Report

Sample Name	ARC1670.D	ENV3082E.D
Client Name	SED-DA-014 (0-0.5)	Dupl (SED-DA-014 (0-0.5))
Matrix	Sediment	Sediment
Collection Date	08/05/13	08/05/13
Received Date	08/06/13	08/06/13
Extraction Date	08/14/13	08/14/13
Extraction Batch	ENV 3082	ENV 3082
Date Acquired	20-Aug-2013, 10:42:16	20-Aug-2013, 05:59:37
Method	ALI2012.M	ALI2012.M
Sample Dry Weight (g)	15.1	15.1
Sample Wet Weight (g)	18.1	18.1
% Dry	83	83
% Moisture	17	17
% Lipid (dry)	NA	NA
% Lipid (wet)	NA	NA
Dilution	1X	1X

Target Compounds	Su. Corrected Conc. (µg/dry g)	Q	Su. Corrected Conc. (µg/dry g)	Q	RPD (%)	Q	Q	MDL (µg/dry g)	3X MDL (µg/dry g)
n-C9	<0.012	U	<0.012	U				0.012	0.037
n-C10	<0.021	U	<0.021	U				0.021	0.064
n-C11	<0.016	U	<0.016	U				0.016	0.049
n-C12	<0.019	U	<0.019	U				0.019	0.056
n-C13	<0.045	U	<0.045	U				0.045	0.134
i-C15	<0.016	U	<0.016	U				0.016	0.049
n-C14	<0.013	U	<0.013	U				0.013	0.039
i-C16	<0.004	U	<0.004	U				0.004	0.013
n-C15	<0.016	U	<0.016	U				0.016	0.049
n-C16	<0.004	U	<0.004	U				0.004	0.013
i-C18	<0.004	U	<0.004	U				0.004	0.011
n-C17	<0.003	U	<0.003	U				0.003	0.010
Pristane	<0.003	U	<0.003	U				0.003	0.008
n-C18	<0.004	U	<0.004	U				0.004	0.011
Phytane	<0.006	U	<0.006	U				0.006	0.018
n-C19	<0.005	U	<0.005	U				0.005	0.015
n-C20	<0.012	U	<0.012	U				0.012	0.037
n-C21	<0.004	U	<0.004	U				0.004	0.012
n-C22	<0.003	U	<0.003	U				0.003	0.010
n-C23	<0.008	U	<0.008	U				0.008	0.024
n-C24	<0.005	U	<0.005	U				0.005	0.016
n-C25	<0.007	U	<0.007	U				0.007	0.021
n-C26	<0.008	U	<0.008	U				0.008	0.023
n-C27	<0.011	U	<0.011	U				0.011	0.032
n-C28	<0.011	U	<0.011	U				0.011	0.033
n-C29	<0.021	U	<0.021	U				0.021	0.064
n-C30	<0.013	U	<0.013	U				0.013	0.038
n-C31	<0.015	U	<0.015	U				0.015	0.044
n-C32	<0.012	U	<0.012	U				0.012	0.035
n-C33	<0.021	U	<0.021	U				0.021	0.064
n-C34	<0.016	U	<0.016	U				0.016	0.049
n-C35	<0.015	U	<0.015	U				0.015	0.044
n-C36	<0.016	U	<0.016	U				0.016	0.047
n-C37	<0.017	U	<0.017	U				0.017	0.052
n-C38	<0.019	U	<0.019	U				0.019	0.057
n-C39	<0.019	U	<0.019	U				0.019	0.056
n-C40	<0.019	U	<0.019	U				0.019	0.056
Total Alkanes		U		U					
Total Petroleum Hydrocarbons	<1.4	U	<1.4	U				1.40	4.20
Total Resolved Hydrocarbons	<1.4	U	<1.4	U				1.40	4.20
Unresolved Complex Mixture	<1.4	U	<1.4	U				1.40	4.20
EOM (µg/dry g)	28	J	26	J	7				

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)
n-dodecane-d26	90	90
n-eicosane-d42	96	97
n-triacontane-d62	98	97

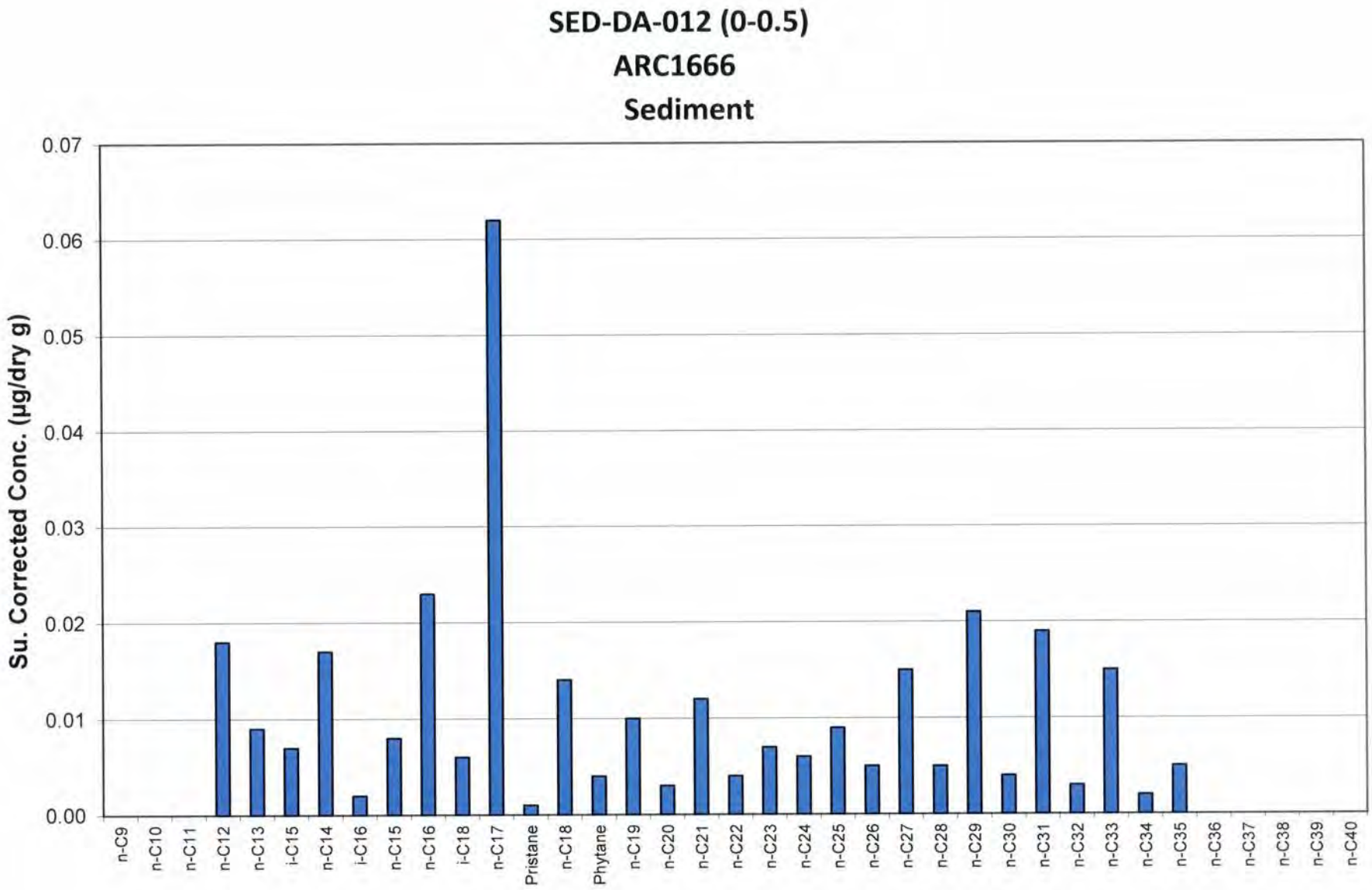
Arcadis-Mayflower AR
Aliphatic Hydrocarbon and Total Petroleum Hydrocarbon Data
Standard Reference Material Report

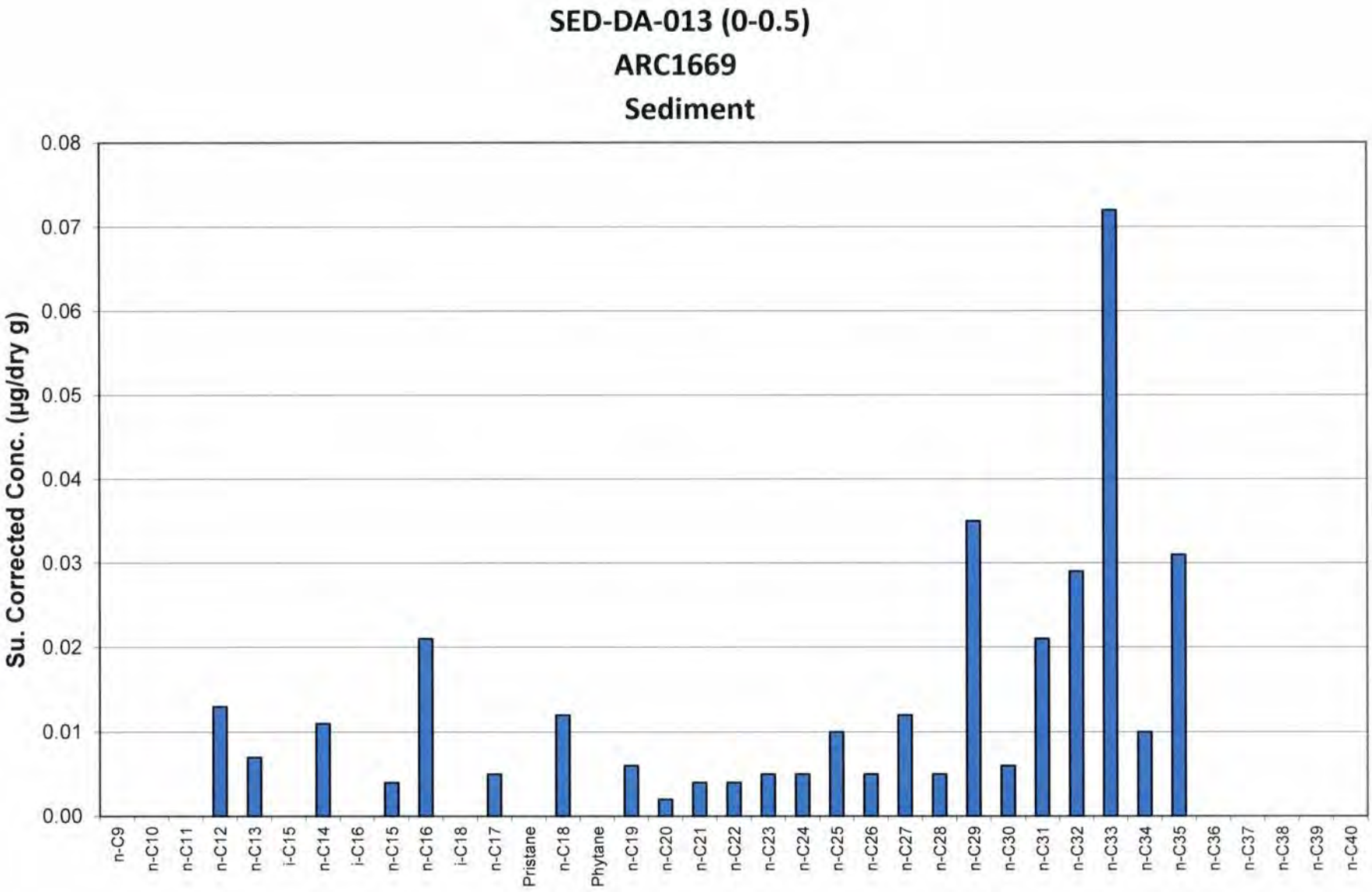
Sample Name	FID10080C.D
Client Name	AL-SRM2779-20-01
Matrix	Reference Oil
Collection Date	NA
Received Date	NA
Extraction Date	08/14/13
Extraction Batch	ENV 3082
Date Acquired	19-Aug-2013, 21:44:56
Method	ALI2012.M
Sample Dry Weight (mg)	20.0
Sample Wet Weight (mg)	NA
% Dry	NA
% Moisture	NA
% Lipid (dry)	NA
% Lipid (wet)	NA
Dilution	1X

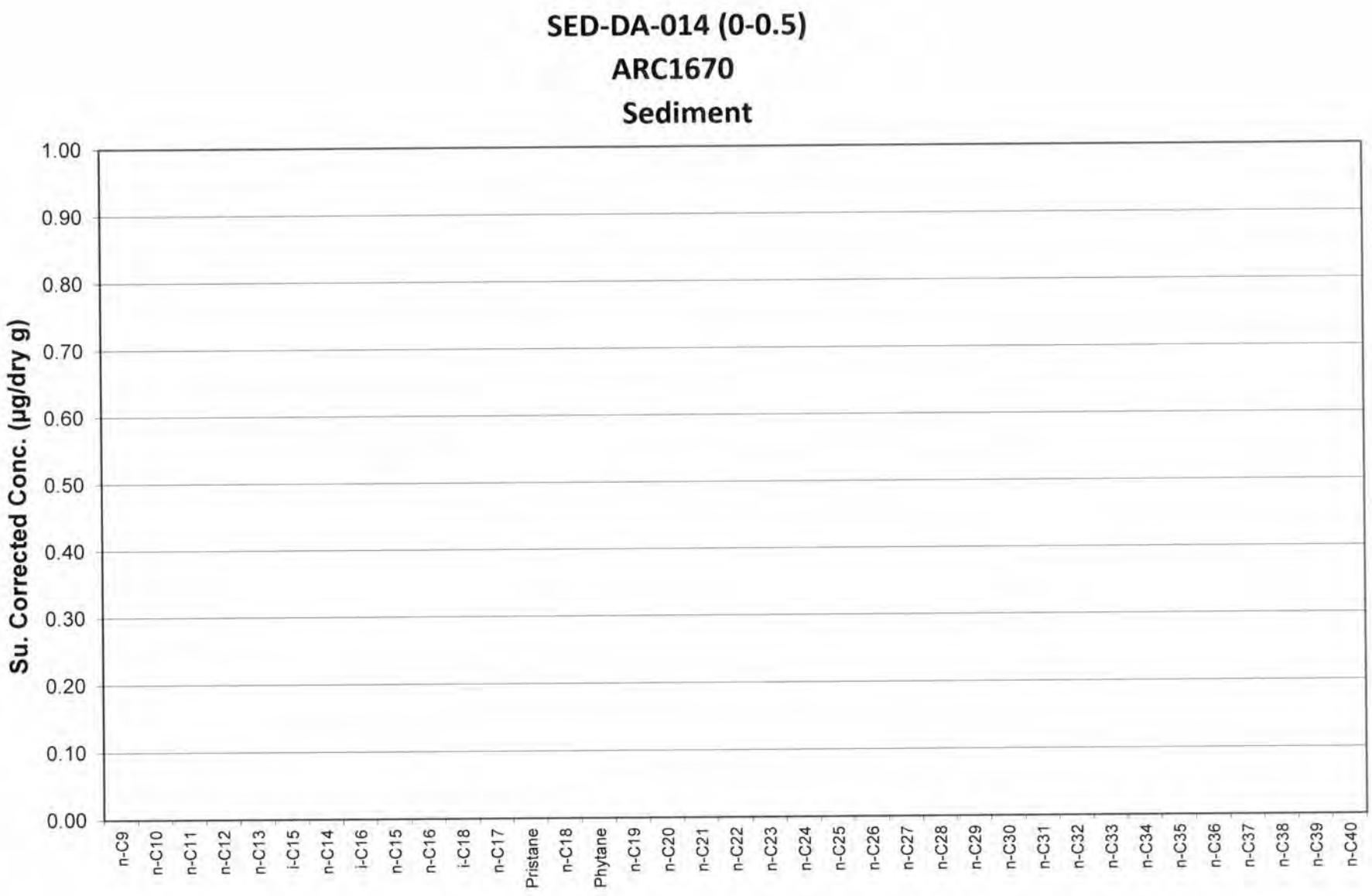
Target Compounds	Su. Corrected Conc. (µg/mg)	Q	Q	RPD (%)	B&B Average	-20% Conc. (µg/mg)	+20% Conc. (µg/mg)
n-C9	12.7			6	13.5	10.8	16.2
n-C10	11.0			8	12.0	9.60	14.4
n-C11	10.3			5	10.8	8.64	13.0
n-C12	8.78			11	9.82	7.86	11.8
n-C13	7.68			9	8.41	6.73	10.1
i-C15	1.79			9	1.95	1.56	2.34
n-C14	7.08			8	7.70	6.16	9.24
i-C16	2.73			8	2.95	2.36	3.54
n-C15	6.88			5	7.23	5.78	8.68
n-C16	5.57			10	6.15	4.92	7.38
i-C18	1.49			5	1.56	1.25	1.87
n-C17	4.53			3	4.69	3.75	5.63
Pristane	2.38			2	2.42	1.94	2.90
n-C18	3.64			5	3.84	3.07	4.61
Phytane	1.45			4	1.51	1.21	1.81
n-C19	3.37			3	3.47	2.78	4.16
n-C20	2.82			1	2.84	2.27	3.41
n-C21	2.31			3	2.37	1.90	2.84
n-C22	2.11			3	2.04	1.63	2.45
n-C23	1.86			1	1.84	1.47	2.21
n-C24	1.66			0	1.66	1.33	1.99
n-C25	1.31			5	1.37	1.10	1.64
n-C26	1.14			0	1.13	0.904	1.36
n-C27	0.976			9	0.892	0.714	1.07
n-C28	0.763			2	0.776	0.621	0.931
n-C29	0.742			0	0.739	0.591	0.887
n-C30	0.660	J		1	0.666	0.533	0.799
n-C31	0.564	J		5	0.539	0.431	0.647
n-C32	0.437	J		1	0.443	0.354	0.532
n-C33	0.486	J		4	0.467	0.374	0.560
n-C34	0.414	J		3	0.428	0.342	0.514
n-C35	0.339	J		1	0.342	0.274	0.410
n-C36	0.201	J		5	0.211	0.169	0.253
n-C37	0.201	J		2	0.206	0.165	0.247
n-C38	0.165	J		4	0.172	0.138	0.206
n-C39	0.169	J		0	0.169	0.135	0.203
n-C40	0.175	J		1	0.176	0.141	0.211
Total Petroleum Hydrocarbons	621			2	607	484	726

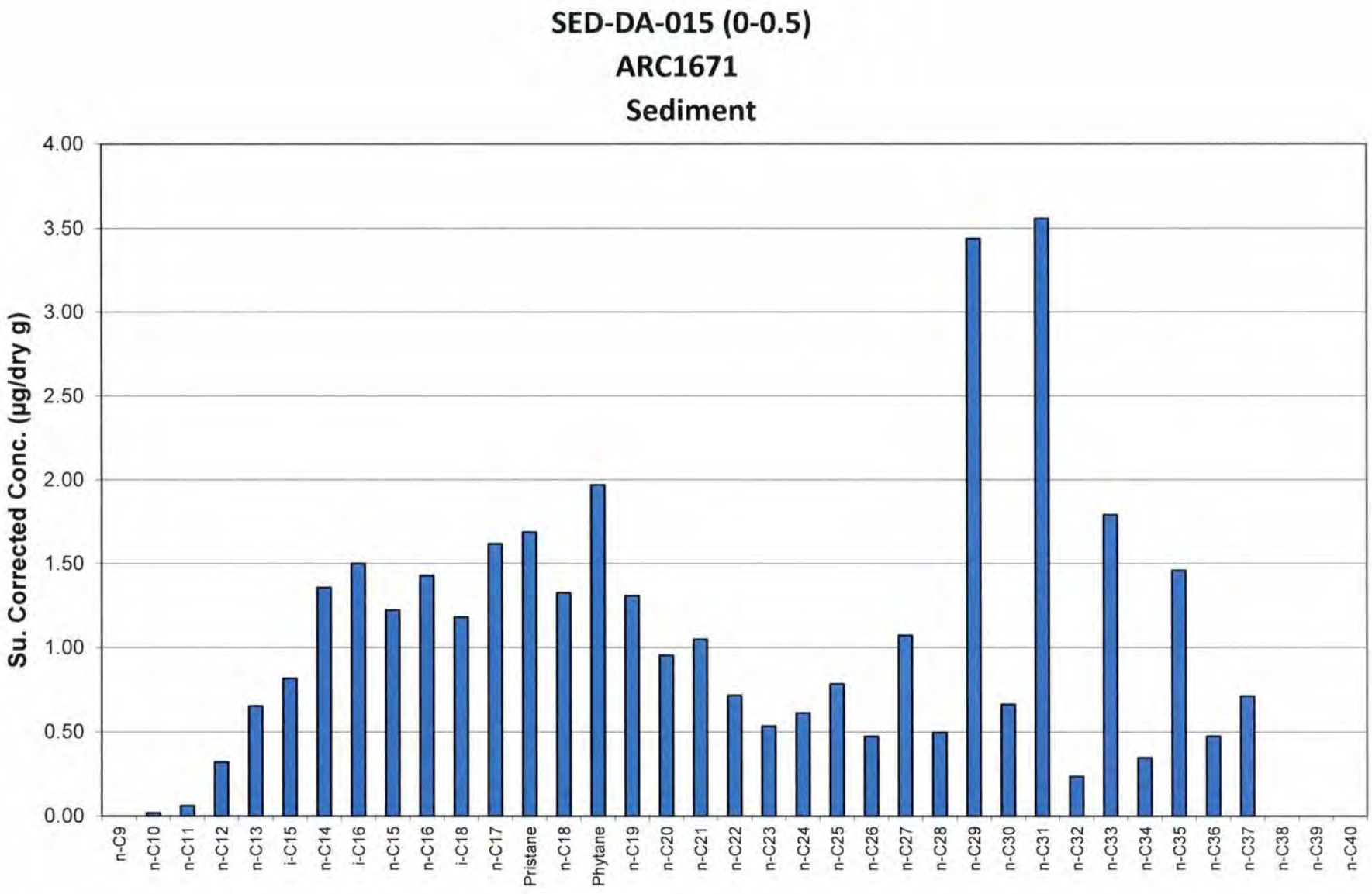
Surrogate (Su)	Su Recovery (%)
n-dodecane-d26	98
n-eicosane-d42	99
n-triacontane-d62	95

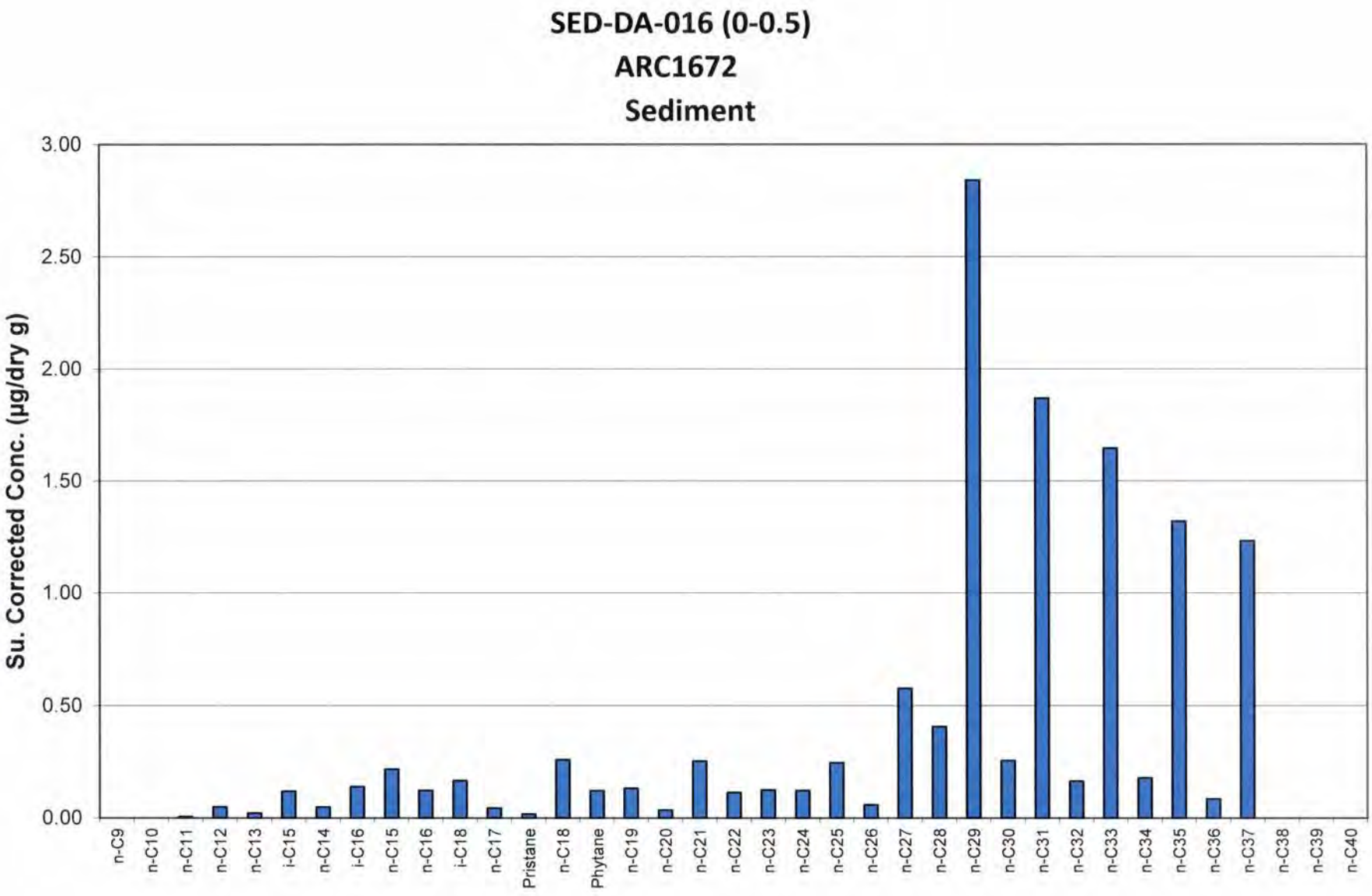
Aliphatic Hydrocarbon Histograms

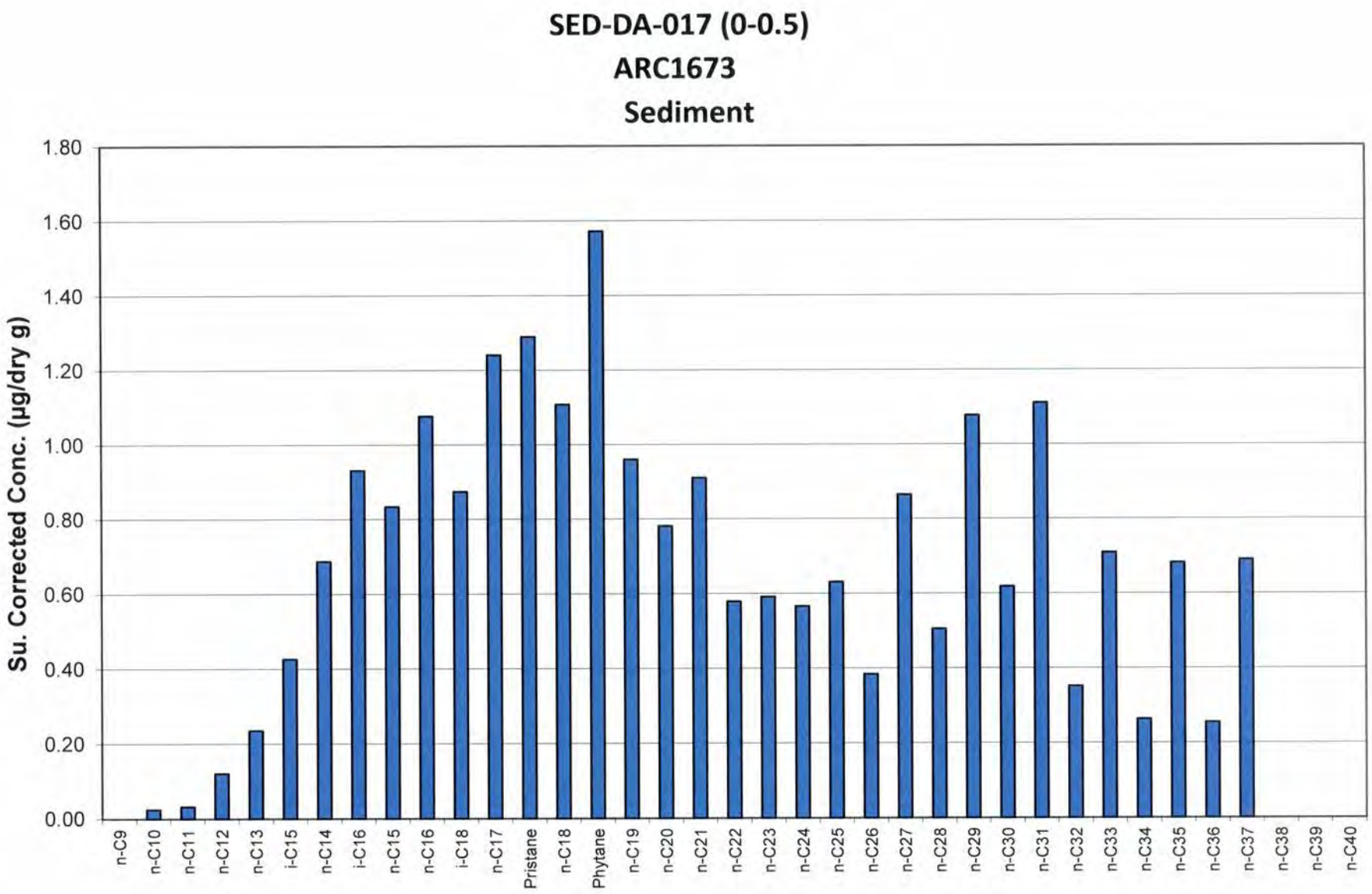

SED-DA-012 (0-0.5)
ARC1666
Sediment
Su. Corrected Conc. (µg/dry g)
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
n-C9
n-C10
n-C11
n-C12
n-C13
i-C15
n-C14
i-C16
n-C15
n-C16
i-C18
n-C17
Pristane
n-C18
Phytane
n-C19
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C34
n-C35
n-C36
n-C37
n-C38
n-C39
n-C40


SED-DA-013 (0-0.5)
ARC1669
Sediment
Su. Corrected Conc. (µg/dry g)
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
n-C9
n-C10
n-C11
n-C12
n-C13
i-C15
n-C14
i-C16
n-C15
n-C16
i-C18
n-C17
Pristane
n-C18
Phytane
n-C19
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C34
n-C35
n-C36
n-C37
n-C38
n-C39
n-C40


SED-DA-014 (0-0.5)
ARC1670
Sediment
Su. Corrected Conc. (µg/dry g)
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
n-C9
n-C10
n-C11
n-C12
n-C13
i-C15
n-C14
i-C16
n-C15
n-C16
i-C18
n-C17
Pristane
n-C18
Phytane
n-C19
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C34
n-C35
n-C36
n-C37
n-C38
n-C39
n-C40

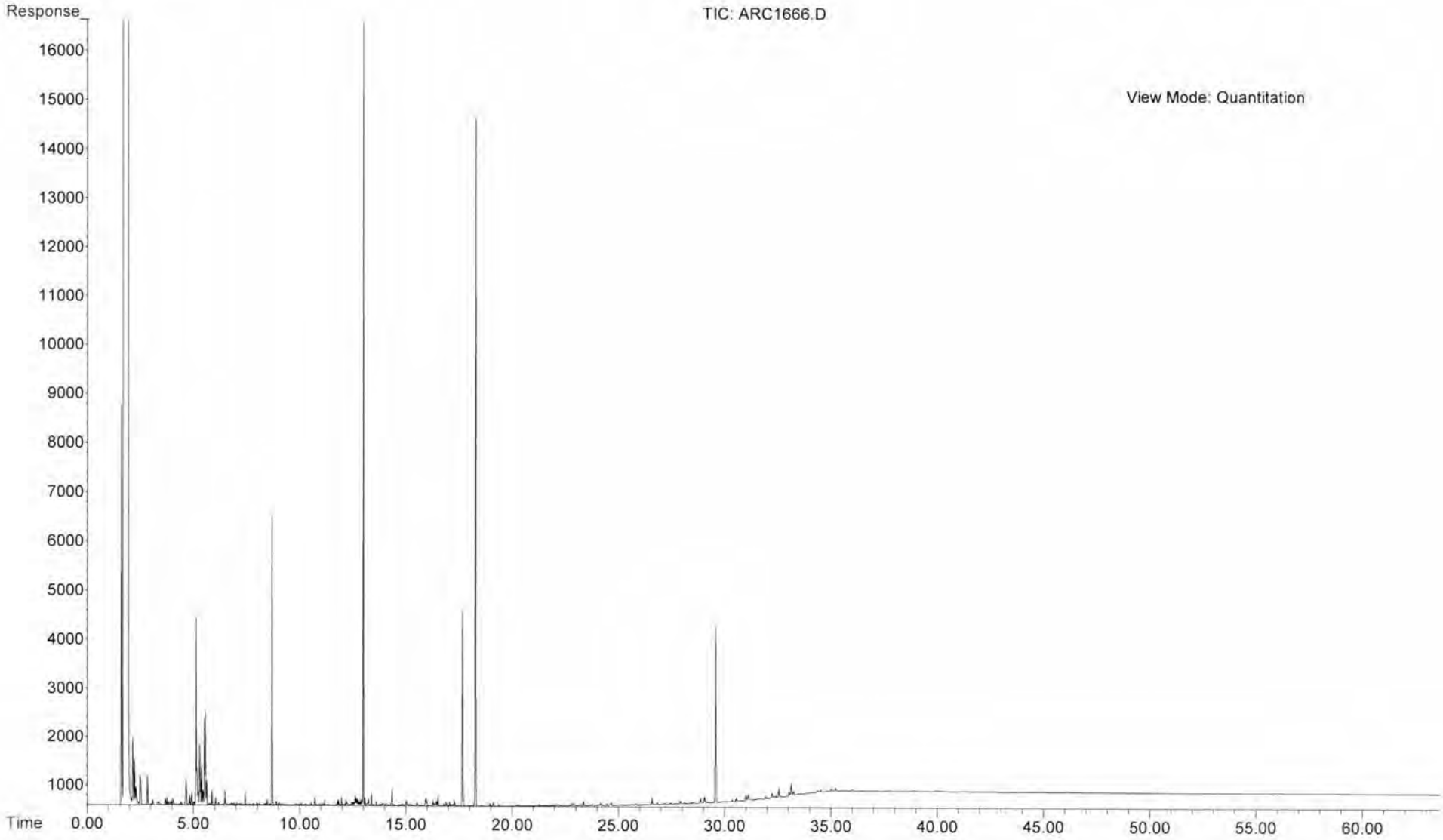

SED-DA-015 (0-0.5)
ARC1671
Sediment
Su. Corrected Conc. (µg/dry g)
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
n-C9
n-C10
n-C11
n-C12
n-C13
i-C15
n-C14
i-C16
n-C15
n-C16
i-C18
n-C17
Pristane
n-C18
Phytane
n-C19
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C34
n-C35
n-C36
n-C37
n-C38
n-C39
n-C40


SED-DA-016 (0-0.5)
ARC1672
Sediment
Su. Corrected Conc. (µg/dry g)
3.00
2.50
2.00
1.50
1.00
0.50
0.00
n-C9
n-C10
n-C11
n-C12
n-C13
i-C15
n-C14
i-C16
n-C15
n-C16
i-C18
n-C17
Pristane
n-C18
Phytane
n-C19
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C34
n-C35
n-C36
n-C37
n-C38
n-C39
n-C40

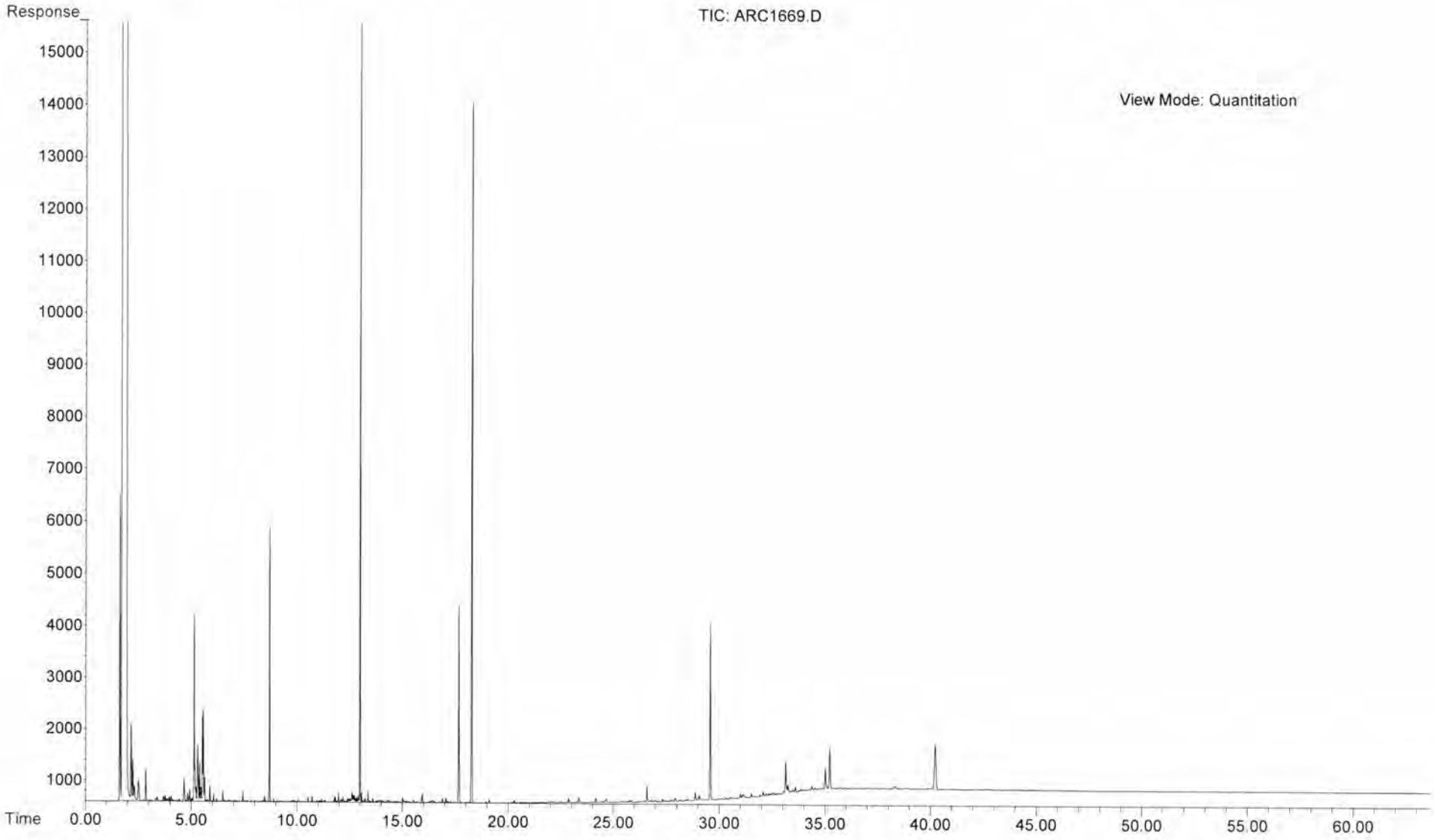

SED-DA-017 (0-0.5)
ARC1673
Sediment
Su. Corrected Conc. (µg/dry g)
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
n-C9
n-C10
n-C11
n-C12
n-C13
i-C15
n-C14
i-C16
n-C15
n-C16
i-C18
n-C17
Pristane
n-C18
Phytane
n-C19
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C34
n-C35
n-C36
n-C37
n-C38
n-C39
n-C40

Total Petroleum Hydrocarbons Chromatograms

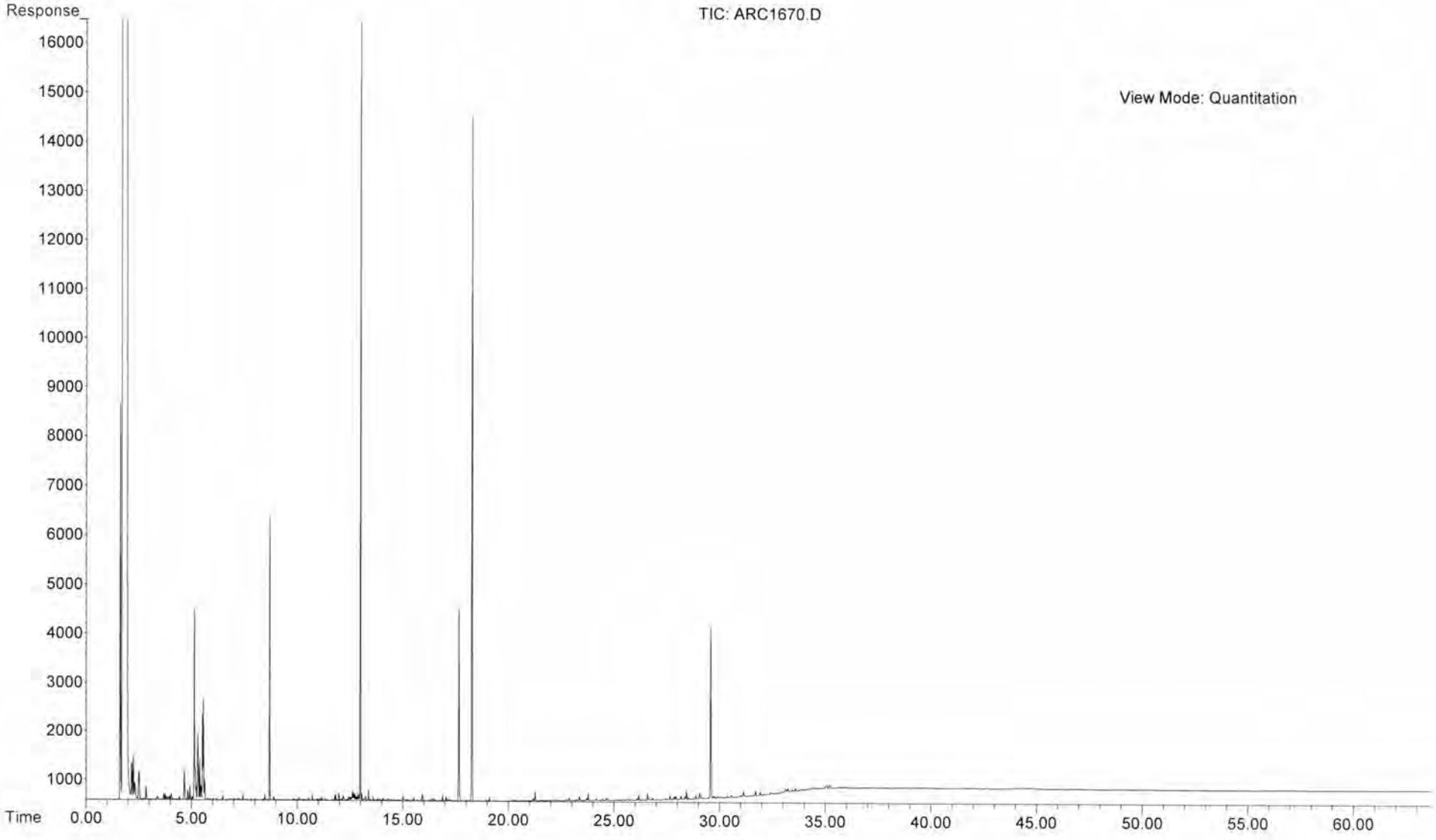
File :P:\2013\J13034\Aliphatics\ENV 3082\FID10080\ARC1666.D
Operator : Mark C. Garner
Acquired : 20-Aug-2013, 07:10 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: SED-DA-012 (0-0.5)
Misc Info :
Vial Number: 10



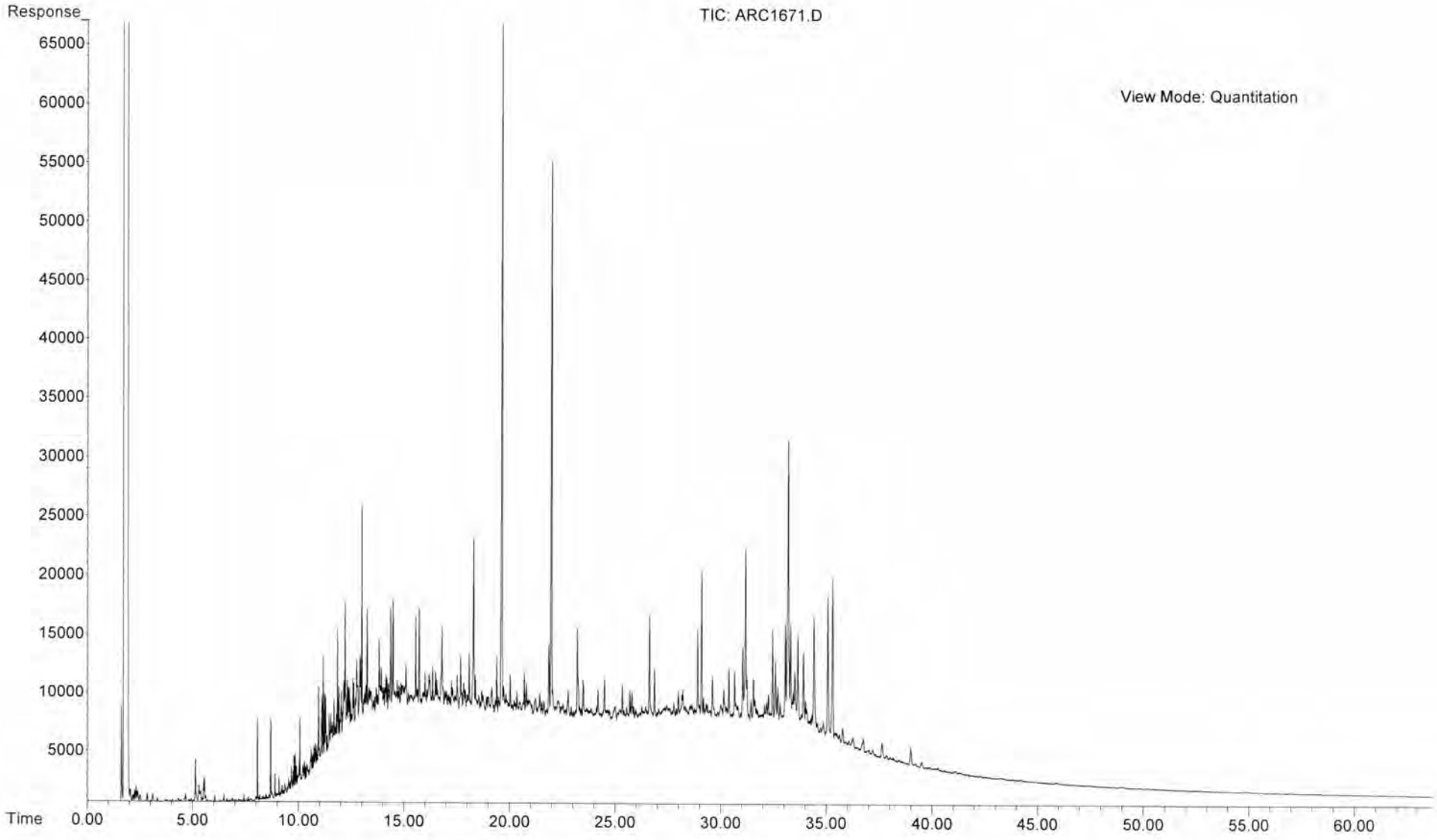
File :P:\2013\J13034\Aliphatics\ENV 3082\FID10080\ARC1669.D
Operator : Meghan Dailey
Acquired : 20-Aug-2013, 09:31 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: SED-DA-013 (0-0.5)
Misc Info :
Vial Number: 12



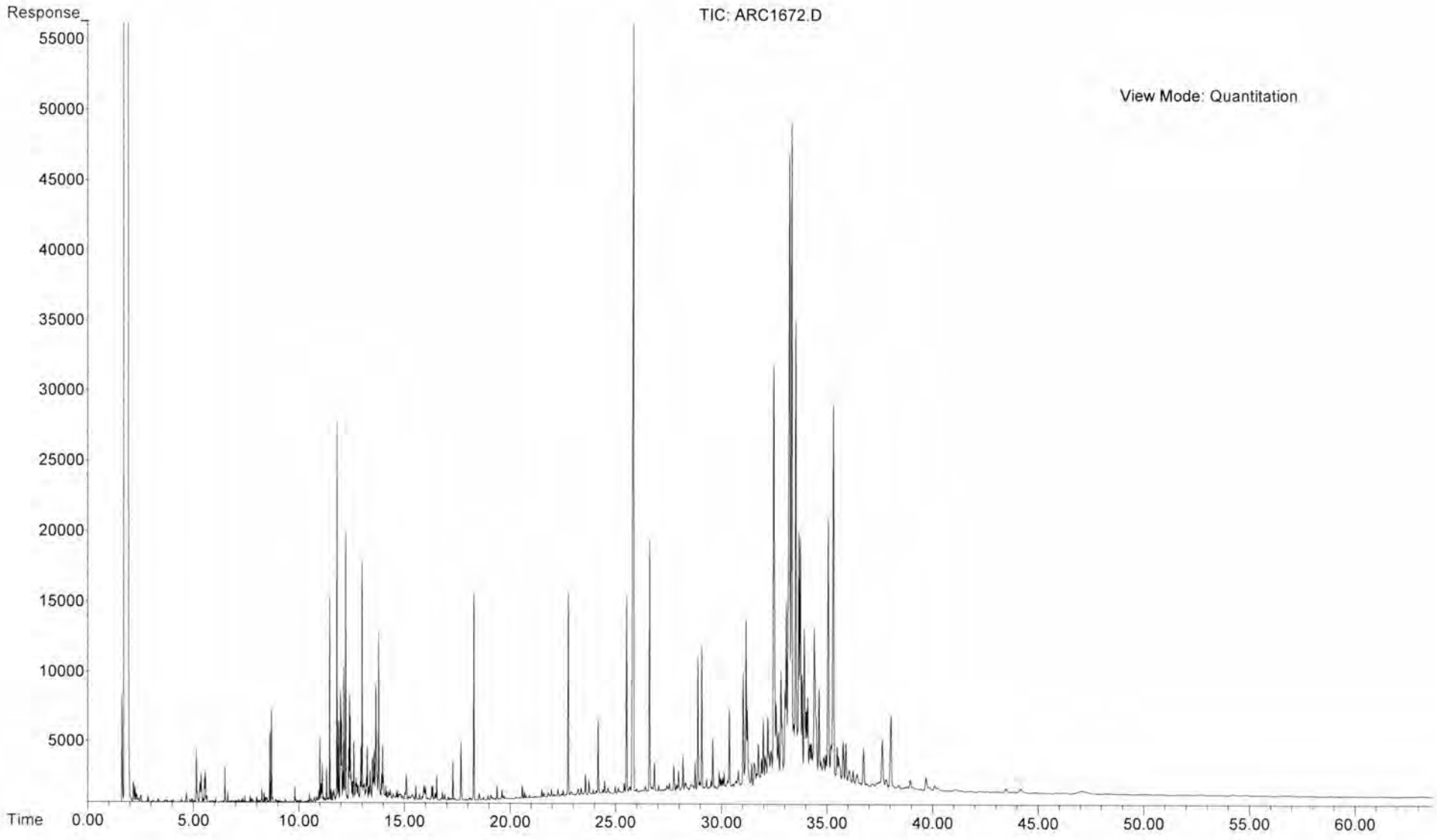
File :P:\2013\J13034\Aliphatics\ENV 3082\FID10080\ARC1670.D
Operator : Meghan Dailey
Acquired : 20-Aug-2013, 10:42 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: SED-DA-014 (0-0.5)
Misc Info :
Vial Number: 13



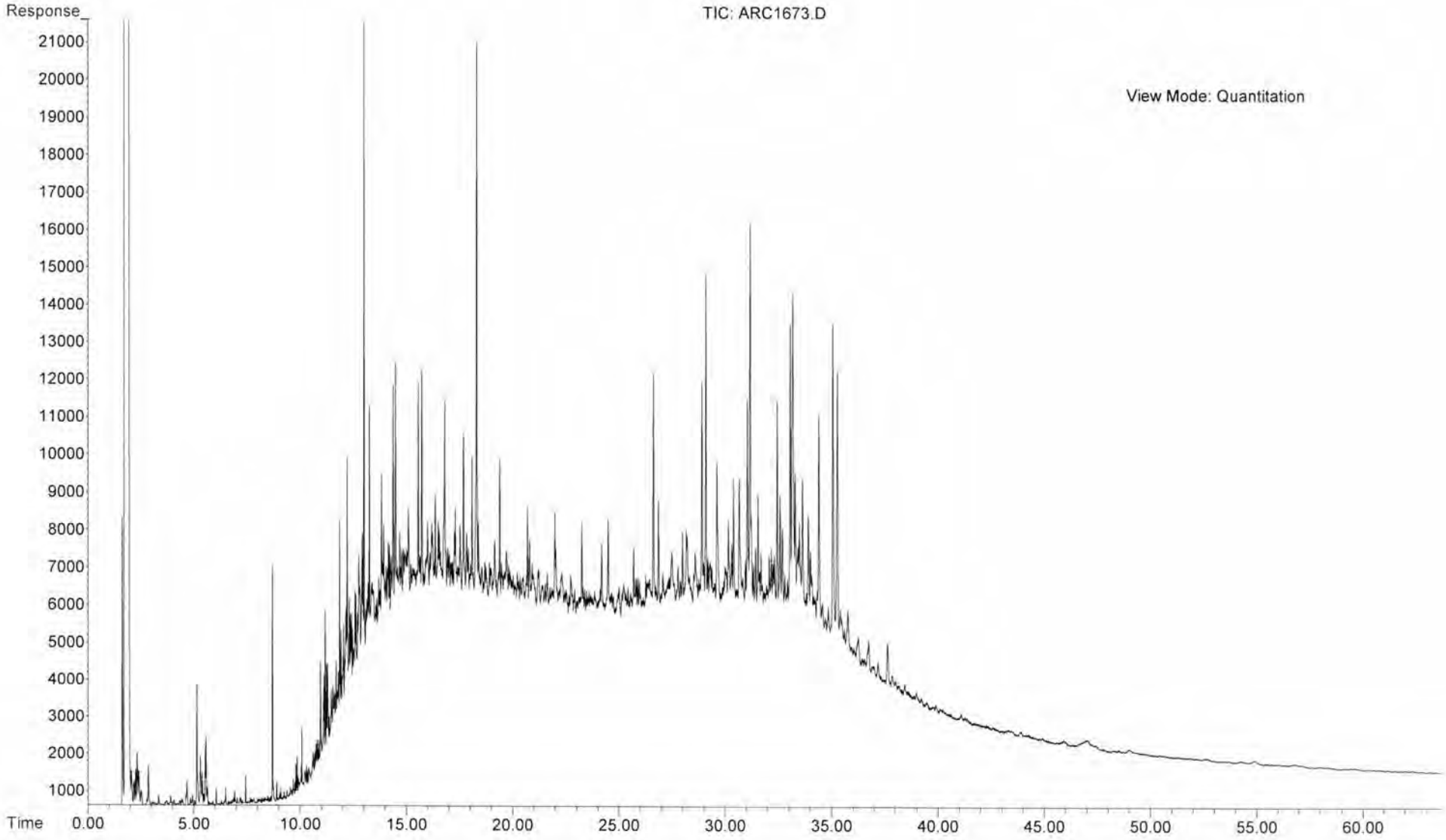
File :P:\2013\J13034\Aliphatics\ENV 3082\FID10080\ARC1671.D
Operator : Meghan Dailey
Acquired : 20-Aug-2013, 11:52 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: SED-DA-015 (0-0.5)
Misc Info :
Vial Number: 14



File :P:\2013\J13034\Aliphatics\ENV 3082\FID10080\ARC1672.D
Operator : Meghan Dailey
Acquired : 20-Aug-2013, 13:03 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: SED-DA-016 (0-0.5)
Misc Info :
Vial Number: 15



File :P:\2013\J13034\Aliphatics\ENV 3082\FID10080\ARC1673.D
Operator : Meghan Dailey
Acquired : 20-Aug-2013, 14:14 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: SED-DA-017 (0-0.5)
Misc Info :
Vial Number: 16



Polycyclic Aromatic Hydrocarbon Concentration

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1648.D	ARC1649.D	ARC1650.D	ARC1651.D	ARC1652.D
Client Name	SED-DA-014 (0.5-1.0)	SED-DA-015 (0.5-1.0)	SED-DA-015 (1.0-1.5)	SED-DA-016 (0.5-1.0)	SED-DA-017 (0.5-1.0)
Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
Collection Date	08/05/13	08/05/13	08/05/13	08/05/13	08/05/13
Received Date	08/06/13	08/06/13	08/06/13	08/06/13	08/06/13
Extraction Date	08/14/13	08/14/13	08/14/13	08/14/13	08/14/13
Extraction Batch	ENV 3082	ENV 3082	ENV 3082	ENV 3082	ENV 3082
Date Acquired	8/18/13 4:50	8/18/13 5:59	8/18/13 7:08	8/30/13 10:28	9/1/13 4:54
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.1	15.0	15.2	15.1
% Dry	83	67	70	65	75
% Moisture	17	33	30	35	25
Dilution	1X	1X	1X	1X	5X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q
cis/trans Decalin	NA		NA		NA		NA		NA	
C1-Decalins	NA		NA		NA		NA		NA	
C2-Decalins	NA		NA		NA		NA		NA	
C3-Decalins	NA		NA		NA		NA		NA	
C4-Decalins	NA		NA		NA		NA		NA	
Naphthalene	1.47		14.4		6.50		6.77		44.0	
C1-Naphthalenes	1.82		105		5.25		6.49		438	
C2-Naphthalenes	4.52		435		8.77		16.8		1647	
C3-Naphthalenes	6.93		643		12.9		13.3		2378	
C4-Naphthalenes	5.77		788		6.89		23.9		2056	
Benzothiophene	NA		NA		NA		NA		NA	
C1-Benzothiophenes	NA		NA		NA		NA		NA	
C2-Benzothiophenes	NA		NA		NA		NA		NA	
C3-Benzothiophenes	NA		NA		NA		NA		NA	
C4-Benzothiophenes	NA		NA		NA		NA		NA	
Biphenyl	NA		NA		NA		NA		NA	
Acenaphthylene	0.121		6.15		0.908		2.12		19.5	
Acenaphthene	0.338		9.53		0.687		17.3		31.4	
Dibenzofuran	NA		NA		NA		NA		NA	
Fluorene	3.43		44.5		3.86		23.6		140	
C1-Fluorenes	1.38		178		3.24		4.57		<1.8	U
C2-Fluorenes	<0.4	U	435		<0.4	U	4.53		<1.8	U
C3-Fluorenes	<0.4	U	483		<0.4	U	8.90		<1.8	U
Carbazole	NA		<0.1	U	<0.1	U	<0.1	U	<0.7	U
Anthracene	0.220		17.7		1.38		2.27		23.7	
Phenanthrene	10.9		203		13.0		22.8		416	
C1-Phenanthrenes/Anthracenes	5.60		604		11.8		11.8		1207	
C2-Phenanthrenes/Anthracenes	<0.3	U	1083		11.5		12.1		1767	
C3-Phenanthrenes/Anthracenes	<0.3	U	1073		6.10		6.15		1921	
C4-Phenanthrenes/Anthracenes	<0.3	U	686		5.64		4.83		1290	
Dibenzothiophene	0.721		127		2.45		4.55		460	
C1-Dibenzothiophenes	0.683		481		2.94		5.22		1394	
C2-Dibenzothiophenes	1.08		888		<0.2	U	6.08		2449	
C3-Dibenzothiophenes	1.04		1125		<0.2	U	5.87		2588	
C4-Dibenzothiophenes	0.597		807		<0.2	U	2.85		1562	
Fluoranthene	1.70		52.7		8.45		15.6		59.2	
Pyrene	0.815		91.7		4.25		9.85		111	
C1-Fluoranthenes/Pyrenes	0.499		245		5.66		9.88		484	
C2-Fluoranthenes/Pyrenes	1.07		401		<0.5	U	<0.5	U	502	
C3-Fluoranthenes/Pyrenes	<0.5	U	254		<0.5	U	<0.5	U	672	
C4-Fluoranthenes/Pyrenes	<0.5	U	311		<0.5	U	<0.5	U	560	
Naphthobenzothiophene	NA		NA		NA		NA		NA	
C1-Naphthobenzothiophenes	NA		NA		NA		NA		NA	
C2-Naphthobenzothiophenes	NA		NA		NA		NA		NA	
C3-Naphthobenzothiophenes	NA		NA		NA		NA		NA	
C4-Naphthobenzothiophenes	NA		NA		NA		NA		NA	
Benz(a)anthracene	0.169	J	26.4		2.49		5.85		18.2	
Chrysene/Triphenylene	0.342		74.0		9.63		11.5		161	
C1-Chrysenes	<0.2	U	217		10.3		<0.2	U	455	
C2-Chrysenes	<0.2	U	197		3.53		<0.2	U	628	
C3-Chrysenes	<0.2	U	157		<0.2	U	<0.2	U	510	
C4-Chrysenes	<0.2	U	108		<0.2	U	<0.2	U	255	
Benzo(b)fluoranthene	0.561		50.4		10.3		13.4		59.5	
Benzo(k,j)fluoranthene	0.236		15.5		2.12		4.62		18.9	
Benzo(a)fluoranthene	NA		NA		NA		NA		NA	
Benzo(e)pyrene	0.343		41.5		3.87		6.02		73.0	
Benzo(a)pyrene	0.211		28.8		1.59		4.02		39.6	
Perylene	12.7		31.2		166		201		37.6	
Indeno(1,2,3-c,d)pyrene	0.254		14.2		2.34		5.21		21.2	
Dibenzo(a,h)anthracene	0.084		8.77		0.897		1.94		13.5	
Benzo(g,h,i)perylene	0.328		28.9		2.04		4.80		69.6	
Total PAHs	65.9		12591		337		506		26581	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1648.D	ARC1649.D	ARC1650.D	ARC1651.D	ARC1652.D
Client Name	SED-DA-014 (0.5-1.0)	SED-DA-015 (0.5-1.0)	SED-DA-015 (1.0-1.5)	SED-DA-016 (0.5-1.0)	SED-DA-017 (0.5-1.0)
Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
Collection Date	08/05/13	08/05/13	08/05/13	08/05/13	08/05/13
Received Date	08/06/13	08/06/13	08/06/13	08/06/13	08/06/13
Extraction Date	08/14/13	08/14/13	08/14/13	08/14/13	08/14/13
Extraction Batch	ENV 3082	ENV 3082	ENV 3082	ENV 3082	ENV 3082
Date Acquired	8/18/13 4:50	8/18/13 5:59	8/18/13 7:08	8/30/13 10:28	9/1/13 4:54
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.1	15.0	15.2	15.1
% Dry	83	67	70	65	75
% Moisture	17	33	30	35	25
Dilution	1X	1X	1X	1X	5X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q
Individual Alkyl Isomers and Hopanes										
2-Methylnaphthalene	1.92		96.3		5.57		6.32		395	
1-Methylnaphthalene	0.943		70.2		2.72		3.69		282	
2,6-Dimethylnaphthalene	NA		NA		NA		NA		NA	
1,6,7-Trimethylnaphthalene	NA		NA		NA		NA		NA	
1-Methylfluorene	NA		NA		NA		NA		NA	
4-Methyldibenzothiophene	NA		NA		NA		NA		NA	
2/3-Methyldibenzothiophene	NA		NA		NA		NA		NA	
1-Methyldibenzothiophene	NA		NA		NA		NA		NA	
3-Methylphenanthrene	NA		NA		NA		NA		NA	
2-Methylphenanthrene	NA		NA		NA		NA		NA	
2-Methylanthracene	NA		NA		NA		NA		NA	
4/9-Methylphenanthrene	NA		NA		NA		NA		NA	
1-Methylphenanthrene	NA		NA		NA		NA		NA	
3,6-Dimethylphenanthrene	NA		NA		NA		NA		NA	
Retene	NA		NA		NA		NA		NA	
2-Methylfluoranthene	NA		NA		NA		NA		NA	
Benzo(b)fluorene	NA		NA		NA		NA		NA	
C29-Hopane	NA		NA		NA		NA		NA	
18a-Oleanane	NA		NA		NA		NA		NA	
C30-Hopane	NA		NA		NA		NA		NA	
C20-TAS	NA		NA		NA		NA		NA	
C21-TAS	NA		NA		NA		NA		NA	
C26(20S)-TAS	NA		NA		NA		NA		NA	
C26(20R)/C27(20S)-TAS	NA		NA		NA		NA		NA	
C28(20S)-TAS	NA		NA		NA		NA		NA	
C27(20R)-TAS	NA		NA		NA		NA		NA	
C28(20R)-TAS	NA		NA		NA		NA		NA	
Surrogate Recovery										
Naphthalene-d8	87		98		88		92		82	D
Acenaphthene-d10	91		94		89		83		90	D
Phenanthrene-d10	95		91		84		88		100	D
Chrysene-d12	76		94		92		87		92	D
Perylene-d12	78		77		47		58		91	D

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1654.D	ARC1655.D	ARC1656.D	ARC1657.D	ARC1658.D
Client Name	SED-DA-008 (0.5-1.0)	SED-DA-008 (1.0-1.5)	SED-DA-007 (0.5-1.0)	SED-DA-007 (1.0-1.5)	SED-DA-006 (0.5-1.0)
Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
Collection Date	08/03/13	08/03/13	08/03/13	08/03/13	08/03/13
Received Date	08/06/13	08/06/13	08/06/13	08/06/13	08/06/13
Extraction Date	08/14/13	08/14/13	08/14/13	08/14/13	08/14/13
Extraction Batch	ENV 3082	ENV 3082	ENV 3082	ENV 3082	ENV 3082
Date Acquired	8/30/13 12:45	8/30/13 13:54	8/30/13 15:02	8/30/13 16:11	8/30/13 17:20
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.0	15.2	15.2	15.0
% Dry	86	86	78	81	86
% Moisture	14	14	22	19	14
Dilution	1X	1X	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q
cis/trans Decalin	NA		NA		NA		NA		NA	
C1-Decalins	NA		NA		NA		NA		NA	
C2-Decalins	NA		NA		NA		NA		NA	
C3-Decalins	NA		NA		NA		NA		NA	
C4-Decalins	NA		NA		NA		NA		NA	
Naphthalene	0.780		1.03		0.878		2.06		4.64	
C1-Naphthalenes	0.654	J	0.824	J	1.02	J	5.08		12.9	
C2-Naphthalenes	0.805		0.570	J	1.55		13.4		42.2	
C3-Naphthalenes	0.969		0.601	J	1.05		21.2		92.7	
C4-Naphthalenes	<0.7	U	<0.7	U	<0.7	U	23.7		113	
Benzothiophene	NA		NA		NA		NA		NA	
C1-Benzothiophenes	NA		NA		NA		NA		NA	
C2-Benzothiophenes	NA		NA		NA		NA		NA	
C3-Benzothiophenes	NA		NA		NA		NA		NA	
C4-Benzothiophenes	NA		NA		NA		NA		NA	
Biphenyl	NA		NA		NA		NA		NA	
Acenaphthylene	0.026	J	<0.04	U	<0.04	U	0.253		0.736	
Acenaphthene	0.056	J	<0.1	U	<0.1	U	0.179		0.649	
Dibenzofuran	NA		NA		NA		NA		NA	
Fluorene	0.944		1.26		1.37		3.11		6.77	
C1-Fluorenes	0.300	J	0.345	J	0.508		7.82		27.2	
C2-Fluorenes	<0.4	U	<0.4	U	<0.4	U	21.4		84.6	
C3-Fluorenes	<0.4	U	<0.4	U	<0.4	U	26.7		95.6	
Carbazole	<0.1	U	<0.1	U	<0.1	U	<0.1	U	<0.1	U
Anthracene	0.126		<0.1	U	<0.1	U	<0.1	U	1.55	
Phenanthrene	3.14		2.97		3.44		10.3		29.8	
C1-Phenanthrenes/Anthracenes	<0.1	U	<0.1	U	<0.1	U	23.2		85.2	
C2-Phenanthrenes/Anthracenes	<0.3	U	<0.3	U	<0.3	U	45.3		152	
C3-Phenanthrenes/Anthracenes	<0.3	U	<0.3	U	<0.3	U	42.1		173	
C4-Phenanthrenes/Anthracenes	<0.3	U	<0.3	U	<0.3	U	29.5		116	
Dibenzothiophene	0.309		0.299		0.316		5.23		20.9	
C1-Dibenzothiophenes	0.369		0.359		0.414		23.8		95.8	
C2-Dibenzothiophenes	0.610		0.411		0.422		45.8		183	
C3-Dibenzothiophenes	<0.2	U	<0.2	U	<0.2	U	57.3		245	
C4-Dibenzothiophenes	<0.2	U	<0.2	U	<0.2	U	35.1		104	
Fluoranthene	0.897		0.346		0.349		2.42		7.79	
Pyrene	0.290		0.049	J	0.042	J	3.77		15.3	
C1-Fluoranthenes/Pyrenes	0.408	J	<0.5	U	<0.5	U	7.76		35.5	
C2-Fluoranthenes/Pyrenes	<0.5	U	<0.5	U	<0.5	U	12.1		53.3	
C3-Fluoranthenes/Pyrenes	<0.5	U	<0.5	U	<0.5	U	6.49		32.0	
C4-Fluoranthenes/Pyrenes	<0.5	U	<0.5	U	<0.5	U	7.01		35.4	
Naphthobenzothiophene	NA		NA		NA		NA		NA	
C1-Naphthobenzothiophenes	NA		NA		NA		NA		NA	
C2-Naphthobenzothiophenes	NA		NA		NA		NA		NA	
C3-Naphthobenzothiophenes	NA		NA		NA		NA		NA	
C4-Naphthobenzothiophenes	NA		NA		NA		NA		NA	
Benz(a)anthracene	0.206		<0.2	U	<0.2	U	0.939		2.37	
Chrysene/Triphenylene	0.485		<0.1	U	<0.1	U	4.00		13.6	
C1-Chrysenes	<0.2	U	<0.2	U	<0.2	U	9.83		38.7	
C2-Chrysenes	<0.2	U	<0.2	U	<0.2	U	13.8		49.5	
C3-Chrysenes	<0.2	U	<0.2	U	<0.2	U	9.96		34.3	
C4-Chrysenes	<0.2	U	<0.2	U	<0.2	U	5.00		17.2	
Benzo(b)fluoranthene	0.540		<0.2	U	<0.2	U	2.78		7.81	
Benzo(k,j)fluoranthene	0.243		<0.1	U	<0.1	U	0.514		2.43	
Benzo(a)fluoranthene	NA		NA		NA		NA		NA	
Benzo(e)pyrene	0.368		<0.2	U	<0.2	U	2.49		8.01	
Benzo(a)pyrene	0.068	J	<0.1	U	<0.1	U	0.654		2.50	
Perylene	<1.3	U	<1.3	U	<1.3	U	0.190	J	0.903	J
Indeno(1,2,3-c,d)pyrene	0.220		<0.1	U	<0.1	U	0.870		2.37	
Dibenzo(a,h)anthracene	0.059	J	<0.1	U	<0.1	U	0.477		1.49	
Benzo(g,h,i)perylene	0.183		<0.1	U	<0.1	U	1.78		5.99	
Total PAHs	13.1		9.06		11.4		535		2053	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1654.D	ARC1655.D	ARC1656.D	ARC1657.D	ARC1658.D
Client Name	SED-DA-008 (0.5-1.0)	SED-DA-008 (1.0-1.5)	SED-DA-007 (0.5-1.0)	SED-DA-007 (1.0-1.5)	SED-DA-006 (0.5-1.0)
Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
Collection Date	08/03/13	08/03/13	08/03/13	08/03/13	08/03/13
Received Date	08/06/13	08/06/13	08/06/13	08/06/13	08/06/13
Extraction Date	08/14/13	08/14/13	08/14/13	08/14/13	08/14/13
Extraction Batch	ENV 3082	ENV 3082	ENV 3082	ENV 3082	ENV 3082
Date Acquired	8/30/13 12:45	8/30/13 13:54	8/30/13 15:02	8/30/13 16:11	8/30/13 17:20
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.0	15.2	15.2	15.0
% Dry	86	86	78	81	86
% Moisture	14	14	22	19	14
Dilution	1X	1X	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q
Individual Alkyl Isomers and Hopanes										
2-Methylnaphthalene	0.736	J	0.917	J	1.06	J	5.19		12.9	
1-Methylnaphthalene	0.266	J	0.348	J	0.500	J	2.64		6.94	
2,6-Dimethylnaphthalene	NA		NA		NA		NA		NA	
1,6,7-Trimethylnaphthalene	NA		NA		NA		NA		NA	
1-Methylfluorene	NA		NA		NA		NA		NA	
4-Methyldibenzothiophene	NA		NA		NA		NA		NA	
2/3-Methyldibenzothiophene	NA		NA		NA		NA		NA	
1-Methyldibenzothiophene	NA		NA		NA		NA		NA	
3-Methylphenanthrene	NA		NA		NA		NA		NA	
2-Methylphenanthrene	NA		NA		NA		NA		NA	
2-Methylanthracene	NA		NA		NA		NA		NA	
4/9-Methylphenanthrene	NA		NA		NA		NA		NA	
1-Methylphenanthrene	NA		NA		NA		NA		NA	
3,6-Dimethylphenanthrene	NA		NA		NA		NA		NA	
Retene	NA		NA		NA		NA		NA	
2-Methylfluoranthene	NA		NA		NA		NA		NA	
Benzo(b)fluorene	NA		NA		NA		NA		NA	
C29-Hopane	NA		NA		NA		NA		NA	
18a-Oleanane	NA		NA		NA		NA		NA	
C30-Hopane	NA		NA		NA		NA		NA	
C20-TAS	NA		NA		NA		NA		NA	
C21-TAS	NA		NA		NA		NA		NA	
C26(20S)-TAS	NA		NA		NA		NA		NA	
C26(20R)/C27(20S)-TAS	NA		NA		NA		NA		NA	
C28(20S)-TAS	NA		NA		NA		NA		NA	
C27(20R)-TAS	NA		NA		NA		NA		NA	
C28(20R)-TAS	NA		NA		NA		NA		NA	
Surrogate Recovery										
Naphthalene-d8	77		91		80		85		77	
Acenaphthene-d10	52		57		75		90		78	
Phenanthrene-d10	94		92		92		96		94	
Chrysene-d12	85		83		81		80		76	
Perylene-d12	1	L	0	L	1	L	2	L	6	L

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1659.D	ARC1660.D	ARC1661.D	ARC1666.D	ARC1669.D
Client Name	SED-DA-006 (1.0-1.5)	SED-DA-005 (0.5-1.0)	SED-DA-005 (1.0-1.5)	SED-DA-012 (0-0.5)	SED-DA-013 (0-0.5)
Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
Collection Date	08/03/13	08/03/13	08/03/13	08/04/13	08/04/13
Received Date	08/06/13	08/06/13	08/06/13	08/06/13	08/06/13
Extraction Date	08/14/13	08/14/13	08/14/13	08/14/13	08/14/13
Extraction Batch	ENV 3082	ENV 3082	ENV 3082	ENV 3082	ENV 3082
Date Acquired	8/30/13 18:28	8/30/13 20:45	8/30/13 21:54	8/30/13 23:03	8/31/13 0:11
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.1	15.1	15.0	15.2
% Dry	85	83	83	83	81
% Moisture	15	17	17	17	19
Dilution	1X	1X	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q
cis/trans Decalin	NA		NA		NA		<0.1	U	<0.1	U
C1-Decalins	NA		NA		NA		<0.3	U	<0.3	U
C2-Decalins	NA		NA		NA		<0.3	U	<0.3	U
C3-Decalins	NA		NA		NA		<0.3	U	<0.3	U
C4-Decalins	NA		NA		NA		<0.3	U	<0.3	U
Naphthalene	1.06		1.26		0.955		0.903		1.32	
C1-Naphthalenes	1.42		1.45		1.00	J	1.09		1.21	
C2-Naphthalenes	2.09		2.06		1.13		1.91		2.72	
C3-Naphthalenes	0.885		1.18		0.879		1.68		2.60	
C4-Naphthalenes	<0.7	U	<0.7	U	<0.7	U	1.50		<0.7	U
Benzothiophene	NA		NA		NA		<0.1	U	<0.1	U
C1-Benzothiophenes	NA		NA		NA		<0.2	U	<0.2	U
C2-Benzothiophenes	NA		NA		NA		<0.2	U	<0.2	U
C3-Benzothiophenes	NA		NA		NA		<0.2	U	<0.2	U
C4-Benzothiophenes	NA		NA		NA		<0.2	U	<0.2	U
Biphenyl	NA		NA		NA		0.336		0.288	J
Acenaphthylene	<0.04	U	0.063		<0.04	U	0.053		<0.04	U
Acenaphthene	<0.1	U	0.092	J	<0.1	U	0.040	J	<0.1	U
Dibenzofuran	NA		NA		NA		0.958		0.818	
Fluorene	1.63		2.59		1.54		1.26		1.24	
C1-Fluorenes	0.573		1.06		0.551		0.512		0.531	
C2-Fluorenes	<0.4	U	<0.4	U	<0.4	U	<0.4	U	<0.4	U
C3-Fluorenes	<0.4	U	<0.4	U	<0.4	U	<0.4	U	<0.4	U
Carbazole	<0.1	U	<0.1	U	<0.1	U	0.047	J,L	0.044	J
Anthracene	<0.1	U	<0.1	U	<0.1	U	<0.1	U	0.048	J
Phenanthrene	4.04		7.95		4.34		3.69		2.96	
C1-Phenanthrenes/Anthracenes	<0.1	U	4.14		<0.1	U	<0.1	U	<0.1	U
C2-Phenanthrenes/Anthracenes	<0.3	U	<0.3	U	<0.3	U	<0.3	U	<0.3	U
C3-Phenanthrenes/Anthracenes	<0.3	U	<0.3	U	<0.3	U	<0.3	U	<0.3	U
C4-Phenanthrenes/Anthracenes	<0.3	U	<0.3	U	<0.3	U	<0.3	U	<0.3	U
Dibenzothiophene	0.397		0.473		0.278		0.419		0.341	
C1-Dibenzothiophenes	0.464		0.760		0.297		0.401		0.434	
C2-Dibenzothiophenes	0.451		1.18		0.339		0.433		0.445	
C3-Dibenzothiophenes	<0.2	U	1.17		0.192	J	0.292		0.501	
C4-Dibenzothiophenes	<0.2	U	<0.2	U	<0.2	U	<0.2	U	<0.2	U
Fluoranthene	0.438		1.47		0.460		1.24		0.493	
Pyrene	0.055	J	0.550		0.039	J	0.668		0.492	
C1-Fluoranthenes/Pyrenes	<0.5	U	0.416	J	<0.5	U	0.235	J	0.360	J
C2-Fluoranthenes/Pyrenes	<0.5	U	0.495		<0.5	U	0.398	J	<0.5	U
C3-Fluoranthenes/Pyrenes	<0.5	U	0.217	J	<0.5	U	0.140	J	<0.5	U
C4-Fluoranthenes/Pyrenes	<0.5	U	<0.5	U	<0.5	U	<0.5	U	<0.5	U
Naphthobenzothiophene	NA		NA		NA		0.353		0.368	
C1-Naphthobenzothiophenes	NA		NA		NA		0.337		0.380	
C2-Naphthobenzothiophenes	NA		NA		NA		0.452		0.647	
C3-Naphthobenzothiophenes	NA		NA		NA		0.429		0.477	
C4-Naphthobenzothiophenes	NA		NA		NA		<0.3	U	<0.3	U
Benz(a)anthracene	<0.2	U	0.432		<0.2	U	0.217		0.084	J
Chrysene/Triphenylene	<0.1	U	0.595		<0.1	U	0.550		0.172	
C1-Chrysenes	<0.2	U	<0.2	U	<0.2	U	<0.2	U	<0.2	U
C2-Chrysenes	<0.2	U	<0.2	U	<0.2	U	<0.2	U	<0.2	U
C3-Chrysenes	<0.2	U	<0.2	U	<0.2	U	<0.2	U	<0.2	U
C4-Chrysenes	<0.2	U	<0.2	U	<0.2	U	<0.2	U	<0.2	U
Benzo(b)fluoranthene	<0.2	U	0.794		<0.2	U	0.745		0.258	
Benzo(k,j)fluoranthene	<0.1	U	0.323		<0.1	U	0.298		0.081	J
Benzo(a)fluoranthene	NA		NA		NA		<0.1	U	<0.1	U
Benzo(e)pyrene	<0.2	U	0.447		<0.2	U	0.421		0.150	J
Benzo(a)pyrene	<0.1	U	0.410		<0.1	U	0.079	J,L	0.049	J
Perylene	<1.3	U	0.127	J	<1.3	U	0.010	J,L	1.03	J
Indeno(1,2,3-c,d)pyrene	<0.1	U	0.319		<0.1	U	0.290		0.087	
Dibenzo(a,h)anthracene	<0.1	U	0.107		<0.1	U	0.084		0.034	J
Benzo(g,h,i)perylene	<0.1	U	0.355		<0.1	U	0.278	L	0.097	
Total PAHs	13.5		32.5		12.0		22.8		20.8	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1659.D		ARC1660.D		ARC1661.D		ARC1666.D		ARC1669.D	
Client Name	SED-DA-006 (1.0-1.5)		SED-DA-005 (0.5-1.0)		SED-DA-005 (1.0-1.5)		SED-DA-012 (0-0.5)		SED-DA-013 (0-0.5)	
Matrix	Sediment		Sediment		Sediment		Sediment		Sediment	
Collection Date	08/03/13		08/03/13		08/03/13		08/04/13		08/04/13	
Received Date	08/06/13		08/06/13		08/06/13		08/06/13		08/06/13	
Extraction Date	08/14/13		08/14/13		08/14/13		08/14/13		08/14/13	
Extraction Batch	ENV 3082		ENV 3082		ENV 3082		ENV 3082		ENV 3082	
Date Acquired	8/30/13 18:28		8/30/13 20:45		8/30/13 21:54		8/30/13 23:03		8/31/13 0:11	
Method	PAH-2012.M		PAH-2012.M		PAH-2012.M		PAH-2012.M		PAH-2012.M	
Sample Dry Weight (g)	15.0		15.1		15.1		15.0		15.2	
% Dry	85		83		83		83		81	
% Moisture	15		17		17		17		19	
Dilution	1X		1X		1X		1X		1X	
Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q
Individual Alkyl Isomers and Hopanes										
2-Methylnaphthalene	1.5		1.55		1.12	J	1.12	J	1.20	J
1-Methylnaphthalene	0.693		0.687		0.419	J	0.559		0.669	
2,6-Dimethylnaphthalene	NA		NA		NA		0.955		1.14	
1,6,7-Trimethylnaphthalene	NA		NA		NA		0.187		0.323	
1-Methylfluorene	NA		NA		NA		0.292		0.328	
4-Methyldibenzothiophene	NA		NA		NA		0.212		0.202	
2/3-Methyldibenzothiophene	NA		NA		NA		0.112		0.144	
1-Methyldibenzothiophene	NA		NA		NA		0.142		0.158	
3-Methylphenanthrene	NA		NA		NA		<0.1	U	<0.1	U
2-Methylphenanthrene	NA		NA		NA		<0.1	U	<0.1	U
2-Methylanthracene	NA		NA		NA		<0.1	U	<0.1	U
4/9-Methylphenanthrene	NA		NA		NA		<0.1	U	<0.1	U
1-Methylphenanthrene	NA		NA		NA		<0.1	U	<0.1	U
3,6-Dimethylphenanthrene	NA		NA		NA		<0.1	U	<0.1	U
Retene	NA		NA		NA		<0.2	U	<0.2	U
2-Methylfluoranthene	NA		NA		NA		0.054	J	0.032	J
Benzo(b)fluorene	NA		NA		NA		0.044	J	0.029	J
C29-Hopane	NA		NA		NA		<0.6	U	<0.6	U
18a-Oleanane	NA		NA		NA		<0.6	U	<0.6	U
C30-Hopane	NA		NA		NA		<0.6	U	<0.6	U
C20-TAS	NA		NA		NA		<0.6	U	<0.6	U
C21-TAS	NA		NA		NA		<0.6	U	<0.6	U
C26(20S)-TAS	NA		NA		NA		<0.6	U	<0.6	U
C26(20R)/C27(20S)-TAS	NA		NA		NA		<0.6	U	<0.6	U
C28(20S)-TAS	NA		NA		NA		<0.6	U	<0.6	U
C27(20R)-TAS	NA		NA		NA		<0.6	U	<0.6	U
C28(20R)-TAS	NA		NA		NA		<0.6	U	<0.6	U
Surrogate Recovery										
Naphthalene-d8	80		75		80		85		81	
Acenaphthene-d10	67		62		59		76		84	
Phenanthrene-d10	86		86		88		90		87	
Chrysene-d12	78		79		77		83		83	
Perylene-d12	0	L	0	L	0	L	1	L	8	L

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1670.D	ARC1671.D	ARC1672.D	ARC1673.D
Client Name	SED-DA-014 (0-0.5)	SED-DA-015 (0-0.5)	SED-DA-016 (0-0.5)	SED-DA-017 (0-0.5)
Matrix	Sediment	Sediment	Sediment	Sediment
Collection Date	08/05/13	08/05/13	08/05/13	08/05/13
Received Date	08/06/13	08/06/13	08/06/13	08/06/13
Extraction Date	08/14/13	08/14/13	08/14/13	08/14/13
Extraction Batch	ENV 3082	ENV 3082	ENV 3082	ENV 3082
Date Acquired	8/31/13 1:20	8/31/13 2:29	8/31/13 3:38	8/31/13 4:46
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.1	15.1	15.0
% Dry	83	66	64	74
% Moisture	17	34	36	26
Dilution	1X	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q
cis/trans Decalin	<0.1	U	<0.1	U	<0.1	U	4.45	
C1-Decalins	<0.3	U	<0.3	U	<0.3	U	7.85	
C2-Decalins	<0.3	U	<0.3	U	<0.3	U	22.1	
C3-Decalins	<0.3	U	<0.3	U	<0.3	U	83.1	
C4-Decalins	<0.3	U	<0.3	U	<0.3	U	151	
Naphthalene	0.713		32.3		12.6		9.19	
C1-Naphthalenes	0.670	J	265		17.1		68.7	
C2-Naphthalenes	1.58		1029		52.9		315	
C3-Naphthalenes	2.71		1519		27.4		570	
C4-Naphthalenes	1.51		1331		86.6		488	
Benzothiophene	<0.1	U	5.47		1.30		1.35	
C1-Benzothiophenes	<0.2	U	56.9		11.9		15.7	
C2-Benzothiophenes	<0.2	U	113		62.3		60.9	
C3-Benzothiophenes	<0.2	U	473		38.5		163	
C4-Benzothiophenes	<0.2	U	604		42.3		244	
Biphenyl	0.250	J	40.2		6.81		12.0	
Acenaphthylene	0.040	J	11.8		3.79		4.06	
Acenaphthene	0.051	J	16.4		72.7		4.24	
Dibenzofuran	0.853		34.4		54.3		14.7	
Fluorene	1.16		79.0		97.5		34.0	
C1-Fluorenes	0.493		317		12.8		121	
C2-Fluorenes	<0.4	U	739		17.6		316	
C3-Fluorenes	<0.4	U	714		18.9		341	
Carbazole	0.054	J	10.7		1.70		7.47	
Anthracene	0.030	J	24.1		9.35		4.05	
Phenanthrene	3.39		331		174		141	
C1-Phenanthrenes/Anthracenes	<0.1	U	926		27.4		464	
C2-Phenanthrenes/Anthracenes	<0.3	U	1406		30.1		842	
C3-Phenanthrenes/Anthracenes	<0.3	U	1743		22.6		830	
C4-Phenanthrenes/Anthracenes	<0.3	U	<0.3	U	18.3		613	
Dibenzothiophene	0.349		283		14.1		142	
C1-Dibenzothiophenes	0.393		1054		8.94		578	
C2-Dibenzothiophenes	0.604		1872		9.88		1019	
C3-Dibenzothiophenes	0.730		2082		14.1		1394	
C4-Dibenzothiophenes	<0.2	U	1486		5.56		833	
Fluoranthene	0.409		62.0		39.6		38.3	
Pyrene	0.292		108		31.7		72.1	
C1-Fluoranthenes/Pyrenes	0.265	J	328		18.3		187	
C2-Fluoranthenes/Pyrenes	0.369	J	686		<0.5	U	307	
C3-Fluoranthenes/Pyrenes	0.277	J	458		<0.5	U	224	
C4-Fluoranthenes/Pyrenes	<0.5	U	435		<0.5	U	260	
Naphthobenzothiophene	0.231		190		6.00		119	
C1-Naphthobenzothiophenes	0.316		511		7.71		323	
C2-Naphthobenzothiophenes	0.616		766		12.4		507	
C3-Naphthobenzothiophenes	0.409		576		7.59		401	
C4-Naphthobenzothiophenes	<0.3	U	352		16.6		188	
Benz(a)anthracene	0.058	J	26.8		6.00		11.3	
Chrysene/Triphenylene	0.088	J	117		11.4		65.4	
C1-Chrysenes	<0.2	U	340		<0.2	U	188	
C2-Chrysenes	<0.2	U	396		<0.2	U	220	
C3-Chrysenes	<0.2	U	262		<0.2	U	193	
C4-Chrysenes	<0.2	U	170		<0.2	U	88.9	
Benzo(b)fluoranthene	0.117	J	55.8		24.0		48.4	
Benzo(k,j)fluoranthene	0.035	J	14.6		7.71		13.7	
Benzo(a)fluoranthene	<0.1	U	<0.1	U	4.03		<0.1	U
Benzo(e)pyrene	0.090	J	54.2		12.5		42.6	
Benzo(a)pyrene	0.043	J	30.3		4.90		24.1	
Perylene	1.96		30.8		51.8		17.0	
Indeno(1,2,3-c,d)pyrene	0.054		15.7		5.60		1.06	
Dibenzo(a,h)anthracene	0.016	J	7.98		8.38		6.77	
Benzo(g,h,i)perylene	0.080	J	32.6		13.4		27.8	
Total PAHs	21.3		24628		1263		13492	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1670.D	ARC1671.D	ARC1672.D	ARC1673.D
Client Name	SED-DA-014 (0-0.5)	SED-DA-015 (0-0.5)	SED-DA-016 (0-0.5)	SED-DA-017 (0-0.5)
Matrix	Sediment	Sediment	Sediment	Sediment
Collection Date	08/05/13	08/05/13	08/05/13	08/05/13
Received Date	08/06/13	08/06/13	08/06/13	08/06/13
Extraction Date	08/14/13	08/14/13	08/14/13	08/14/13
Extraction Batch	ENV 3082	ENV 3082	ENV 3082	ENV 3082
Date Acquired	8/31/13 1:20	8/31/13 2:29	8/31/13 3:38	8/31/13 4:46
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.1	15.1	15.0
% Dry	83	66	64	74
% Moisture	17	34	36	26
Dilution	1X	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q
Individual Alkyl Isomers and Hopanes								
2-Methylnaphthalene	0.641	J	233		12.6		64.0	
1-Methylnaphthalene	0.392	J	177		14.0		42.2	
2,6-Dimethylnaphthalene	0.671		469		19.7		145	
1,6,7-Trimethylnaphthalene	0.223		198		3.35		76.4	
1-Methylfluorene	0.324		213		5.22		95.5	
4-Methyldibenzothiophene	0.216		507		3.47		304	
2/3-Methyldibenzothiophene	0.100		434		5.42		205	
1-Methyldibenzothiophene	0.140		284		1.50		163	
3-Methylphenanthrene	<0.1	U	238		10.1		138	
2-Methylphenanthrene	<0.1	U	329		10.0		142	
2-Methylanthracene	<0.1	U	27.6		4.48		8.0	
4/9-Methylphenanthrene	<0.1	U	386		5.91		187	
1-Methylphenanthrene	<0.1	U	233		5.49		132	
3,6-Dimethylphenanthrene	<0.1	U	116		2.42		35.8	
Retene	<0.2	U	126		7.22		67.0	
2-Methylfluoranthene	0.023	J	23.0		3.43		19.9	
Benzo(b)fluorene	0.035	J	43.4		3.31		22.3	
C29-Hopane	<0.6	U	812		83.6		<0.6	U
18a-Oleanane	<0.6	U	<0.6	U	<0.6	U	<0.6	U
C30-Hopane	<0.6	U	902		81.6		<0.6	U
C20-TAS	<0.6	U	<0.6	U	<0.6	U	<0.6	U
C21-TAS	<0.6	U	<0.6	U	<0.6	U	<0.6	U
C26(20S)-TAS	<0.6	U	<0.6	U	<0.6	U	<0.6	U
C26(20R)/C27(20S)-TAS	<0.6	U	<0.6	U	<0.6	U	<0.6	U
C28(20S)-TAS	<0.6	U	<0.6	U	<0.6	U	<0.6	U
C27(20R)-TAS	<0.6	U	<0.6	U	<0.6	U	<0.6	U
C28(20R)-TAS	<0.6	U	<0.6	U	<0.6	U	<0.6	U

Surrogate Recovery				
Naphthalene-d8	83	77	89	52
Acenaphthene-d10	88	90	77	53
Phenanthrene-d10	93	95	99	96
Chrysene-d12	89	100	78	78
Perylene-d12	84	84	48	83

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Procedural Blank Report

Sample Name	ENV3082A.D
Client Name	Procedural Blank
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	08/14/13
Extraction Batch	ENV 3082
Date Acquired	8/17/13 23:04
Method	PAH-2012.M
Sample Dry Weight (g)	15.0
% Dry	NA
% Moisture	NA
Dilution	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	3X MDL	Actual MDL
cis/trans Decalin	<0.1	U	0.395	0.132
C1-Decalins	<0.3	U	0.790	0.263
C2-Decalins	<0.3	U	0.790	0.263
C3-Decalins	<0.3	U	0.790	0.263
C4-Decalins	<0.3	U	0.790	0.263
Naphthalene	0.140	J	1.03	0.342
C1-Naphthalenes	0.038	J	3.09	1.03
C2-Naphthalenes	<0.7	U	2.05	0.684
C3-Naphthalenes	<0.7	U	2.05	0.684
C4-Naphthalenes	<0.7	U	2.05	0.684
Benzothiophene	<0.1	U	0.270	0.090
C1-Benzothiophenes	<0.2	U	0.540	0.180
C2-Benzothiophenes	<0.2	U	0.540	0.180
C3-Benzothiophenes	<0.2	U	0.540	0.180
C4-Benzothiophenes	<0.2	U	0.540	0.180
Biphenyl	0.121	J	0.881	0.294
Acenaphthylene	<0.04	U	0.122	0.041
Acenaphthene	<0.1	U	0.308	0.103
Dibenzofuran	0.064	J	0.613	0.204
Fluorene	0.015	J	0.550	0.183
C1-Fluorenes	<0.4	U	1.10	0.367
C2-Fluorenes	<0.4	U	1.10	0.367
C3-Fluorenes	<0.4	U	1.10	0.367
Carbazole	<0.1	U	0.449	0.150
Anthracene	<0.1	U	0.346	0.115
Phenanthrene	<0.2	U	0.624	0.208
C1-Phenanthrenes/Anthracenes	<0.1	U	0.232	0.077
C2-Phenanthrenes/Anthracenes	<0.3	U	0.855	0.285
C3-Phenanthrenes/Anthracenes	<0.3	U	0.855	0.285
C4-Phenanthrenes/Anthracenes	<0.3	U	0.855	0.285
Dibenzothiophene	<0.1	U	0.348	0.116
C1-Dibenzothiophenes	<0.1	U	0.191	0.064
C2-Dibenzothiophenes	<0.2	U	0.696	0.232
C3-Dibenzothiophenes	<0.2	U	0.696	0.232
C4-Dibenzothiophenes	<0.2	U	0.696	0.232
Fluoranthene	<0.3	U	1.00	0.333
Pyrene	<0.1	U	0.408	0.136
C1-Fluoranthenes/Pyrenes	<0.5	U	1.41	0.469
C2-Fluoranthenes/Pyrenes	<0.5	U	1.41	0.469
C3-Fluoranthenes/Pyrenes	<0.5	U	1.41	0.469
C4-Fluoranthenes/Pyrenes	<0.5	U	1.41	0.469
Naphthobenzothiophene	<0.1	U	0.383	0.128
C1-Naphthobenzothiophenes	<0.3	U	0.767	0.256
C2-Naphthobenzothiophenes	<0.3	U	0.767	0.256
C3-Naphthobenzothiophenes	<0.3	U	0.767	0.256
C4-Naphthobenzothiophenes	<0.3	U	0.767	0.256
Benz(a)anthracene	<0.2	U	0.577	0.192
Chrysene/Triphenylene	<0.1	U	0.347	0.116
C1-Chrysenes	<0.2	U	0.695	0.232
C2-Chrysenes	<0.2	U	0.695	0.232
C3-Chrysenes	<0.2	U	0.695	0.232
C4-Chrysenes	<0.2	U	0.695	0.232
Benzo(b)fluoranthene	<0.2	U	0.609	0.203
Benzo(k,j)fluoranthene	<0.1	U	0.294	0.098
Benzo(a)fluoranthene	<0.1	U	0.294	0.098
Benzo(e)pyrene	<0.2	U	0.530	0.177
Benzo(a)pyrene	<0.1	U	0.304	0.101
Perylene	0.1	J	3.80	1.27
Indeno(1,2,3-c,d)pyrene	<0.1	U	0.151	0.050
Dibenzo(a,h)anthracene	<0.1	U	0.193	0.064
Benzo(g,h,i)perylene	<0.1	U	0.264	0.088
Total PAHs	0.510			

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Procedural Blank Report

Sample Name	ENV3082A.D
Client Name	Procedural Blank
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	08/14/13
Extraction Batch	ENV 3082
Date Acquired	8/17/13 23:04
Method	PAH-2012.M
Sample Dry Weight (g)	15.0
% Dry	NA
% Moisture	NA
Dilution	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	3X MDL	Actual MDL
Individual Alkyl Isomers and Hopanes				
2-Methylnaphthalene	0.040	J	3.89	1.30
1-Methylnaphthalene	0.020	J	1.64	0.546
2,6-Dimethylnaphthalene	<0.3	U	0.782	0.261
1,6,7-Trimethylnaphthalene	<0.1	U	0.382	0.127
1-Methylfluorene	<0.2	U	0.574	0.191
4-Methyldibenzothiophene	<0.1	U	0.274	0.091
2/3-Methyldibenzothiophene	<0.1	U	0.274	0.091
1-Methyldibenzothiophene	<0.1	U	0.274	0.091
3-Methylphenanthrene	<0.1	U	0.291	0.097
2-Methylphenanthrene	<0.1	U	0.291	0.097
2-Methylanthracene	<0.1	U	0.291	0.097
4/9-Methylphenanthrene	<0.1	U	0.291	0.097
1-Methylphenanthrene	<0.1	U	0.291	0.097
3,6-Dimethylphenanthrene	<0.1	U	0.329	0.110
Retene	<0.2	U	0.694	0.231
2-Methylfluoranthene	<0.2	U	0.668	0.223
Benzo(b)fluorene	<0.1	U	0.374	0.125
C29-Hopane	<0.6	U	1.72	0.575
18a-Oleanane	<0.6	U	1.72	0.575
C30-Hopane	<0.6	U	1.72	0.575
C20-TAS	<0.6	U	1.72	0.575
C21-TAS	<0.6	U	1.72	0.575
C26(20S)-TAS	<0.6	U	1.72	0.575
C26(20R)/C27(20S)-TAS	<0.6	U	1.72	0.575
C28(20S)-TAS	<0.6	U	1.72	0.575
C27(20R)-TAS	<0.6	U	1.72	0.575
C28(20R)-TAS	<0.6	U	1.72	0.575

Surrogate Recovery	
Naphthalene-d8	90
Acenaphthene-d10	91
Phenanthrene-d10	94
Chrysene-d12	78
Perylene-d12	92

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Matrix Spike Report

Sample Name	ARC1666.D	ENV3082C.D	ENV3082D.D
Client Name	SED-DA-012 (0-0.5)	MS (SED-DA-012 (0-0.5) MS/MSD)	MSD (SED-DA-012 (0-0.5) MS/MSD)
Matrix	Sediment	Sediment	Sediment
Collection Date	08/04/13	08/04/13	08/04/13
Received Date	08/06/13	08/06/13	08/06/13
Extraction Date	08/14/13	08/14/13	08/14/13
Extraction Batch	ENV 3082	ENV 3082	ENV 3082
Date Acquired	8/30/13 23:03	8/18/13 1:22	8/18/13 2:31
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.1	15.0
% Dry	83	82	82
% Moisture	17	18	18
Dilution	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Recovery (%)	Q	Q1	Su. Corrected Conc. (ng/dry g)	Q	Recovery (%)	Q	Q1	RPD (%)	Q	Spike Amount (ng)
cis/trans Decalin	<0.1	U	7.10		108			7.33		111			3		98.9
C1-Decalins	<0.3	U	NA					NA							
C2-Decalins	<0.3	U	NA					NA							
C3-Decalins	<0.3	U	NA					NA							
C4-Decalins	<0.3	U	NA					NA							
Naphthalene	0.903		6.91		91			7.05		92			2		100
C1-Naphthalenes	1.09		NA					NA							
C2-Naphthalenes	1.91		NA					NA							
C3-Naphthalenes	1.68		NA					NA							
C4-Naphthalenes	1.50		NA					NA							
Benzothiophene	<0.1	U	5.75		87			5.88		89			2		99.4
C1-Benzothiophenes	<0.2	U	NA					NA							
C2-Benzothiophenes	<0.2	U	NA					NA							
C3-Benzothiophenes	<0.2	U	NA					NA							
C4-Benzothiophenes	<0.2	U	NA					NA							
Biphenyl	0.336		8.39		122			8.52		124			1		99.1
Acenaphthylene	0.053		5.56		84			5.57		83			0		99.2
Acenaphthene	0.040	J	5.20		77			5.25		78			1		100
Dibenzofuran	0.958		6.84		89			6.96		91			2		100
Fluorene	1.26		7.15		89			7.38		92			3		100
C1-Fluorenes	0.512		NA					NA							
C2-Fluorenes	<0.4	U	NA					NA							
C3-Fluorenes	<0.4	U	NA					NA							
Carbazole	0.047	J,L	0.31	L	4	*		0.28	L	4	*		8		99.1
Anthracene	<0.1	U	1.87	L	28	*		1.59	L	24	*		16		100
Phenanthrene	3.69		9.65		91			9.65		90			0		99.1
C1-Phenanthrenes/Anthracenes	<0.1	U	NA					NA							
C2-Phenanthrenes/Anthracenes	<0.3	U	NA					NA							
C3-Phenanthrenes/Anthracenes	<0.3	U	NA					NA							
C4-Phenanthrenes/Anthracenes	<0.3	U	NA					NA							
Dibenzothiophene	0.419		7.40		107			7.41		106			0		98.6
C1-Dibenzothiophenes	0.401		NA					NA							
C2-Dibenzothiophenes	0.433		NA					NA							
C3-Dibenzothiophenes	0.292		NA					NA							
C4-Dibenzothiophenes	<0.2	U	NA					NA							
Fluoranthene	1.24		7.02		87			7.08		88			1		100
Pyrene	0.668		4.13		52			3.57		44			15		100
C1-Fluoranthenes/Pyrenes	0.235	J	NA					NA							
C2-Fluoranthenes/Pyrenes	0.398	J	NA					NA							
C3-Fluoranthenes/Pyrenes	0.140	J	NA					NA							
C4-Fluoranthenes/Pyrenes	<0.5	U	NA					NA							
Naphthobenzothiophene	0.353		NA					NA							
C1-Naphthobenzothiophenes	0.337		NA					NA							
C2-Naphthobenzothiophenes	0.452		NA					NA							
C3-Naphthobenzothiophenes	0.429		NA					NA							
C4-Naphthobenzothiophenes	<0.3	U	NA					NA							
Benz(a)anthracene	0.217		5.16		75			4.91		71			5		100
Chrysene/Triphenylene	0.6		6.08		84			5.94		81			2		99.4
C1-Chrysenes	<0.2	U	NA					NA							
C2-Chrysenes	<0.2	U	NA					NA							
C3-Chrysenes	<0.2	U	NA					NA							
C4-Chrysenes	<0.2	U	NA					NA							
Benzo(b)fluoranthene	0.7		7.20		97			7.10		95			1		100
Benzo(k,j)fluoranthene	0.298		6.91		100			6.92		100			0		100
Benzo(a)fluoranthene	<0.1	U	NA					NA							
Benzo(e)pyrene	0.421		6.84		97			6.72		95			2		100
Benzo(a)pyrene	0.079	J,L	1.34	L	19	*		1.32	L	19	*		1		100
Perylene	0.010	J,L	1.30	L	19			1.30	L	19			0		100
Indeno(1,2,3-c,d)pyrene	0.290		5.18		75			5.22		75			1		98.3
Dibenzo(a,h)anthracene	0.084		6.45		97			6.53		98			1		99.1
Benzo(g,h,i)perylene	0.278	L	1.28	L	15	*		1.35	L	16	*		6		99.1
Average % Recovery					80					80					

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Matrix Spike Report

Sample Name	ARC1666.D	ENV3082C.D	ENV3082D.D
Client Name	SED-DA-012 (0-0.5)	MS (SED-DA-012 (0-0.5) MS/MSD)	MSD (SED-DA-012 (0-0.5) MS/MSD)
Matrix	Sediment	Sediment	Sediment
Collection Date	08/04/13	08/04/13	08/04/13
Received Date	08/06/13	08/06/13	08/06/13
Extraction Date	08/14/13	08/14/13	08/14/13
Extraction Batch	ENV 3082	ENV 3082	ENV 3082
Date Acquired	8/30/13 23:03	8/18/13 1:22	8/18/13 2:31
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.1	15.0
% Dry	83	82	82
% Moisture	17	18	18
Dilution	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Recovery (%)	Q Q1	Su. Corrected Conc. (ng/dry g)	Q	Recovery (%)	Q Q1	RPD (%)	Q	Spike Amount (ng)
Individual Alkyl Isomers and Hopanes													
2-Methylnaphthalene	1.12	J	7.03		89		7.26		92		3		100
1-Methylnaphthalene	0.559		6.27		86		6.37		87		2		100
2,6-Dimethylnaphthalene	0.955		6.47		83		6.66		86		3		100
1,6,7-Trimethylnaphthalene	0.187		5.91		86		6.12		89		3		100
1-Methylfluorene	0.292		7.01		100		7.09		101		1		101
4-Methyldibenzothiophene	0.212		6.08		88		6.07		87		0		101
2/3-Methyldibenzothiophene	0.112		NA				NA						
1-Methyldibenzothiophene	0.142		NA				NA						
3-Methylphenanthrene	<0.1	U	NA				NA						
2-Methylphenanthrene	<0.1	U	NA				NA						
2-Methylanthracene	<0.1	U	NA				NA						
4/9-Methylphenanthrene	<0.1	U	NA				NA						
1-Methylphenanthrene	<0.1	U	5.92		90		6.03		92		2		98.9
3,6-Dimethylphenanthrene	<0.1	U	5.32		80		5.22		78		2		100
Retene	<0.2	U	5.61		95		5.46		92		3		89.4
2-Methylfluoranthene	0.05	J	6.00		89		5.78		85		4		101
Benzo(b)fluorene	0.04	J	6.87		102		6.94		103		1		101
C29-Hopane	<0.6	U	NA				NA						
18a-Oleanane	<0.6	U	NA				NA						
C30-Hopane	<0.6	U	NA				NA						
C20-TAS	<0.6	U	NA				NA						
C21-TAS	<0.6	U	NA				NA						
C26(20S)-TAS	<0.6	U	NA				NA						
C26(20R)/C27(20S)-TAS	<0.6	U	7.52		113		7.61		114		1		100
C28(20S)-TAS	<0.6	U	NA				NA						
C27(20R)-TAS	<0.6	U	NA				NA						
C28(20R)-TAS	<0.6	U	NA				NA						
Surrogate Recovery													
Naphthalene-d8	85		87				88						
Acenaphthene-d10	76		86				84						
Phenanthrene-d10	90		92				90						
Chrysene-d12	83		83				79						
Perylene-d12	1	L	1	L			1	L					

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Duplicate Report

Sample Name	ARC1670.D	ENV3082E.D
Client Name	SED-DA-014 (0-0.5)	Dupl. (SED-DA-014 (0-0.5))
Matrix	Sediment	Sediment
Collection Date	08/05/13	08/05/13
Received Date	08/06/13	08/06/13
Extraction Date	08/14/13	08/14/13
Extraction Batch	ENV 3082	ENV 3082
Date Acquired	8/31/13 1:20	8/18/13 3:40
Method	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.1
% Dry	83	83
% Moisture	17	17
Dilution	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	RPD %	Q Q1	3X MDL	MDL
cis/trans Decalin	<0.1	U	<0.1	U			0.395	0.132
C1-Decalins	<0.3	U	<0.3	U			0.790	0.263
C2-Decalins	<0.3	U	<0.3	U			0.790	0.263
C3-Decalins	<0.3	U	<0.3	U			0.790	0.263
C4-Decalins	<0.3	U	<0.3	U			0.790	0.263
Naphthalene	0.713		0.726		2	X	1.03	0.342
C1-Naphthalenes	0.670	J	0.701	J	5	X	3.09	1.03
C2-Naphthalenes	1.58		1.69		7	X	2.05	0.684
C3-Naphthalenes	2.71		2.95		8		2.05	0.684
C4-Naphthalenes	1.51		1.57		4	X	2.05	0.684
Benzothiophene	<0.1	U	<0.1	U			0.270	0.090
C1-Benzothiophenes	<0.2	U	<0.2	U			0.540	0.180
C2-Benzothiophenes	<0.2	U	<0.2	U			0.540	0.180
C3-Benzothiophenes	<0.2	U	<0.2	U			0.540	0.180
C4-Benzothiophenes	<0.2	U	<0.2	U			0.540	0.180
Biphenyl	0.250	J	0.262	J	5	X	0.881	0.294
Acenaphthylene	0.040	J	0.045		11	X	0.122	0.041
Acenaphthene	0.051	J	0.055	J	8	X	0.308	0.103
Dibenzofuran	0.853		0.913		7		0.613	0.204
Fluorene	1.16		1.26		8		0.55	0.183
C1-Fluorenes	0.493		0.527		7	X	1.10	0.367
C2-Fluorenes	<0.4	U	<0.4	U			1.10	0.367
C3-Fluorenes	<0.4	U	<0.4	U			1.10	0.367
Carbazole	0.054	J	0.053	J	3	X	0.449	0.150
Anthracene	0.030	J	0.033	J	8	X	0.346	0.115
Phenanthrene	3.39		3.39		0		0.624	0.208
C1-Phenanthrenes/Anthracenes	<0.1	U	<0.1	U			0.232	0.077
C2-Phenanthrenes/Anthracenes	<0.3	U	<0.3	U			0.855	0.285
C3-Phenanthrenes/Anthracenes	<0.3	U	<0.3	U			0.855	0.285
C4-Phenanthrenes/Anthracenes	<0.3	U	<0.3	U			0.855	0.285
Dibenzothiophene	0.349		0.367		5		0.348	0.116
C1-Dibenzothiophenes	0.393		0.311		23		0.191	0.064
C2-Dibenzothiophenes	0.604		0.595		2	X	0.696	0.232
C3-Dibenzothiophenes	0.730		0.821		12		0.696	0.232
C4-Dibenzothiophenes	<0.2	U	<0.2	U			0.696	0.232
Fluoranthene	0.409		0.429		5	X	1.00	0.333
Pyrene	0.292		0.327		11	X	0.408	0.136
C1-Fluoranthenes/Pyrenes	0.265	J	0.319	J	18	X	1.41	0.469
C2-Fluoranthenes/Pyrenes	0.369	J	0.440	J	18	X	1.41	0.469
C3-Fluoranthenes/Pyrenes	0.277	J	0.323	J	15	X	1.41	0.469
C4-Fluoranthenes/Pyrenes	<0.5	U	<0.5	U			1.41	0.469
Naphthobenzothiophene	0.231		0.202		13	X	0.383	0.128
C1-Naphthobenzothiophenes	0.316		0.442		33	X	0.767	0.256
C2-Naphthobenzothiophenes	0.616		0.585		5	X	0.767	0.256
C3-Naphthobenzothiophenes	0.409		0.464		13	X	0.767	0.256
C4-Naphthobenzothiophenes	<0.3	U	<0.3	U			0.767	0.256
Benz(a)anthracene	0.058	J	0.052	J	12	X	0.577	0.192
Chrysene/Triphenylene	0.088	J	0.105	J	18	X	0.347	0.116
C1-Chrysenes	<0.2	U	<0.2	U			0.695	0.232
C2-Chrysenes	<0.2	U	<0.2	U			0.695	0.232
C3-Chrysenes	<0.2	U	<0.2	U			0.695	0.232
C4-Chrysenes	<0.2	U	<0.2	U			0.695	0.232
Benzo(b)fluoranthene	0.117	J	0.129	J	10	X	0.609	0.203
Benzo(k,j)fluoranthene	0.035	J	0.036	J	4	X	0.294	0.098
Benzo(a)fluoranthene	<0.1	U	<0.1	U			0.294	0.098
Benzo(e)pyrene	0.090	J	0.101	J	12	X	0.5302	0.1767
Benzo(a)pyrene	0.043	J	0.039	J	10	X	0.3039	0.1013
Perylene	1.96		1.72		13	X	3.8003	1.2668
Indeno(1,2,3-c,d)pyrene	0.054		0.065		18	X	0.1507	0.0502
Dibenzo(a,h)anthracene	0.016	J	0.021	J	23	X	0.193	0.064
Benzo(g,h,i)perylene	0.080	J	0.082	J	3	X	0.264	0.088
Total PAHs	21.3		22.1		4			

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Duplicate Report

Sample Name	ARC1670.D	ENV3082E.D
Client Name	SED-DA-014 (0-0.5)	Dupl. (SED-DA-014 (0-0.5))
Matrix	Sediment	Sediment
Collection Date	08/05/13	08/05/13
Received Date	08/06/13	08/06/13
Extraction Date	08/14/13	08/14/13
Extraction Batch	ENV 3082	ENV 3082
Date Acquired	8/31/13 1:20	8/18/13 3:40
Method	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.1
% Dry	83	83
% Moisture	17	17
Dilution	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	RPD %	Q	Q1	3X MDL	MDL
Individual Alkyl Isomers and Hopanes									
2-Methylnaphthalene	0.641	J	0.705	J	9		X	3.89	1.30
1-Methylnaphthalene	0.392	J	0.405	J	3		X	1.64	0.546
2,6-Dimethylnaphthalene	0.671		0.666		1		X	0.782	0.261
1,6,7-Trimethylnaphthalene	0.223		0.206		8		X	0.382	0.127
1-Methylfluorene	0.324		0.337		4		X	0.574	0.191
4-Methyldibenzothiophene	0.216		0.241		11		X	0.274	0.091
2/3-Methyldibenzothiophene	0.100		0.127		24		X	0.274	0.091
1-Methyldibenzothiophene	0.140		0.143		2		X	0.274	0.091
3-Methylphenanthrene	<0.1	U	<0.1	U				0.291	0.097
2-Methylphenanthrene	<0.1	U	<0.1	U				0.291	0.097
2-Methylanthracene	<0.1	U	<0.1	U				0.291	0.097
4/9-Methylphenanthrene	<0.1	U	<0.1	U				0.291	0.097
1-Methylphenanthrene	<0.1	U	<0.1	U				0.291	0.097
3,6-Dimethylphenanthrene	<0.1	U	<0.1	U				0.329	0.110
Retene	<0.2	U	<0.2	U				0.694	0.231
2-Methylfluoranthene	0.023	J	0.027	J	13		X	0.668	0.223
Benzo(b)fluorene	0.035	J	0.039	J	13		X	0.374	0.125
C29-Hopane	<0.6	U	<0.6	U				1.72	0.575
18a-Oleanane	<0.6	U	<0.6	U				1.72	0.575
C30-Hopane	<0.6	U	<0.6	U				1.72	0.575
C20-TAS	<0.6	U	<0.6	U				1.72	0.575
C21-TAS	<0.6	U	<0.6	U				1.72	0.575
C26(20S)-TAS	<0.6	U	<0.6	U				1.72	0.575
C26(20R)/C27(20S)-TAS	<0.6	U	<0.6	U				1.72	0.575
C28(20S)-TAS	<0.6	U	<0.6	U				1.72	0.575
C27(20R)-TAS	<0.6	U	<0.6	U				1.72	0.575
C28(20R)-TAS	<0.6	U	<0.6	U				1.72	0.575

Surrogate Recovery		
Naphthalene-d8	83	88
Acenaphthene-d10	88	91
Phenanthrene-d10	93	94
Chrysene-d12	89	70
Perylene-d12	84	80

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Standard Reference Material Report

Sample Name	ENV3082B D
Client Name	SRM 1941b
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	08/14/13
Extraction Batch	ENV 3082
Date Acquired	8/18/13 0:13
Method	PAH-2012.M
Sample Dry Weight (g)	4.0
% Dry	98
% Moisture	2
Dilution	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	RPD (%)	SRM 1941b Certified Conc. (ng/dry g)	-30% Certified Conc. (ng/dry g)	+30% Certified Conc. (ng/dry g)
cis/trans Decalin	48.8					
C1-Decalins	7.69					
C2-Decalins	11.8					
C3-Decalins	31.3					
C4-Decalins	37.3					
Naphthalene	730		15	848 ± 95	527	1226
C1-Naphthalenes	213					
C2-Naphthalenes	183					
C3-Naphthalenes	146					
C4-Naphthalenes	77.9					
Benzothiophene	29.1					
C1-Benzothiophenes	11.2					
C2-Benzothiophenes	13.7					
C3-Benzothiophenes	16.1					
C4-Benzothiophenes	16.2					
Biphenyl	64.7					
Acenaphthylene	67.1					
Acenaphthene	26.2					
Dibenzofuran	77.9					
Fluorene	52.8		47	85 ± 15	49.0	130
C1-Fluorenes	51.2					
C2-Fluorenes	121					
C3-Fluorenes	172					
Carbazole	17.7					
Anthracene	174		5	184 ± 18	116	263
Phenanthrene	385		5	406 ± 44	253	585
C1-Phenanthrenes/Anthracenes	304					
C2-Phenanthrenes/Anthracenes	275					
C3-Phenanthrenes/Anthracenes	218					
C4-Phenanthrenes/Anthracenes	165					
Dibenzothiophene	45.4					
C1-Dibenzothiophenes	46.1					
C2-Dibenzothiophenes	87.1					
C3-Dibenzothiophenes	93.8					
C4-Dibenzothiophenes	59.1					
Fluoranthene	659		1	651 ± 50	421	911
Pyrene	507		14	581 ± 39	379	806
C1-Fluoranthenes/Pyrenes	351					
C2-Fluoranthenes/Pyrenes	373					
C3-Fluoranthenes/Pyrenes	179					
C4-Fluoranthenes/Pyrenes	120					
Naphthobenzothiophene	140					
C1-Naphthobenzothiophenes	129					
C2-Naphthobenzothiophenes	145					
C3-Naphthobenzothiophenes	95.6					
C4-Naphthobenzothiophenes	47.0					
Benz(a)anthracene	357		6	335 ± 25	217	468
Chrysene/Triphenylene	452		12	399 ± 36	254	566
C1-Chrysenes	274					
C2-Chrysenes	155					
C3-Chrysenes	100					
C4-Chrysenes	43.7					
Benzo(b)fluoranthene	366		21	453 ± 21	302	616
Benzo(k,j)fluoranthene	429		3	442 ± 23	293	605
Benzo(a)fluoranthene	62.7					
Benzo(e)pyrene	276		16	325 ± 25	210	455
Benzo(a)pyrene	239		40	358 ± 17	239	488
Perylene	292		31	397 ± 45	246	575
Indeno(1,2,3-c,d)pyrene	247		32	341 ± 57	199	517
Dibenzo(a,h)anthracene	38.4		32	53 ± 10	30.1	81.9
Benzo(g,h,i)perylene	222		32	307 ± 45	183	458
Total PAHs	10376					

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Standard Reference Material Report

Sample Name	ENV3082B.D
Client Name	SRM 1941b
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	08/14/13
Extraction Batch	ENV 3082
Date Acquired	8/18/13 0:13
Method	PAH-2012.M
Sample Dry Weight (g)	4.0
% Dry	98
% Moisture	2
Dilution	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	RPD (%)	SRM 1941b Certified Conc. (ng/dry g)	-30% Certified Conc. (ng/dry g)	+30% Certified Conc. (ng/dry g)
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	228					
1-Methylnaphthalene	108					
2,6-Dimethylnaphthalene	101					
1,6,7-Trimethylnaphthalene	20.0					
1-Methylfluorene	34.1					
4-Methyldibenzothiophene	37.6					
2/3-Methyldibenzothiophene	26.6					
1-Methyldibenzothiophene	11.5					
3-Methylphenanthrene	70.2		40	105 ± 13	64.4	153
2-Methylphenanthrene	101					
2-Methylanthracene	54.8					
4/9-Methylphenanthrene	81.4					
1-Methylphenanthrene	53.1		32	73.2 ± 5.9	47.1	103
3,6-Dimethylphenanthrene	24.2					
Retene	35.4					
2-Methylfluoranthene	70.4					
Benzo(b)fluorene	83.4					
C29-Hopane	223					
18a-Oleanane	35.3					
C30-Hopane	278					
C20-TAS	2.11	J				
C21-TAS	3.11					
C26(20S)-TAS	1.87	J				
C26(20R)/C27(20S)-TAS	7.31					
C28(20S)-TAS	4.99					
C27(20R)-TAS	6.22					
C28(20R)-TAS	4.90					

Surrogate Recovery	
Naphthalene-d8	81
Acenaphthene-d10	92
Phenanthrene-d10	90
Chrysene-d12	96
Perylene-d12	77

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Standard Reference Material Report

Sample Name	MS60142K.D
Client Name	AR-SRM2779-WK-4.0-002
Matrix	Gulf of Mexico Crude Oil
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3082
Date Acquired	8/17/13 21:55
Method	PAH-2012.M
Sample Weight (mg)	4.1

Target Compounds	Su. Corrected Conc. (ng/mg)	Q	Q1	RPD (%)	SRM 2779 Certified Value (ug/g)	-20% Certified Value (ug/g)	+20% Certified Value (ug/g)
cis/trans Decalin	879						
C1-Decalins	1059						
C2-Decalins	853						
C3-Decalins	844						
C4-Decalins	500						
Naphthalene	752			13	855 ± 46	647	1081
C1-Naphthalenes	1567						
C2-Naphthalenes	1865						
C3-Naphthalenes	1179						
C4-Naphthalenes	665						
Benzothiophene	8.9	J					
C1-Benzothiophenes	31.9						
C2-Benzothiophenes	20.8						
C3-Benzothiophenes	37.0						
C4-Benzothiophenes	24.8						
Biphenyl	166						
Acenaphthylene	9.51	J					
Acenaphthene	12.6						
Dibenzofuran	32.4						
Fluorene	121						
C1-Fluorenes	242						
C2-Fluorenes	335						
C3-Fluorenes	251						
Carbazole	4.6	J					
Anthracene	4.2	J		22	3.42 ± 0.59	2.26	4.81
Phenanthrene	220			16	258 ± 27	185	342
C1-Phenanthrenes/Anthracenes	558						
C2-Phenanthrenes/Anthracenes	640						
C3-Phenanthrenes/Anthracenes	450						
C4-Phenanthrenes/Anthracenes	263						
Dibenzothiophene	40.8			24	51.8 ± 2.1	39.8	64.7
C1-Dibenzothiophenes	96.9						
C2-Dibenzothiophenes	139						
C3-Dibenzothiophenes	142						
C4-Dibenzothiophenes	48.3						
Fluoranthene	3.94	J		10	4.36 ± 0.40	3.17	5.71
Pyrene	12.2			19	14.81 ± 0.39	11.5	18.2
C1-Fluoranthenes/Pyrenes	81.4						
C2-Fluoranthenes/Pyrenes	126						
C3-Fluoranthenes/Pyrenes	129						
C4-Fluoranthenes/Pyrenes	89.4						
Naphthobenzothiophene	27.5						
C1-Naphthobenzothiophenes	61.4						
C2-Naphthobenzothiophenes	80.1						
C3-Naphthobenzothiophenes	68.5						
C4-Naphthobenzothiophenes	28.4						
Benz(a)anthracene	6.83	J		3	7.03 ± 0.85	4.94	9.5
Chrysene/Triphenylene	44.9			5	47.4 ± 1.7	36.6	58.9
C1-Chrysenes	85.6						
C2-Chrysenes	124						
C3-Chrysenes	99.8						
C4-Chrysenes	60.9						
Benzo(b)fluoranthene	5.02	J		11	5.62 ± 0.34	4.22	7.15
Benzo(k,j)fluoranthene	1.01	J					
Benzo(a)fluoranthene	<10	U					
Benzo(e)pyrene	8.63	J		22	10.78 ± 0.60	8.14	13.7
Benzo(a)pyrene	1.61	J					
Perylene	0.780	J					
Indeno(1,2,3-c,d)pyrene	0.710	J					
Dibenzo(a,h)anthracene	0.667	J		15	0.574 ± 0.091	0.386	0.798
Benzo(g,h,i)perylene	1.64	J		25	2.11 ± 0.26	1.48	2.84
Total PAHs	15213						

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Standard Reference Material Report

Sample Name	MS60142K.D
Client Name	AR-SRM2779-WK-4.0-002
Matrix	Gulf of Mexico Crude Oil
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3082
Date Acquired	8/17/13 21:55
Method	PAH-2012.M
Sample Weight (mg)	4.1

Target Compounds	Su. Corrected Conc. (ng/mg)	Q	RPD (%)	SRM 2779 Certified Value (ug/g)	-20% Certified Value (ug/g)	+20% Certified Value (ug/g)
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	1487		9	1630 ± 50	1264	2016
1-Methylnaphthalene	1000		13	1140 ± 20	896	1392
2,6-Dimethylnaphthalene	937					
1,6,7-Trimethylnaphthalene	246					
1-Methylfluorene	234					
4-Methyldibenzothiophene	88.3					
2/3-Methyldibenzothiophene	42.3					
1-Methyldibenzothiophene	28.7					
3-Methylphenanthrene	141		37	206 ± 32	139	286
2-Methylphenanthrene	173		28	230 ± 14	173	293
2-Methylanthracene	11.9					
4/9-Methylphenanthrene	189		20	232 ± 19	170	301
1-Methylphenanthrene	146		14	169 ± 10	127	215
3,6-Dimethylphenanthrene	43.1					
Retene	23.2					
2-Methylfluoranthene	5.30	J				
Benzo(b)fluorene	17.7					
C29-Hopane	22.7					
18a-Oleanane	<10	U				
C30-Hopane	44.9					
C20-TAS	5.85	J				
C21-TAS	6.80	J				
C26(20S)-TAS	3.80	J				
C26(20R)/C27(20S)-TAS	11.2					
C28(20S)-TAS	7.68	J				
C27(20R)-TAS	6.92	J				
C28(20R)-TAS	7.42	J				

Surrogate Recovery	
Naphthalene-d8	91
Acenaphthene-d10	95
Phenanthrene-d10	82
Chrysene-d12	97
Perylene-d12	87

Peak Resolution	
4/9-Methylphenanthrene from 1-Methylyphenanthrene (m/z 192)	93%

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Standard Reference Material Report

Sample Name	MS70060K.D
Client Name	AR-SRM2779-WK4.0-002
Matrix	Gulf of Mexico Crude Oil
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3082
Date Acquired	8/30/13 9:19
Method	PAH-2012.M
Sample Weight (mg)	4.1

Target Compounds	Su. Corrected Conc. (ng/mg)	Q	Q1	RPD (%)	SRM 2779 Certified Value (ug/g)	-20% Certified Value (ug/g)	+20% Certified Value (ug/g)
cis/trans Decalin	740						
C1-Decalins	1039						
C2-Decalins	849						
C3-Decalins	840						
C4-Decalins	494						
Naphthalene	752			13	855 ± 46	647	1081
C1-Naphthalenes	1639						
C2-Naphthalenes	1880						
C3-Naphthalenes	1207						
C4-Naphthalenes	649						
Benzothiophene	8.67	J					
C1-Benzothiophenes	34.9						
C2-Benzothiophenes	19.8						
C3-Benzothiophenes	28.6						
C4-Benzothiophenes	26.0						
Biphenyl	168						
Acenaphthylene	8.17	J					
Acenaphthene	12.0						
Dibenzofuran	28.0						
Fluorene	125						
C1-Fluorenes	289						
C2-Fluorenes	368						
C3-Fluorenes	235						
Carbazole	4.43	J					
Anthracene	3.96	J		15	3.42 ± 0.59	2.26	4.81
Phenanthrene	246			5	258 ± 27	185	342
C1-Phenanthrenes/Anthracenes	513						
C2-Phenanthrenes/Anthracenes	562						
C3-Phenanthrenes/Anthracenes	411						
C4-Phenanthrenes/Anthracenes	169						
Dibenzothiophene	46.4			11	51.8 ± 2.1	39.8	64.7
C1-Dibenzothiophenes	139						
C2-Dibenzothiophenes	171						
C3-Dibenzothiophenes	118						
C4-Dibenzothiophenes	45.1						
Fluoranthene	5.20	J		18	4.36 ± 0.40	3.17	5.71
Pyrene	11.8			22	14.81 ± 0.39	11.5	18.2
C1-Fluoranthenes/Pyrenes	68.4						
C2-Fluoranthenes/Pyrenes	117						
C3-Fluoranthenes/Pyrenes	108						
C4-Fluoranthenes/Pyrenes	88.4						
Naphthobenzothiophene	20.9						
C1-Naphthobenzothiophenes	47.8						
C2-Naphthobenzothiophenes	58.1						
C3-Naphthobenzothiophenes	39.7						
C4-Naphthobenzothiophenes	17.6						
Benz(a)anthracene	6.21	J		12	7.03 ± 0.85	4.94	9.5
Chrysene/Triphenylene	41.3			14	47.4 ± 1.7	36.6	58.9
C1-Chrysenes	93.5						
C2-Chrysenes	122						
C3-Chrysenes	90.7						
C4-Chrysenes	49.4						
Benzo(b)fluoranthene	4.77	J		16	5.62 ± 0.34	4.22	7.15
Benzo(k,j)fluoranthene	0.580	J					
Benzo(a)fluoranthene	<10	U					
Benzo(e)pyrene	8.78	J		20	10.78 ± 0.60	8.14	13.7
Benzo(a)pyrene	1.66	J					
Perylene	0.596	J					
Indeno(1,2,3-c,d)pyrene	0.597	J					
Dibenzo(a,h)anthracene	0.657	J		13	0.574 ± 0.091	0.386	0.798
Benzo(g,h,i)perylene	1.55	J		30	2.11 ± 0.26	1.48	2.84
Total PAHs	14876						

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Standard Reference Material Report

Sample Name	MS70060K.D
Client Name	AR-SRM2779-WK4.0-002
Matrix	Gulf of Mexico Crude Oil
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3082
Date Acquired	8/30/13 9:19
Method	PAH-2012.M
Sample Weight (mg)	4.1

Target Compounds	Su. Corrected Conc. (ng/mg)	Q	RPD (%)	SRM 2779 Certified Value (ug/g)	-20% Certified Value (ug/g)	+20% Certified Value (ug/g)
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	1517		7	1630 ± 50	1264	2016
1-Methylnaphthalene	1018		11	1140 ± 20	896	1392
2,6-Dimethylnaphthalene	928					
1,6,7-Trimethylnaphthalene	258					
1-Methylfluorene	199					
4-Methyldibenzothiophene	93.3					
2/3-Methyldibenzothiophene	40.1					
1-Methyldibenzothiophene	27.9					
3-Methylphenanthrene	165		22	206 ± 32	139	286
2-Methylphenanthrene	164	*	34	230 ± 14	173	293
2-Methylanthracene	13.3					
4/9-Methylphenanthrene	184		23	232 ± 19	170	301
1-Methylphenanthrene	146		14	169 ± 10	127	215
3,6-Dimethylphenanthrene	51.6					
Retene	12.6					
2-Methylfluoranthene	5.36	J				
Benzo(b)fluorene	15.1					
C29-Hopane	24.8					
18a-Oleanane	<10	U				
C30-Hopane	41.8					
C20-TAS	4.01	J				
C21-TAS	7.87	J				
C26(20S)-TAS	3.35	J				
C26(20R)/C27(20S)-TAS	10.8					
C28(20S)-TAS	7.51	J				
C27(20R)-TAS	6.98	J				
C28(20R)-TAS	6.62	J				

Surrogate Recovery	
Naphthalene-d8	95
Acenaphthene-d10	96
Phenanthrene-d10	87
Chrysene-d12	93
Perylene-d12	85

Peak Resolution	
4/9-Methylphenanthrene from 1-Methylyphenanthrene (m/z 192)	90%

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Standard Reference Material Report

Sample Name	MS70061K.D
Client Name	AR-SRM2779-WK4.0-002
Matrix	Gulf of Mexico Crude Oil
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3082
Date Acquired	9/1/13 1:28
Method	PAH-2012.M
Sample Weight (mg)	4.1

Target Compounds	Su. Corrected Conc. (ng/mg)	Q	Q1	RPD (%)	SRM 2779 Certified Value (ug/g)	-20% Certified Value (ug/g)	+20% Certified Value (ug/g)
cis/trans Decalin	744						
C1-Decalins	1078						
C2-Decalins	811						
C3-Decalins	839						
C4-Decalins	476						
Naphthalene	764			11	855 ± 46	647	1081
C1-Naphthalenes	1650						
C2-Naphthalenes	1921						
C3-Naphthalenes	1207						
C4-Naphthalenes	658						
Benzothiophene	8.59	J					
C1-Benzothiophenes	28.5						
C2-Benzothiophenes	23.2						
C3-Benzothiophenes	30.5						
C4-Benzothiophenes	27.2						
Biphenyl	171						
Acenaphthylene	8.99	J					
Acenaphthene	13.3						
Dibenzofuran	28.6						
Fluorene	126						
C1-Fluorenes	303						
C2-Fluorenes	378						
C3-Fluorenes	215						
Carbazole	3.20	J					
Anthracene	4.29	J		23	3.42 ± 0.59	2.26	4.81
Phenanthrene	237			9	258 ± 27	185	342
C1-Phenanthrenes/Anthracenes	498						
C2-Phenanthrenes/Anthracenes	529						
C3-Phenanthrenes/Anthracenes	354						
C4-Phenanthrenes/Anthracenes	183						
Dibenzothiophene	44.6			15	51.8 ± 2.1	39.8	64.7
C1-Dibenzothiophenes	135						
C2-Dibenzothiophenes	165						
C3-Dibenzothiophenes	140						
C4-Dibenzothiophenes	63.6						
Fluoranthene	3.75	J		15	4.36 ± 0.40	3.17	5.71
Pyrene	13.9			6	14.81 ± 0.39	11.5	18.2
C1-Fluoranthenes/Pyrenes	73.5						
C2-Fluoranthenes/Pyrenes	148						
C3-Fluoranthenes/Pyrenes	113						
C4-Fluoranthenes/Pyrenes	88						
Naphthobenzothiophene	23.0						
C1-Naphthobenzothiophenes	47.3						
C2-Naphthobenzothiophenes	67.3						
C3-Naphthobenzothiophenes	41.2						
C4-Naphthobenzothiophenes	18.0						
Benz(a)anthracene	5.53	J		24	7.03 ± 0.85	4.94	9.5
Chrysene/Triphenylene	42.0			12	47.4 ± 1.7	36.6	58.9
C1-Chrysenes	123						
C2-Chrysenes	145						
C3-Chrysenes	101						
C4-Chrysenes	46.5						
Benzo(b)fluoranthene	4.52	J		22	5.62 ± 0.34	4.22	7.15
Benzo(k,j)fluoranthene	0.900	J					
Benzo(a)fluoranthene	<10	U					
Benzo(e)pyrene	8.80	J		20	10.78 ± 0.60	8.14	13.7
Benzo(a)pyrene	1.94	J					
Perylene	0.452	J					
Indeno(1,2,3-c,d)pyrene	0.616	J					
Dibenzo(a,h)anthracene	0.720	J		23	0.574 ± 0.091	0.386	0.798
Benzo(g,h,i)perylene	1.65	J		25	2.11 ± 0.26	1.48	2.84
Total PAHs	14987						

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Standard Reference Material Report

Sample Name	MS70061K.D
Client Name	AR-SRM2779-WK4.0-002
Matrix	Gulf of Mexico Crude Oil
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3082
Date Acquired	9/1/13 1:28
Method	PAH-2012.M
Sample Weight (mg)	4.1

Target Compounds	Su. Corrected Conc. (ng/mg)	Q	RPD (%)	SRM 2779 Certified Value (ug/g)	-20% Certified Value (ug/g)	+20% Certified Value (ug/g)
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	1530		6	1630 ± 50	1264	2016
1-Methylnaphthalene	1017		11	1140 ± 20	896	1392
2,6-Dimethylnaphthalene	941					
1,6,7-Trimethylnaphthalene	298					
1-Methylfluorene	205					
4-Methyldibenzothiophene	85.1					
2/3-Methyldibenzothiophene	42.4					
1-Methyldibenzothiophene	27.2					
3-Methylphenanthrene	177		15	206 ± 32	139	286
2-Methylphenanthrene	175		27	230 ± 14	173	293
2-Methylanthracene	15.9					
4/9-Methylphenanthrene	203		13	232 ± 19	170	301
1-Methylphenanthrene	152		10	169 ± 10	127	215
3,6-Dimethylphenanthrene	40.5					
Retene	24.7					
2-Methylfluoranthene	6.77	J				
Benzo(b)fluorene	15.7					
C29-Hopane	25.5					
18a-Oleanane	<10	U				
C30-Hopane	43.2					
C20-TAS	3.39	J				
C21-TAS	6.58	J				
C26(20S)-TAS	3.56	J				
C26(20R)/C27(20S)-TAS	11.1					
C28(20S)-TAS	7.75	J				
C27(20R)-TAS	6.89	J				
C28(20R)-TAS	5.49	J				

Surrogate Recovery	
Naphthalene-d8	94
Acenaphthene-d10	93
Phenanthrene-d10	86
Chrysene-d12	90
Perylene-d12	90

Peak Resolution	
4/9-Methylphenanthrene from 1-Methylyphenanthrene (m/z 192)	88%

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Control Material Report

Sample Name	MS60142J.D
Client Name	AR-WKCC-250-038
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3082
Date Acquired	8/17/13 20:46
Method	PAH-2012.M
Sample Volume (mL)	1.0

Target Compounds	Concentration (ng/mL)	Q	RPD (%)	LCM Certified Conc. (ng/mL)	-15% Certified Conc. (ng/mL)	+15% Certified Conc. (ng/mL)
cis/trans Decalin	242		2.1	247	210	284
C1-Decalins	NA					
C2-Decalins	NA					
C3-Decalins	NA					
C4-Decalins	NA					
Naphthalene	234		6.8	250	213	288
C1-Naphthalenes	NA					
C2-Naphthalenes	NA					
C3-Naphthalenes	NA					
C4-Naphthalenes	NA					
Benzothiophene	232		6.9	249	211	286
C1-Benzothiophenes	NA					
C2-Benzothiophenes	NA					
C3-Benzothiophenes	NA					
C4-Benzothiophenes	NA					
Biphenyl	227		8.9	248	211	285
Acenaphthylene	218		12.7	248	211	285
Acenaphthene	232		7.7	251	213	288
Dibenzofuran	230		7.6	249	211	286
Fluorene	224		11.2	251	213	288
C1-Fluorenes	NA					
C2-Fluorenes	NA					
C3-Fluorenes	NA					
Carbazole	249		0.5	248	211	285
Anthracene	262		4.5	251	213	288
Phenanthrene	274		10.0	248	211	285
C1-Phenanthrenes/Anthracenes	NA					
C2-Phenanthrenes/Anthracenes	NA					
C3-Phenanthrenes/Anthracenes	NA					
C4-Phenanthrenes/Anthracenes	NA					
Dibenzothiophene	258		4.7	247	210	283
C1-Dibenzothiophenes	NA					
C2-Dibenzothiophenes	NA					
C3-Dibenzothiophenes	NA					
C4-Dibenzothiophenes	NA					
Fluoranthene	269		7.3	250	213	288
Pyrene	237		5.4	250	213	288
C1-Fluoranthenes/Pyrenes	NA					
C2-Fluoranthenes/Pyrenes	NA					
C3-Fluoranthenes/Pyrenes	NA					
C4-Fluoranthenes/Pyrenes	NA					
Naphthobenzothiophene	225		11.3	252	214	289
C1-Naphthobenzothiophenes	NA					
C2-Naphthobenzothiophenes	NA					
C3-Naphthobenzothiophenes	NA					
C4-Naphthobenzothiophenes	NA					
Benz(a)anthracene	219		13.0	250	212	287
Chrysene/Triphenylene	240		3.5	249	211	286
C1-Chrysenes	NA					
C2-Chrysenes	NA					
C3-Chrysenes	NA					
C4-Chrysenes	NA					
Benzo(b)fluoranthene	238		5.1	251	213	288
Benzo(k,j)fluoranthene	248		0.6	249	212	286
Benzo(a)fluoranthene	NA					
Benzo(e)pyrene	244		2.1	249	212	286
Benzo(a)pyrene	231		7.8	250	212	287
Perylene	239		4.4	250	213	288
Indeno(1,2,3-c,d)pyrene	224		9.3	246	209	283
Dibenzo(a,h)anthracene	227		8.7	248	211	285
Benzo(g,h,i)perylene	234		5.6	248	211	285

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Control Material Report

Sample Name	MS60142J.D
Client Name	AR-WKCC-250-038
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3082
Date Acquired	8/17/13 20:46
Method	PAH-2012.M
Sample Volume (mL)	1.0

Target Compounds	Concentration (ng/mL)	Q	RPD (%)	LCM Certified Conc. (ng/mL)	-15% Certified Conc. (ng/mL)	+15% Certified Conc. (ng/mL)
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	231		7.9	250	213	288
1-Methylnaphthalene	231		7.8	250	212	287
2,6-Dimethylnaphthalene	228		9.2	250	213	288
1,6,7-Trimethylnaphthalene	228		9.2	250	213	288
1-Methylfluorene	236		6.5	252	214	290
4-Methyldibenzothiophene	247		2.1	252	214	290
2/3-Methyldibenzothiophene	NA					
1-Methyldibenzothiophene	NA					
3-Methylphenanthrene	NA					
2-Methylphenanthrene	NA					
2-Methylanthracene	NA					
4/9-Methylphenanthrene	NA					
1-Methylphenanthrene	238		3.8	247	210	284
3,6-Dimethylphenanthrene	263		4.8	250	213	288
Retene	218		2.6	223	190	257
2-Methylfluoranthene	237		6.1	252	214	289
Benzo(b)fluorene	259		2.8	252	214	290
C29-Hopane	NA					
18a-Oleanane	NA					
C30-Hopane	243		2.7	250	213	288
C20-TAS	NA					
C21-TAS	NA					
C26(20S)-TAS	NA					
C26(20R)/C27(20S)-TAS	234		6.4	250	213	288
C28(20S)-TAS	NA					
C27(20R)-TAS	NA					
C28(20R)-TAS	NA					

Surrogate Recovery	
Naphthalene-d8	93
Acenaphthene-d10	92
Phenanthrene-d10	109
Chrysene-d12	91
Perylene-d12	93

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Control Material Report

Sample Name	MS70060J.D
Client Name	AR-WKCC-250-038
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3082
Date Acquired	8/30/13 8:10
Method	PAH-2012.M
Sample Volume (mL)	1.0

Target Compounds	Concentration (ng/mL)	Q	RPD (%)	LCM Certified Conc. (ng/mL)	-15% Certified Conc. (ng/mL)	+15% Certified Conc. (ng/mL)
cis/trans Decalin	249		0.6	247	210	284
C1-Decalins	NA					
C2-Decalins	NA					
C3-Decalins	NA					
C4-Decalins	NA					
Naphthalene	244		2.4	250	213	288
C1-Naphthalenes	NA					
C2-Naphthalenes	NA					
C3-Naphthalenes	NA					
C4-Naphthalenes	NA					
Benzothiophene	240		3.6	249	211	286
C1-Benzothiophenes	NA					
C2-Benzothiophenes	NA					
C3-Benzothiophenes	NA					
C4-Benzothiophenes	NA					
Biphenyl	235		5.2	248	211	285
Acenaphthylene	220		12.0	248	211	285
Acenaphthene	234		6.9	251	213	288
Dibenzofuran	241		3.1	249	211	286
Fluorene	236		6.0	251	213	288
C1-Fluorenes	NA					
C2-Fluorenes	NA					
C3-Fluorenes	NA					
Carbazole	220		11.8	248	211	285
Anthracene	234		6.9	251	213	288
Phenanthrene	240		3.2	248	211	285
C1-Phenanthrenes/Anthracenes	NA					
C2-Phenanthrenes/Anthracenes	NA					
C3-Phenanthrenes/Anthracenes	NA					
C4-Phenanthrenes/Anthracenes	NA					
Dibenzothiophene	248		0.8	247	210	283
C1-Dibenzothiophenes	NA					
C2-Dibenzothiophenes	NA					
C3-Dibenzothiophenes	NA					
C4-Dibenzothiophenes	NA					
Fluoranthene	244		2.5	250	213	288
Pyrene	237		5.3	250	213	288
C1-Fluoranthenes/Pyrenes	NA					
C2-Fluoranthenes/Pyrenes	NA					
C3-Fluoranthenes/Pyrenes	NA					
C4-Fluoranthenes/Pyrenes	NA					
Naphthobenzothiophene	243		3.5	252	214	289
C1-Naphthobenzothiophenes	NA					
C2-Naphthobenzothiophenes	NA					
C3-Naphthobenzothiophenes	NA					
C4-Naphthobenzothiophenes	NA					
Benz(a)anthracene	225		10.3	250	212	287
Chrysene/Triphenylene	263		5.8	249	211	286
C1-Chrysenes	NA					
C2-Chrysenes	NA					
C3-Chrysenes	NA					
C4-Chrysenes	NA					
Benzo(b)fluoranthene	252		0.7	251	213	288
Benzo(k,j)fluoranthene	261		4.8	249	212	286
Benzo(a)fluoranthene	NA					
Benzo(e)pyrene	255		2.5	249	212	286
Benzo(a)pyrene	240		3.7	250	212	287
Perylene	242		3.3	250	213	288
Indeno(1,2,3-c,d)pyrene	254		3.3	246	209	283
Dibenzo(a,h)anthracene	265		6.9	248	211	285
Benzo(g,h,i)perylene	259		4.4	248	211	285

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Control Material Report

Sample Name	MS70060J.D
Client Name	AR-WKCC-250-038
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3082
Date Acquired	8/30/13 8:10
Method	PAH-2012.M
Sample Volume (mL)	1.0

Target Compounds	Concentration (ng/mL)	Q	RPD (%)	LCM Certified Conc. (ng/mL)	-15% Certified Conc. (ng/mL)	+15% Certified Conc. (ng/mL)
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	238		5.1	250	213	288
1-Methylnaphthalene	242		3.2	250	212	287
2,6-Dimethylnaphthalene	236		5.6	250	213	288
1,6,7-Trimethylnaphthalene	230		8.2	250	213	288
1-Methylfluorene	224		11.9	252	214	290
4-Methyldibenzothiophene	243		3.8	252	214	290
2/3-Methyldibenzothiophene	NA					
1-Methyldibenzothiophene	NA					
3-Methylphenanthrene	NA					
2-Methylphenanthrene	NA					
2-Methylanthracene	NA					
4/9-Methylphenanthrene	NA					
1-Methylphenanthrene	240		3.1	247	210	284
3,6-Dimethylphenanthrene	238		4.9	250	213	288
Retene	207		7.7	223	190	257
2-Methylfluoranthene	225		11.4	252	214	289
Benzo(b)fluorene	227		10.7	252	214	290
C29-Hopane	NA					
18a-Oleanane	NA					
C30-Hopane	245		2.1	250	213	288
C20-TAS	NA					
C21-TAS	NA					
C26(20S)-TAS	NA					
C26(20R)/C27(20S)-TAS	216		14.8	250	213	288
C28(20S)-TAS	NA					
C27(20R)-TAS	NA					
C28(20R)-TAS	NA					

Surrogate Recovery	
Naphthalene-d8	97
Acenaphthene-d10	94
Phenanthrene-d10	97
Chrysene-d12	105
Perylene-d12	101

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Control Material Report

Sample Name	MS70061J.D
Client Name	AR-WKCC-250-038
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3082
Date Acquired	9/1/13 0:19
Method	PAH-2012.M
Sample Volume (mL)	1.0

Target Compounds	Concentration (ng/mL)	Q	RPD (%)	LCM Certified Conc. (ng/mL)	-15% Certified Conc. (ng/mL)	+15% Certified Conc. (ng/mL)
cis/trans Decalin	250		0.9	247	210	284
C1-Decalins	NA					
C2-Decalins	NA					
C3-Decalins	NA					
C4-Decalins	NA					
Naphthalene	244		2.6	250	213	288
C1-Naphthalenes	NA					
C2-Naphthalenes	NA					
C3-Naphthalenes	NA					
C4-Naphthalenes	NA					
Benzothiophene	242		2.5	249	211	286
C1-Benzothiophenes	NA					
C2-Benzothiophenes	NA					
C3-Benzothiophenes	NA					
C4-Benzothiophenes	NA					
Biphenyl	240		3.4	248	211	285
Acenaphthylene	221		11.3	248	211	285
Acenaphthene	234		7.0	251	213	288
Dibenzofuran	237		4.7	249	211	286
Fluorene	235		6.3	251	213	288
C1-Fluorenes	NA					
C2-Fluorenes	NA					
C3-Fluorenes	NA					
Carbazole	216		13.5	248	211	285
Anthracene	227		9.7	251	213	288
Phenanthrene	227		8.7	248	211	285
C1-Phenanthrenes/Anthracenes	NA					
C2-Phenanthrenes/Anthracenes	NA					
C3-Phenanthrenes/Anthracenes	NA					
C4-Phenanthrenes/Anthracenes	NA					
Dibenzothiophene	234		5.2	247	210	283
C1-Dibenzothiophenes	NA					
C2-Dibenzothiophenes	NA					
C3-Dibenzothiophenes	NA					
C4-Dibenzothiophenes	NA					
Fluoranthene	242		3.3	250	213	288
Pyrene	224		10.8	250	213	288
C1-Fluoranthenes/Pyrenes	NA					
C2-Fluoranthenes/Pyrenes	NA					
C3-Fluoranthenes/Pyrenes	NA					
C4-Fluoranthenes/Pyrenes	NA					
Naphthobenzothiophene	254		1.1	252	214	289
C1-Naphthobenzothiophenes	NA					
C2-Naphthobenzothiophenes	NA					
C3-Naphthobenzothiophenes	NA					
C4-Naphthobenzothiophenes	NA					
Benz(a)anthracene	243		2.8	250	212	287
Chrysene/Triphenylene	257		3.4	249	211	286
C1-Chrysenes	NA					
C2-Chrysenes	NA					
C3-Chrysenes	NA					
C4-Chrysenes	NA					
Benzo(b)fluoranthene	244		2.7	251	213	288
Benzo(k,j)fluoranthene	257		3.3	249	212	286
Benzo(a)fluoranthene	NA					
Benzo(e)pyrene	250		0.2	249	212	286
Benzo(a)pyrene	230		8.3	250	212	287
Perylene	236		6.0	250	213	288
Indeno(1,2,3-c,d)pyrene	232		5.8	246	209	283
Dibenzo(a,h)anthracene	236		4.8	248	211	285
Benzo(g,h,i)perylene	238		4.1	248	211	285

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Control Material Report

Sample Name	MS70061J.D
Client Name	AR-WKCC-250-038
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3082
Date Acquired	9/1/13 0:19
Method	PAH-2012.M
Sample Volume (mL)	1.0

Target Compounds	Concentration (ng/mL)	Q	RPD (%)	LCM Certified Conc. (ng/mL)	-15% Certified Conc. (ng/mL)	+15% Certified Conc. (ng/mL)
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	244		2.5	250	213	288
1-Methylnaphthalene	242		3.0	250	212	287
2,6-Dimethylnaphthalene	236		5.7	250	213	288
1,6,7-Trimethylnaphthalene	230		8.3	250	213	288
1-Methylfluorene	219		13.9	252	214	290
4-Methyldibenzothiophene	235		7.0	252	214	290
2/3-Methyldibenzothiophene	NA					
1-Methyldibenzothiophene	NA					
3-Methylphenanthrene	NA					
2-Methylphenanthrene	NA					
2-Methylanthracene	NA					
4/9-Methylphenanthrene	NA					
1-Methylphenanthrene	237		4.2	247	210	284
3,6-Dimethylphenanthrene	240		4.3	250	213	288
Retene	198		12.3	223	190	257
2-Methylfluoranthene	215		15.9	252	214	289
Benzo(b)fluorene	229		9.8	252	214	290
C29-Hopane	NA					
18a-Oleanane	NA					
C30-Hopane	231		8.0	250	213	288
C20-TAS	NA					
C21-TAS	NA					
C26(20S)-TAS	NA					
C26(20R)/C27(20S)-TAS	223		11.4	250	213	288
C28(20S)-TAS	NA					
C27(20R)-TAS	NA					
C28(20R)-TAS	NA					

Surrogate Recovery	
Naphthalene-d8	98
Acenaphthene-d10	94
Phenanthrene-d10	91
Chrysene-d12	105
Perylene-d12	96

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Control Material Report

Sample Name	MS60142I.D
Client Name	AR-WKICV-250-004
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3082
Date Acquired	8/17/13 19:36
Method	PAH-2012.M
Sample Volume (mL)	1.0

Target Compounds	Concentration (ng/mL)	Q	RPD (%)	ICV Certified Conc. (ng/mL)	-20% Certified Conc. (ng/mL)	+20% Certified Conc. (ng/mL)
cis/trans Decalin	262		4.4	250	200	300
C1-Decalins	NA					
C2-Decalins	NA					
C3-Decalins	NA					
C4-Decalins	NA					
Naphthalene	271		7.9	250	200	300
C1-Naphthalenes	NA					
C2-Naphthalenes	NA					
C3-Naphthalenes	NA					
C4-Naphthalenes	NA					
Benzothiophene	274		9.2	250	200	300
C1-Benzothiophenes	NA					
C2-Benzothiophenes	NA					
C3-Benzothiophenes	NA					
C4-Benzothiophenes	NA					
Biphenyl	271		7.6	251	201	301
Acenaphthylene	265					
Acenaphthene	283		12.4	250	200	300
Dibenzofuran	277		10.3	250	200	300
Fluorene	269		7.3	250	200	300
C1-Fluorenes	NA					
C2-Fluorenes	NA					
C3-Fluorenes	NA					
Carbazole	278		10.6	250	200	300
Anthracene	282		11.9	250	200	300
Phenanthrene	288		14.1	250	200	300
C1-Phenanthrenes/Anthracenes	NA					
C2-Phenanthrenes/Anthracenes	NA					
C3-Phenanthrenes/Anthracenes	NA					
C4-Phenanthrenes/Anthracenes	NA					
Dibenzothiophene	283		12.4	250	200	300
C1-Dibenzothiophenes	NA					
C2-Dibenzothiophenes	NA					
C3-Dibenzothiophenes	NA					
C4-Dibenzothiophenes	NA					
Fluoranthene	289		14.5	250	200	300
Pyrene	271		8.2	250	200	300
C1-Fluoranthenes/Pyrenes	NA					
C2-Fluoranthenes/Pyrenes	NA					
C3-Fluoranthenes/Pyrenes	NA					
C4-Fluoranthenes/Pyrenes	NA					
Naphthobenzothiophene	NA					
C1-Naphthobenzothiophenes	NA					
C2-Naphthobenzothiophenes	NA					
C3-Naphthobenzothiophenes	NA					
C4-Naphthobenzothiophenes	NA					
Benz(a)anthracene	263		5.2	250	200	300
Chrysene/Triphenylene	278		10.6	250	200	300
C1-Chrysenes	NA					
C2-Chrysenes	NA					
C3-Chrysenes	NA					
C4-Chrysenes	NA					
Benzo(b)fluoranthene	271		7.9	250	200	300
Benzo(k,j)fluoranthene	290		14.8	250	200	300
Benzo(a)fluoranthene	NA					
Benzo(e)pyrene	284		12.6	250	200	300
Benzo(a)pyrene	279		11.0	250	200	300
Perylene	280		11.2	251	200	301
Indeno(1,2,3-c,d)pyrene	279		10.9	250	200	300
Dibenzo(a,h)anthracene	288		14.1	250	200	300
Benzo(g,h,i)perylene	278		10.5	250	200	300

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Control Material Report

Sample Name	MS60142I.D
Client Name	AR-WKICV-250-004
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3082
Date Acquired	8/17/13 19:36
Method	PAH-2012.M
Sample Volume (mL)	1.0

Target Compounds	Concentration (ng/mL)	Q	RPD (%)	ICV Certified Conc. (ng/mL)	-20% Certified Conc. (ng/mL)	+20% Certified Conc. (ng/mL)
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	282		11.7	250	200	301
1-Methylnaphthalene	282		11.8	251	200	301
2,6-Dimethylnaphthalene	275		9.4	250	200	300
1,6,7-Trimethylnaphthalene	287		13.5	250	200	301
1-Methylfluorene	NA					
4-Methyldibenzothiophene	NA					
2/3-Methyldibenzothiophene	NA					
1-Methyldibenzothiophene	NA					
3-Methylphenanthrene	NA					
2-Methylphenanthrene	NA					
2-Methylanthracene	NA					
4/9-Methylphenanthrene	NA					
1-Methylphenanthrene	271		8.0	250	200	300
3,6-Dimethylphenanthrene	NA					
Retene	NA					
2-Methylfluoranthene	NA					
Benzo(b)fluorene	NA					
C29-Hopane	NA					
18a-Oleanane	NA					
C30-Hopane	NA					
C20-TAS	NA					
C21-TAS	NA					
C26(20S)-TAS	NA					
C26(20R)/C27(20S)-TAS	NA					
C28(20S)-TAS	NA					
C27(20R)-TAS	NA					
C28(20R)-TAS	NA					
Surrogate Recovery						
Naphthalene-d8	222		11.8	250	200	300
Acenaphthene-d10	224		10.9	250	200	300
Phenanthrene-d10	239		4.6	250	200	300
Chrysene-d12	214		15.4	250	200	300
Perylene-d12	219		13.2	250	200	300

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Control Material Report

Sample Name	MS70060I.D
Client Name	AR-WKICV-250-004
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3082
Date Acquired	8/30/13 7:02
Method	PAH-2012.M
Sample Volume (mL)	1.0

Target Compounds	Concentration (ng/mL)	Q	RPD (%)	ICV Certified Conc. (ng/mL)	-20% Certified Conc. (ng/mL)	+20% Certified Conc. (ng/mL)
cis/trans Decalin	278		10.6	250	200	300
C1-Decalins	NA					
C2-Decalins	NA					
C3-Decalins	NA					
C4-Decalins	NA					
Naphthalene	276		9.8	250	200	300
C1-Naphthalenes	NA					
C2-Naphthalenes	NA					
C3-Naphthalenes	NA					
C4-Naphthalenes	NA					
Benzothiophene	282		11.8	250	200	300
C1-Benzothiophenes	NA					
C2-Benzothiophenes	NA					
C3-Benzothiophenes	NA					
C4-Benzothiophenes	NA					
Biphenyl	278		10.4	251	201	301
Acenaphthylene	262					
Acenaphthene	276		9.9	250	200	300
Dibenzofuran	288		13.9	250	200	300
Fluorene	281		11.8	250	200	300
C1-Fluorenes	NA					
C2-Fluorenes	NA					
C3-Fluorenes	NA					
Carbazole	258		3.1	250	200	300
Anthracene	271		8.2	250	200	300
Phenanthrene	264		5.2	250	200	300
C1-Phenanthrenes/Anthracenes	NA					
C2-Phenanthrenes/Anthracenes	NA					
C3-Phenanthrenes/Anthracenes	NA					
C4-Phenanthrenes/Anthracenes	NA					
Dibenzothiophene	282		12.1	250	200	300
C1-Dibenzothiophenes	NA					
C2-Dibenzothiophenes	NA					
C3-Dibenzothiophenes	NA					
C4-Dibenzothiophenes	NA					
Fluoranthene	286		13.2	250	200	300
Pyrene	269		7.2	250	200	300
C1-Fluoranthenes/Pyrenes	NA					
C2-Fluoranthenes/Pyrenes	NA					
C3-Fluoranthenes/Pyrenes	NA					
C4-Fluoranthenes/Pyrenes	NA					
Naphthobenzothiophene	NA					
C1-Naphthobenzothiophenes	NA					
C2-Naphthobenzothiophenes	NA					
C3-Naphthobenzothiophenes	NA					
C4-Naphthobenzothiophenes	NA					
Benz(a)anthracene	281		11.6	250	200	300
Chrysene/Triphenylene	296		16.9	250	200	300
C1-Chrysenes	NA					
C2-Chrysenes	NA					
C3-Chrysenes	NA					
C4-Chrysenes	NA					
Benzo(b)fluoranthene	288		14.1	250	200	300
Benzo(k,j)fluoranthene	286		13.5	250	200	300
Benzo(a)fluoranthene	NA					
Benzo(e)pyrene	275		9.5	250	200	300
Benzo(a)pyrene	259		3.5	250	200	300
Perylene	258		3.0	251	200	301
Indeno(1,2,3-c,d)pyrene	287		13.8	250	200	300
Dibenzo(a,h)anthracene	284		12.6	250	200	300
Benzo(g,h,i)perylene	279		11.0	250	200	300

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Control Material Report

Sample Name	MS70060I.D
Client Name	AR-WKICV-250-004
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3082
Date Acquired	8/30/13 7:02
Method	PAH-2012.M
Sample Volume (mL)	1.0

Target Compounds	Concentration (ng/mL)	Q	RPD (%)	ICV Certified Conc. (ng/mL)	-20% Certified Conc. (ng/mL)	+20% Certified Conc. (ng/mL)
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	278		10.5	250	200	301
1-Methylnaphthalene	289		14.1	251	200	301
2,6-Dimethylnaphthalene	281		11.4	250	200	300
1,6,7-Trimethylnaphthalene	282		11.8	250	200	301
1-Methylfluorene	NA					
4-Methyldibenzothiophene	NA					
2/3-Methyldibenzothiophene	NA					
1-Methyldibenzothiophene	NA					
3-Methylphenanthrene	NA					
2-Methylphenanthrene	NA					
2-Methylanthracene	NA					
4/9-Methylphenanthrene	NA					
1-Methylphenanthrene	270		7.6	250	200	300
3,6-Dimethylphenanthrene	NA					
Retene	NA					
2-Methylfluoranthene	NA					
Benzo(b)fluorene	NA					
C29-Hopane	NA					
18a-Oleanane	NA					
C30-Hopane	NA					
C20-TAS	NA					
C21-TAS	NA					
C26(20S)-TAS	NA					
C26(20R)/C27(20S)-TAS	NA					
C28(20S)-TAS	NA					
C27(20R)-TAS	NA					
C28(20R)-TAS	NA					
Surrogate Recovery						
Naphthalene-d8	230		8.4	250	200	300
Acenaphthene-d10	226		10.3	250	200	300
Phenanthrene-d10	223		11.4	250	200	300
Chrysene-d12	245		1.8	250	200	300
Perylene-d12	220		12.8	250	200	300

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Control Material Report

Sample Name	MS70061I.D
Client Name	AR-WKICV-250-004
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3082
Date Acquired	8/31/13 23:11
Method	PAH-2012.M
Sample Volume (mL)	1.0

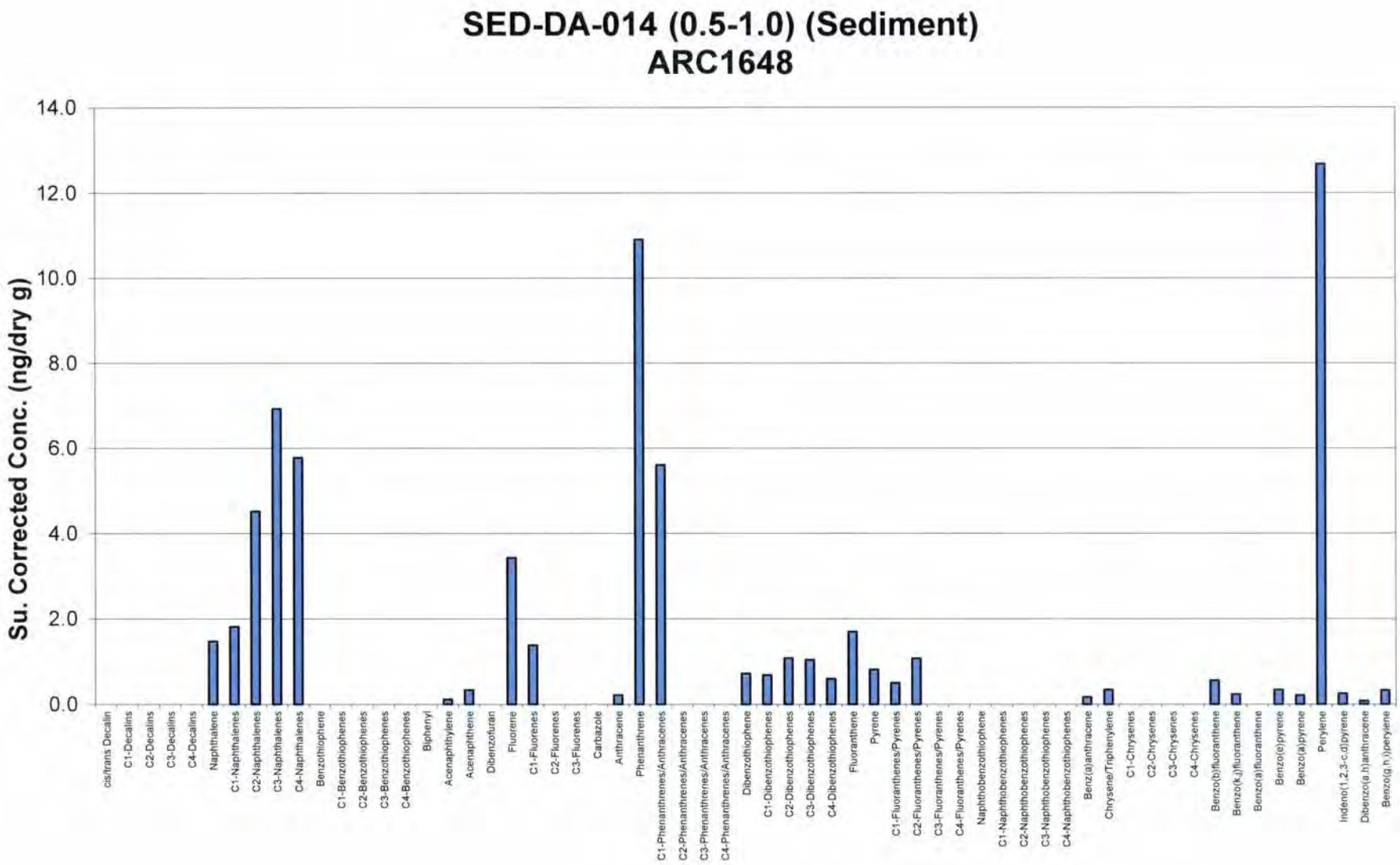
Target Compounds	Concentration (ng/mL)	Q	RPD (%)	ICV Certified Conc. (ng/mL)	-20% Certified Conc. (ng/mL)	+20% Certified Conc. (ng/mL)
cis/trans Decalin	274		9.0	250	200	300
C1-Decalins	NA					
C2-Decalins	NA					
C3-Decalins	NA					
C4-Decalins	NA					
Naphthalene	272		8.4	250	200	300
C1-Naphthalenes	NA					
C2-Naphthalenes	NA					
C3-Naphthalenes	NA					
C4-Naphthalenes	NA					
Benzothiophene	281		11.5	250	200	300
C1-Benzothiophenes	NA					
C2-Benzothiophenes	NA					
C3-Benzothiophenes	NA					
C4-Benzothiophenes	NA					
Biphenyl	282		11.6	251	201	301
Acenaphthylene	270					
Acenaphthene	282		11.9	250	200	300
Dibenzofuran	288		14.1	250	200	300
Fluorene	282		12.0	250	200	300
C1-Fluorenes	NA					
C2-Fluorenes	NA					
C3-Fluorenes	NA					
Carbazole	256		2.2	250	200	300
Anthracene	267		6.4	250	200	300
Phenanthrene	260		3.8	250	200	300
C1-Phenanthrenes/Anthracenes	NA					
C2-Phenanthrenes/Anthracenes	NA					
C3-Phenanthrenes/Anthracenes	NA					
C4-Phenanthrenes/Anthracenes	NA					
Dibenzothiophene	270		7.6	250	200	300
C1-Dibenzothiophenes	NA					
C2-Dibenzothiophenes	NA					
C3-Dibenzothiophenes	NA					
C4-Dibenzothiophenes	NA					
Fluoranthene	286		13.4	250	200	300
Pyrene	264		5.3	250	200	300
C1-Fluoranthenes/Pyrenes	NA					
C2-Fluoranthenes/Pyrenes	NA					
C3-Fluoranthenes/Pyrenes	NA					
C4-Fluoranthenes/Pyrenes	NA					
Naphthobenzothiophene	NA					
C1-Naphthobenzothiophenes	NA					
C2-Naphthobenzothiophenes	NA					
C3-Naphthobenzothiophenes	NA					
C4-Naphthobenzothiophenes	NA					
Benz(a)anthracene	248		0.8	250	200	300
Chrysene/Triphenylene	282		12.1	250	200	300
C1-Chrysenes	NA					
C2-Chrysenes	NA					
C3-Chrysenes	NA					
C4-Chrysenes	NA					
Benzo(b)fluoranthene	295		16.5	250	200	300
Benzo(k,j)fluoranthene	297		17.2	250	200	300
Benzo(a)fluoranthene	NA					
Benzo(e)pyrene	298		17.6	250	200	300
Benzo(a)pyrene	280		11.2	250	200	300
Perylene	278		10.4	251	200	301
Indeno(1,2,3-c,d)pyrene	292		15.3	250	200	300
Dibenzo(a,h)anthracene	293		15.9	250	200	300
Benzo(g,h,i)perylene	290		14.9	250	200	300

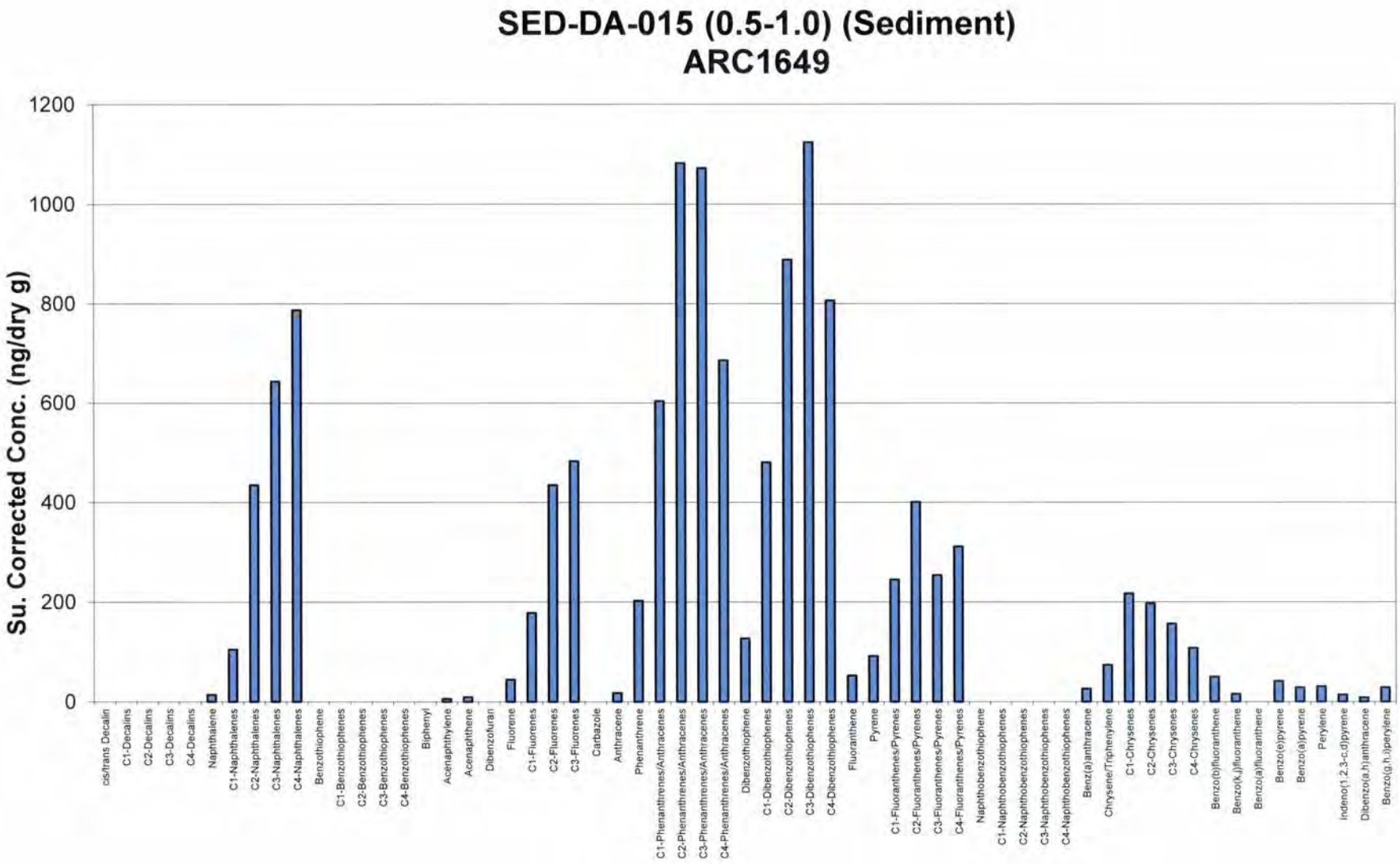
Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Control Material Report

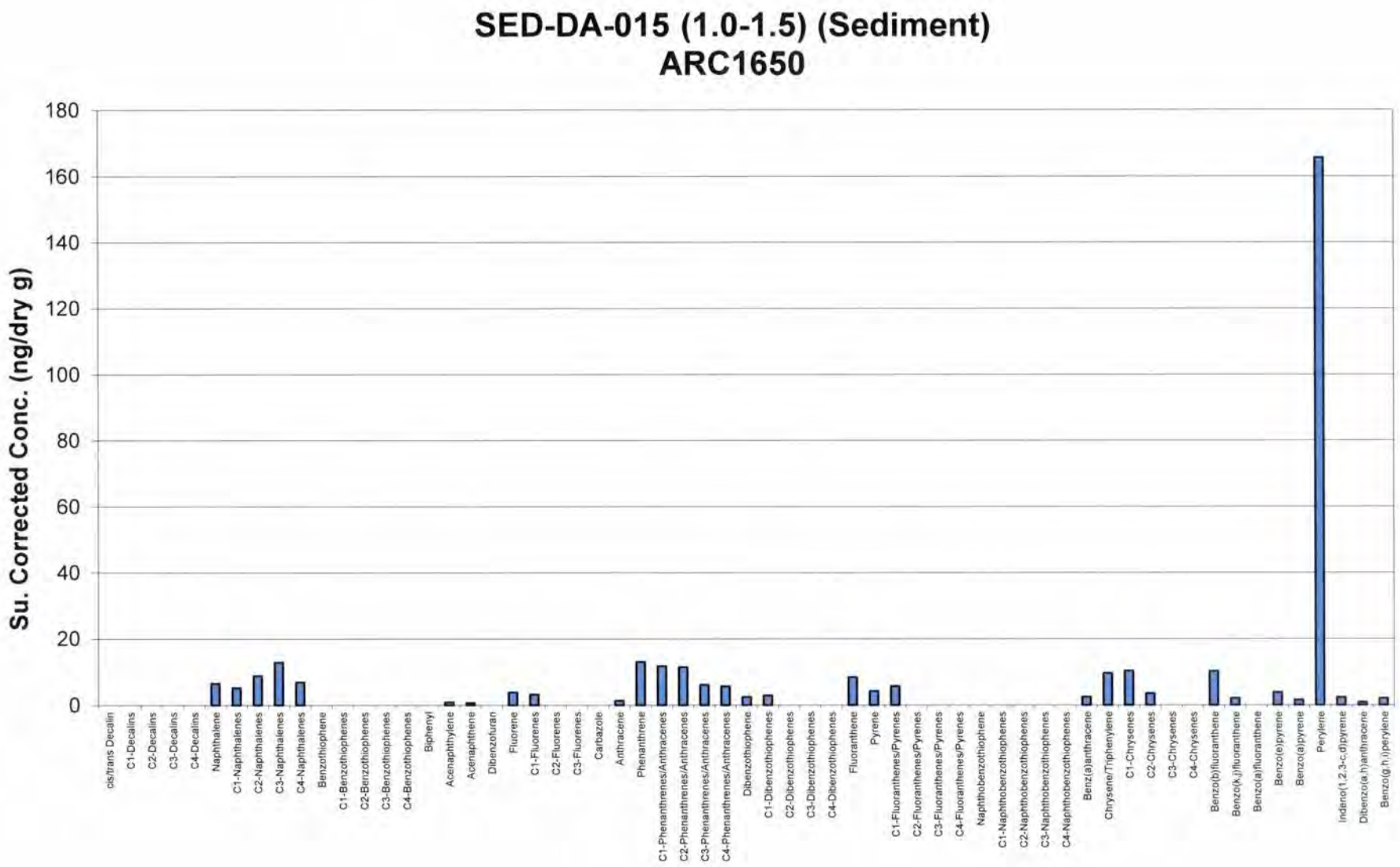
Sample Name	MS70061I.D
Client Name	AR-WKICV-250-004
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3082
Date Acquired	8/31/13 23:11
Method	PAH-2012.M
Sample Volume (mL)	1.0

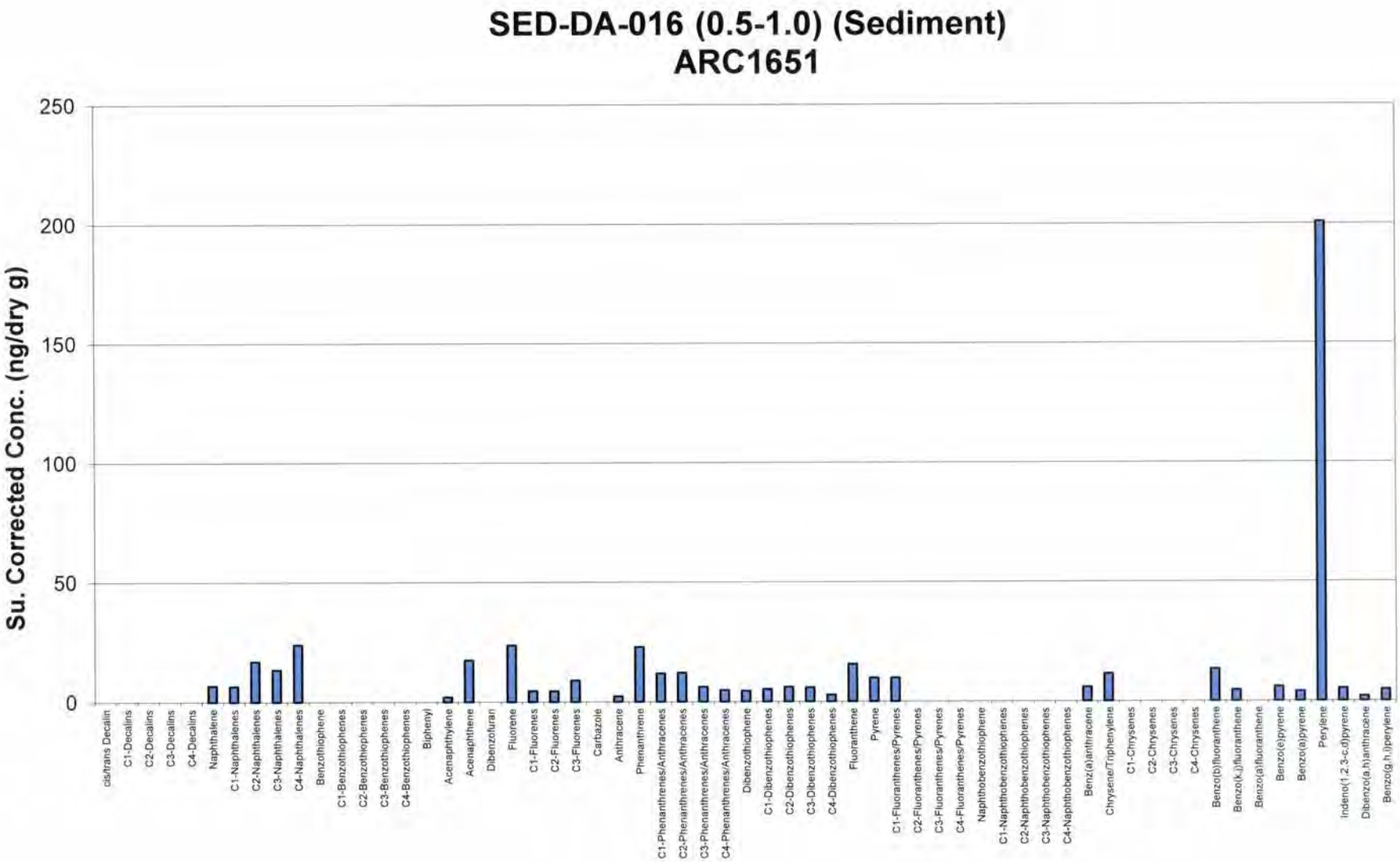
Target Compounds	Concentration (ng/mL)	Q	RPD (%)	ICV Certified Conc. (ng/mL)	-20% Certified Conc. (ng/mL)	+20% Certified Conc. (ng/mL)
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	285		12.8	250	200	301
1-Methylnaphthalene	291		14.8	251	200	301
2,6-Dimethylnaphthalene	285		13.0	250	200	300
1,6,7-Trimethylnaphthalene	286		13.3	250	200	301
1-Methylfluorene	NA					
4-Methyldibenzothiophene	NA					
2/3-Methyldibenzothiophene	NA					
1-Methyldibenzothiophene	NA					
3-Methylphenanthrene	NA					
2-Methylphenanthrene	NA					
2-Methylanthracene	NA					
4/9-Methylphenanthrene	NA					
1-Methylphenanthrene	282		12.1	250	200	300
3,6-Dimethylphenanthrene	NA					
Retene	NA					
2-Methylfluoranthene	NA					
Benzo(b)fluorene	NA					
C29-Hopane	NA					
18a-Oleanane	NA					
C30-Hopane	NA					
C20-TAS	NA					
C21-TAS	NA					
C26(20S)-TAS	NA					
C26(20R)/C27(20S)-TAS	NA					
C28(20S)-TAS	NA					
C27(20R)-TAS	NA					
C28(20R)-TAS	NA					
Surrogate Recovery						
Naphthalene-d8	234		6.8	250	200	300
Acenaphthene-d10	231		8.1	250	200	300
Phenanthrene-d10	214		15.5	250	200	300
Chrysene-d12	244		2.6	250	200	300
Perylene-d12	233		7.2	250	200	300

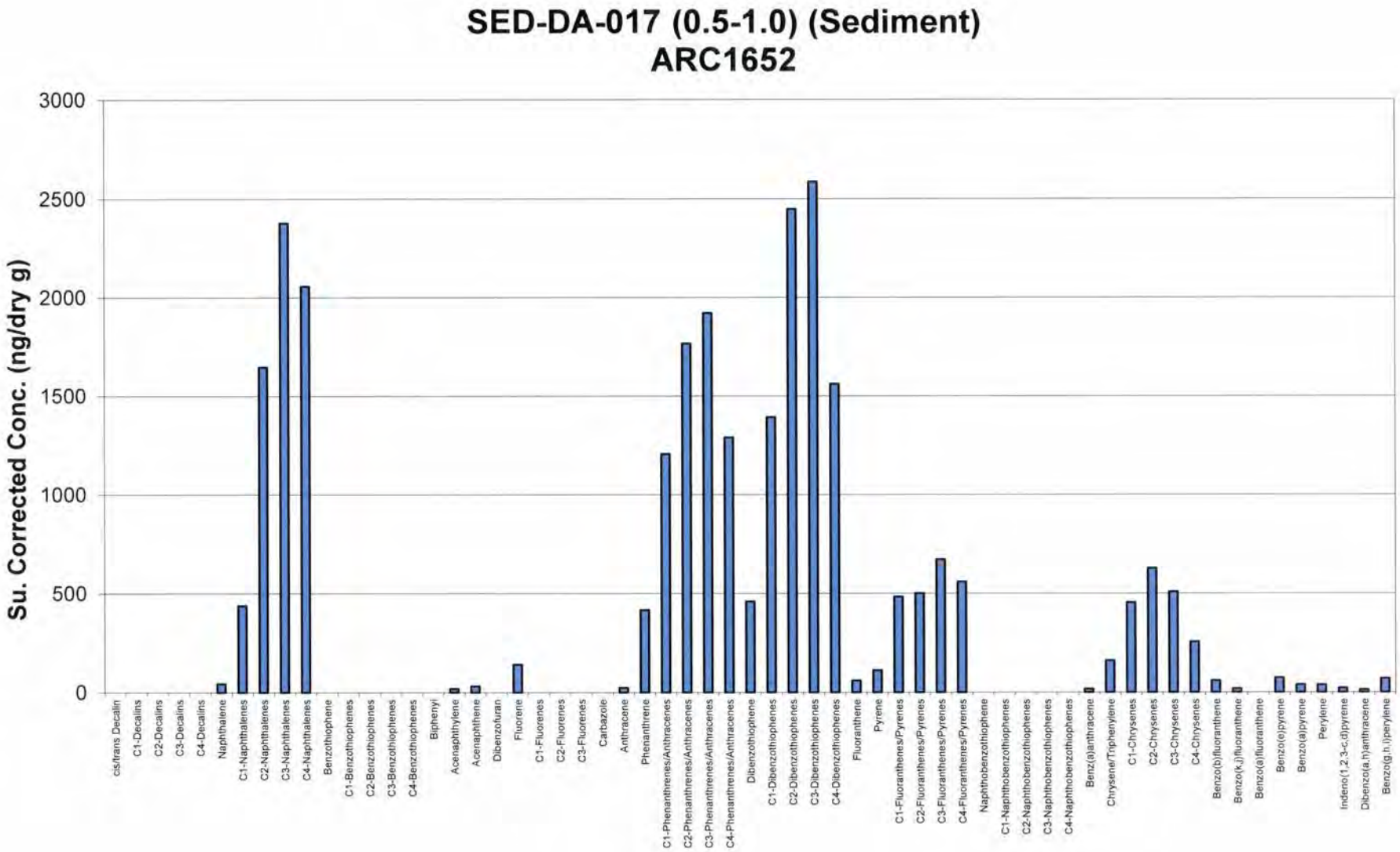
Polycyclic Aromatic Hydrocarbon Histograms

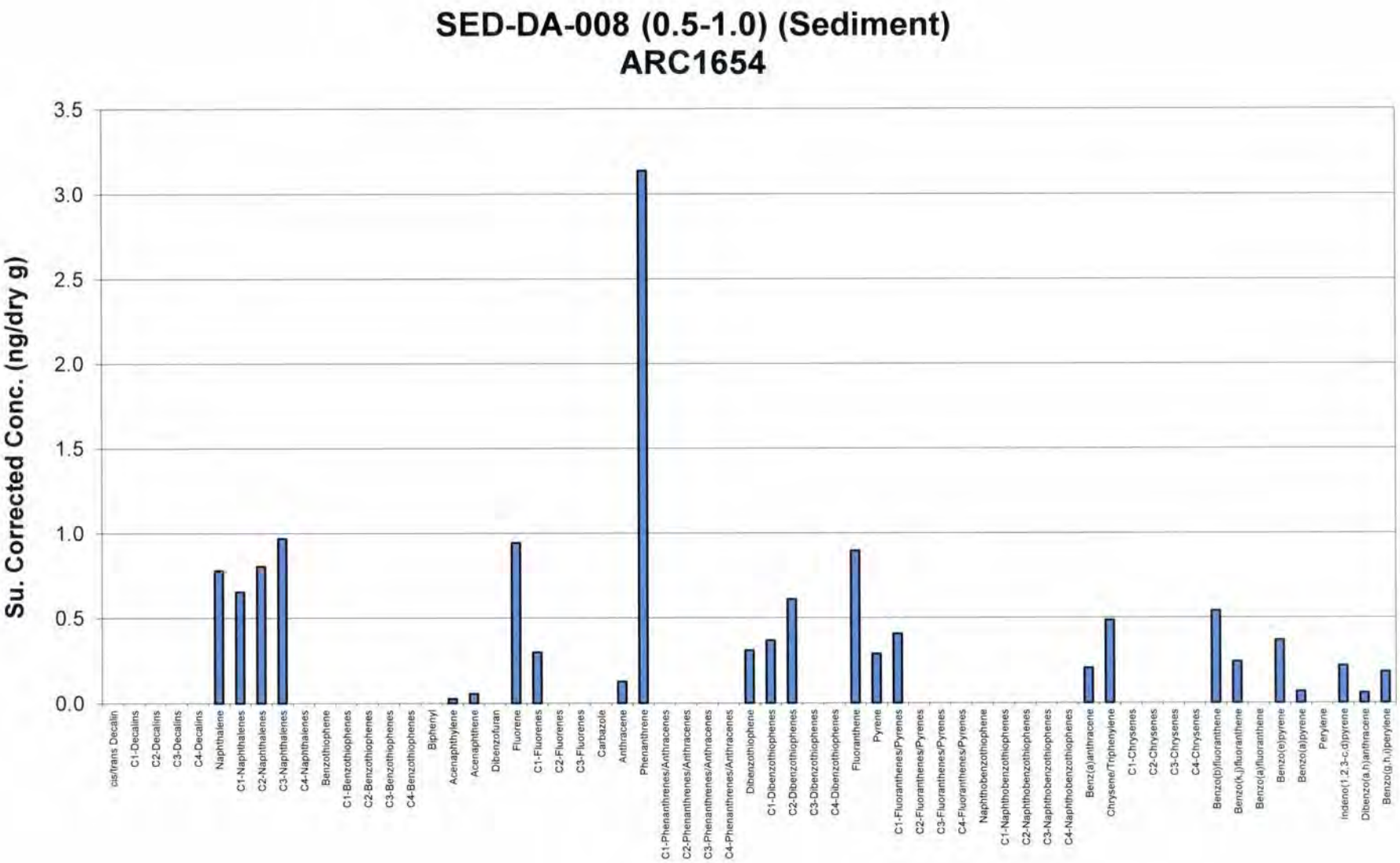

SED-DA-014 (0.5-1.0) (Sediment)
ARC1648
Su. Corrected Conc. (ng/dry g)
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

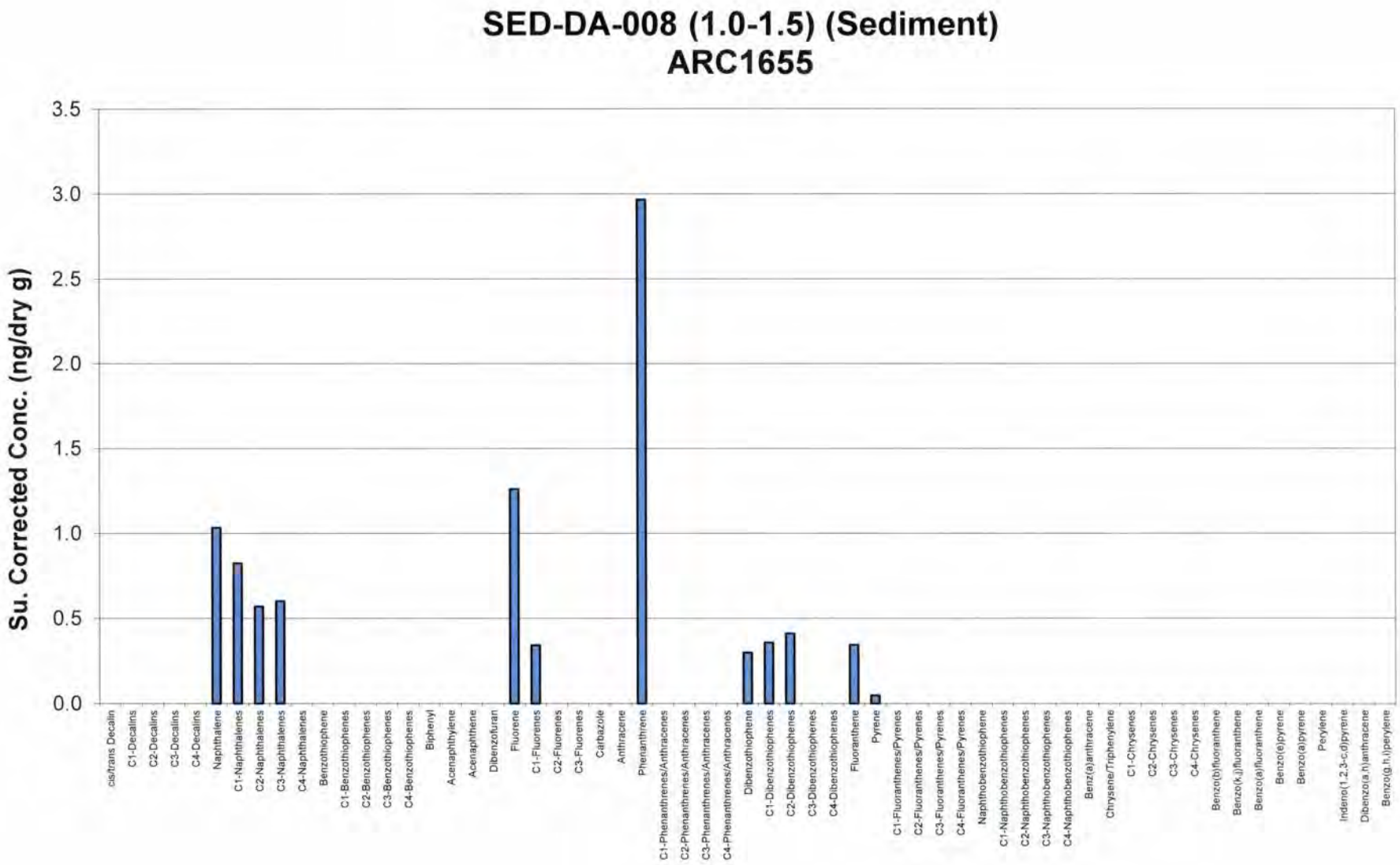

SED-DA-015 (0.5-1.0) (Sediment)
ARC1649
Su. Corrected Conc. (ng/dry g)
1200
1000
800
600
400
200
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

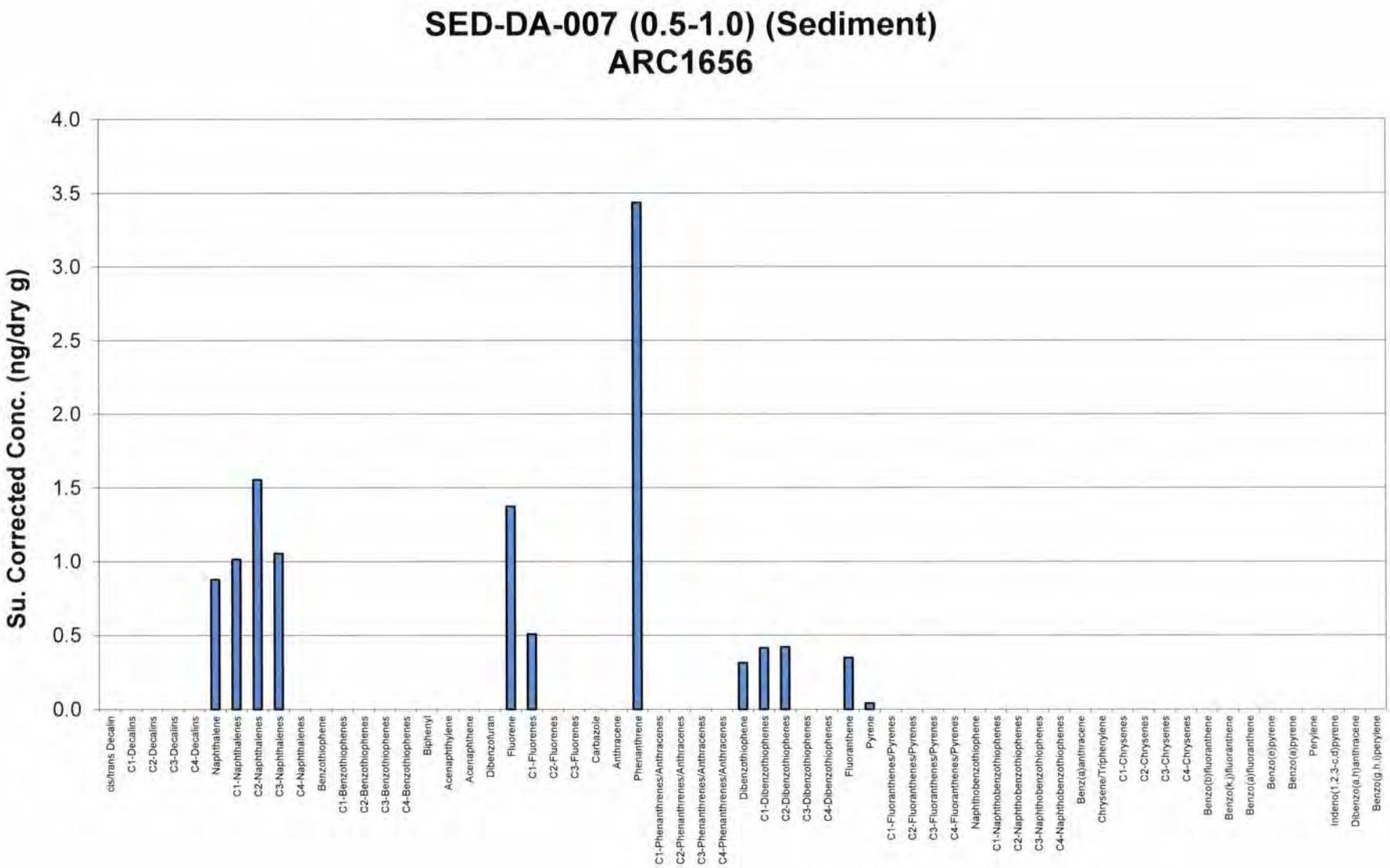

SED-DA-015 (1.0-1.5) (Sediment)
ARC1650
Su. Corrected Conc. (ng/dry g)
180
160
140
120
100
80
60
40
20
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

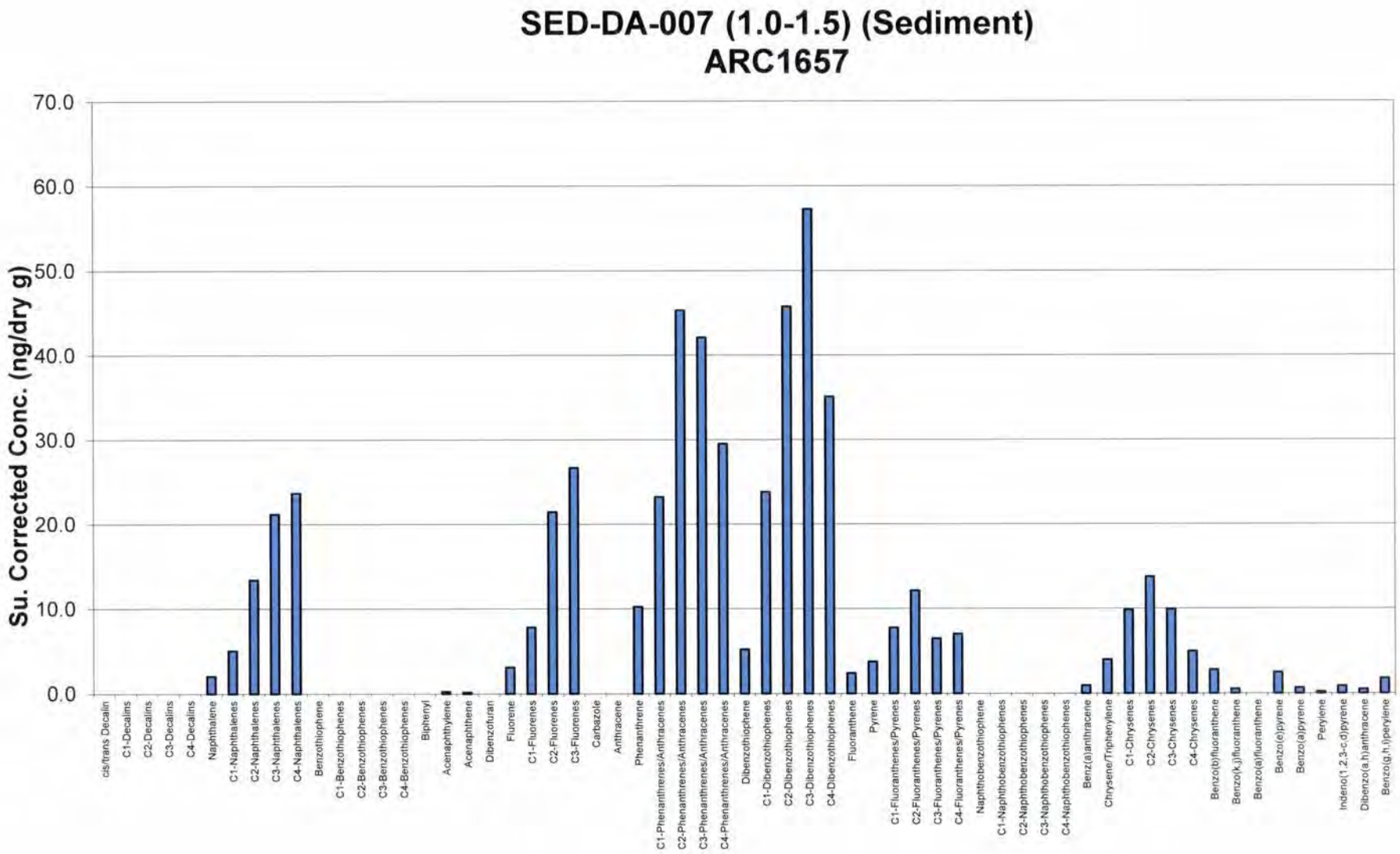

SED-DA-016 (0.5-1.0) (Sediment)
ARC1651
Su. Corrected Conc. (ng/dry g)
250
200
150
100
50
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

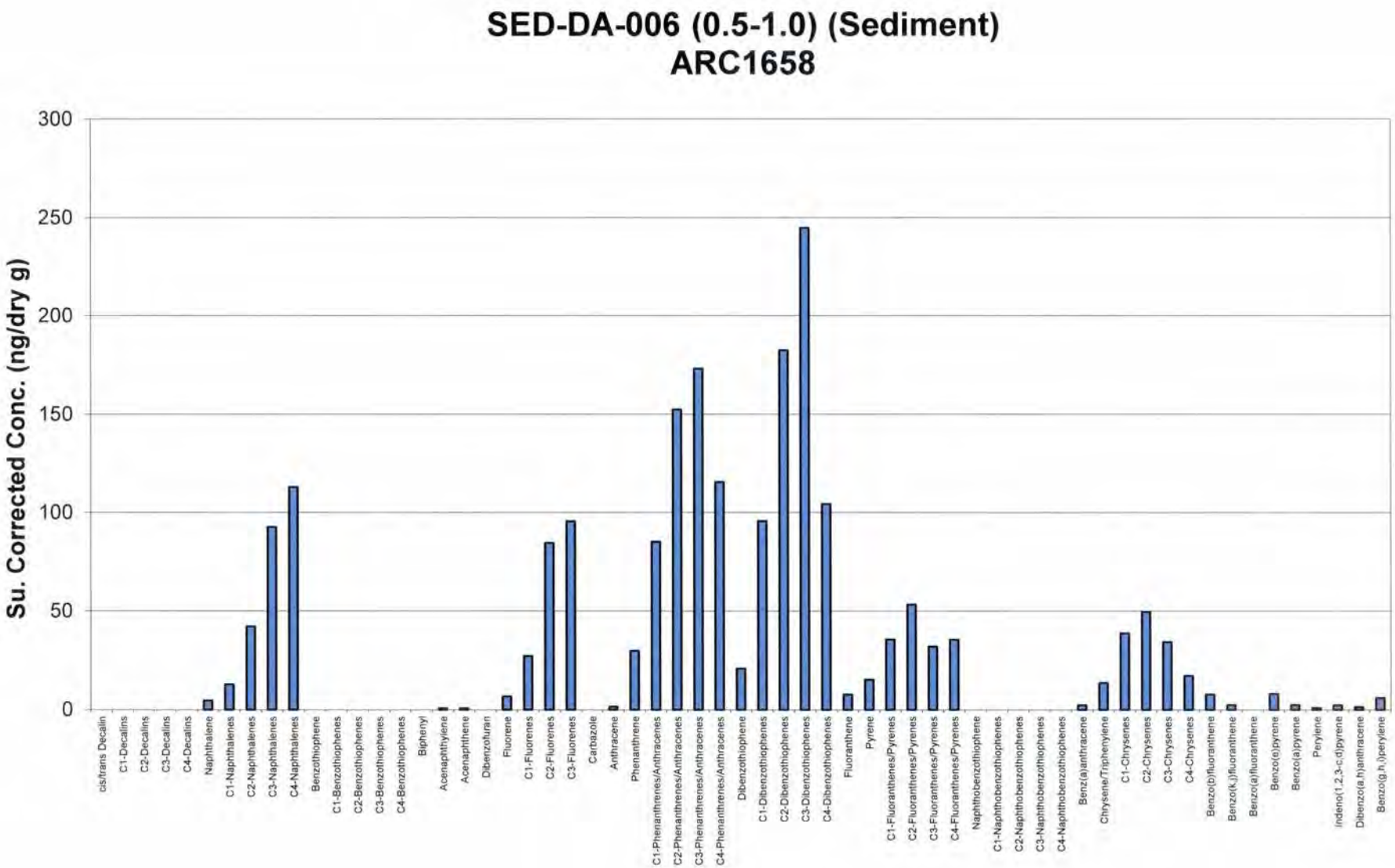

SED-DA-017 (0.5-1.0) (Sediment)
ARC1652
Su. Corrected Conc. (ng/dry g)
3000
2500
2000
1500
1000
500
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

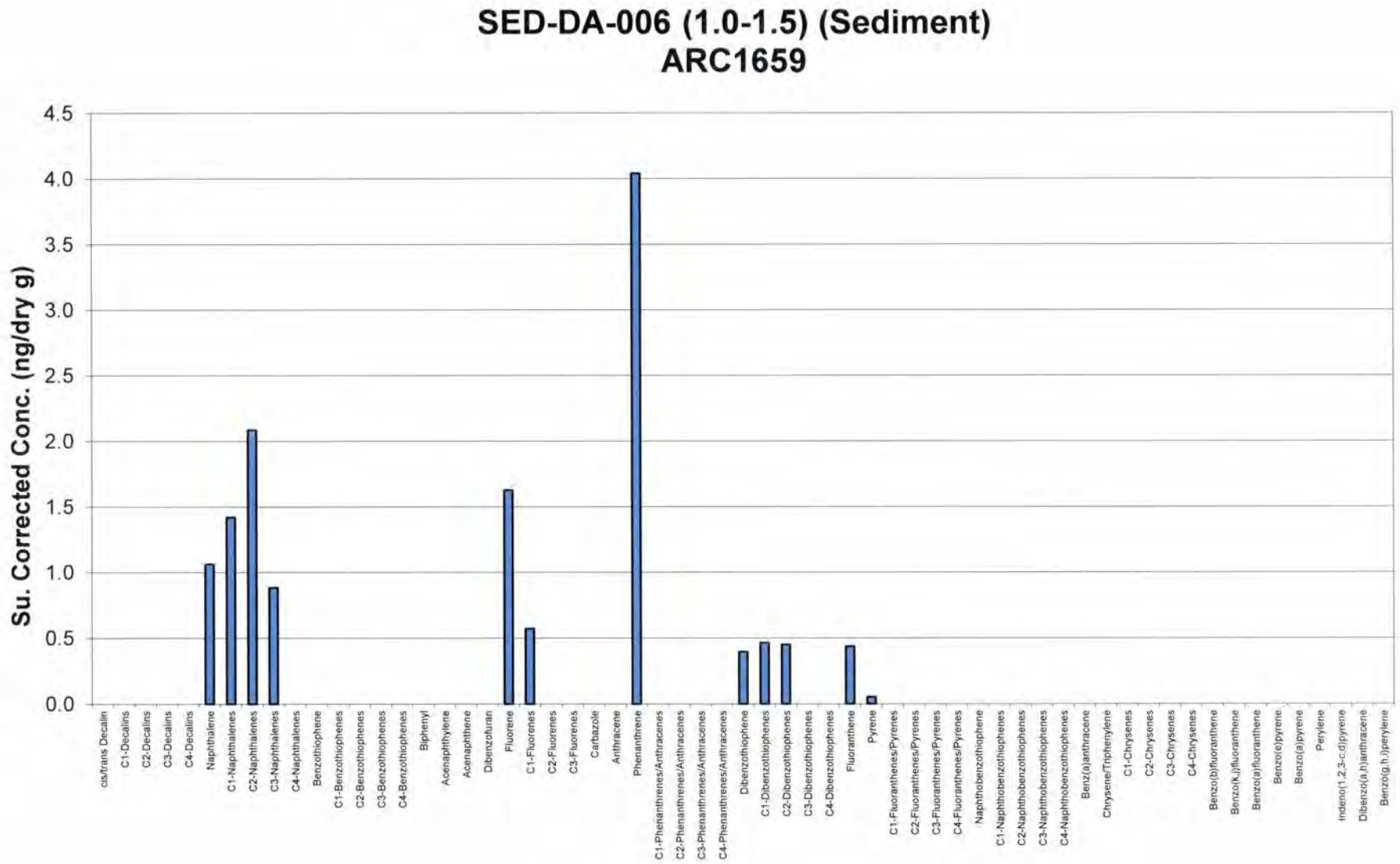

SED-DA-008 (0.5-1.0) (Sediment)
ARC1654
Su. Corrected Conc. (ng/dry g)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

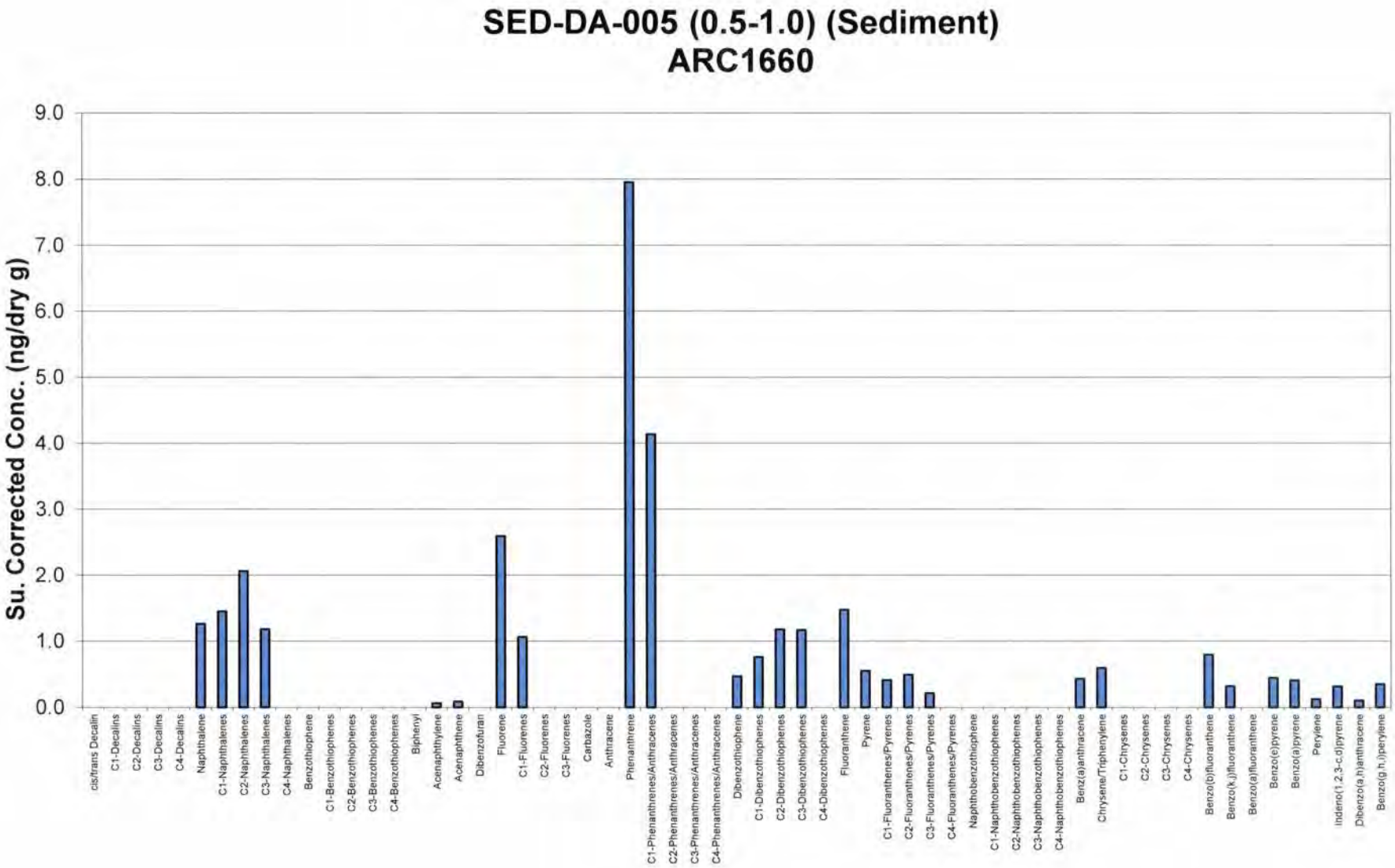

SED-DA-008 (1.0-1.5) (Sediment)
ARC1655
Su. Corrected Conc. (ng/dry g)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

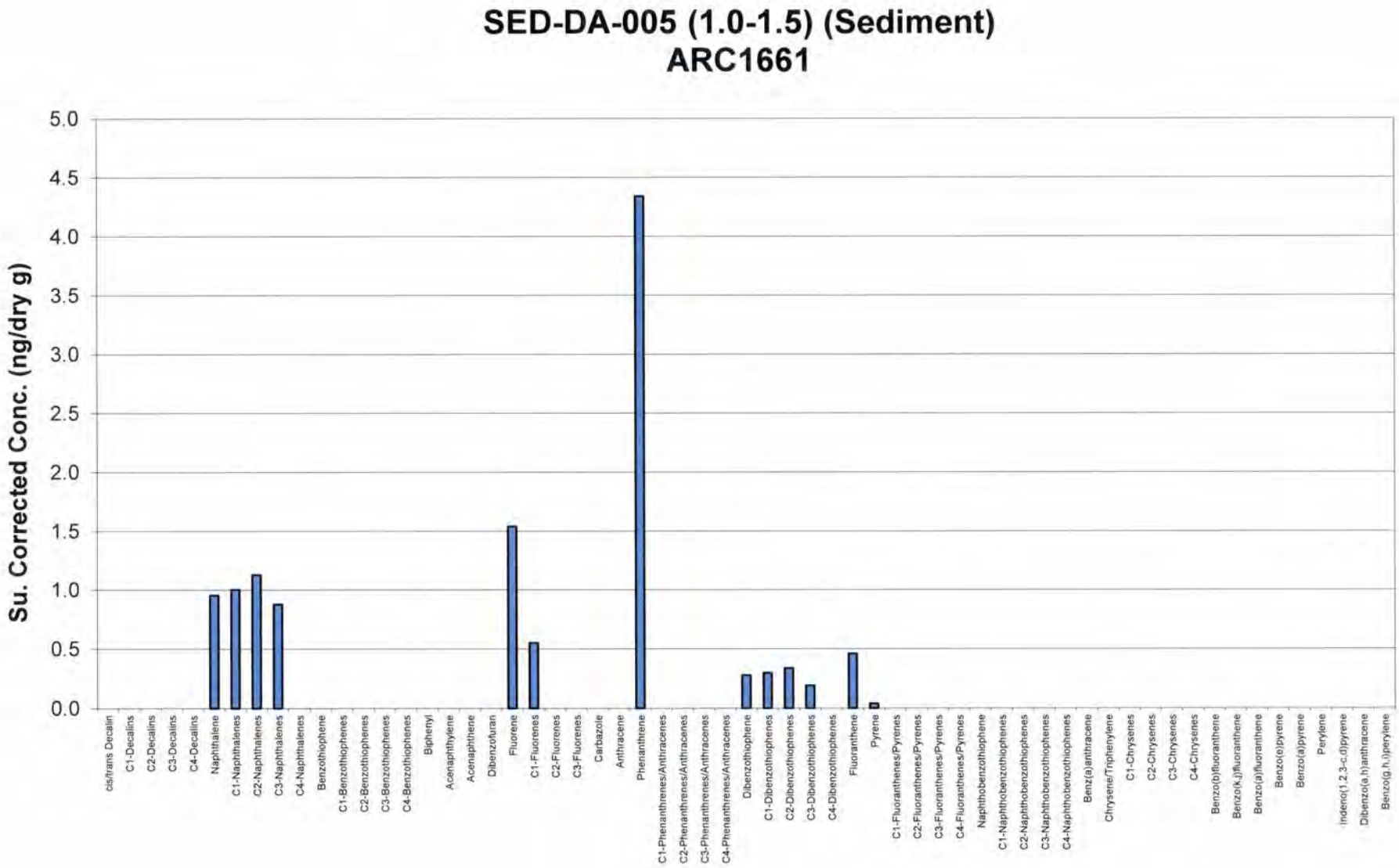

SED-DA-007 (0.5-1.0) (Sediment)
ARC1656
Su. Corrected Conc. (ng/dry g)
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

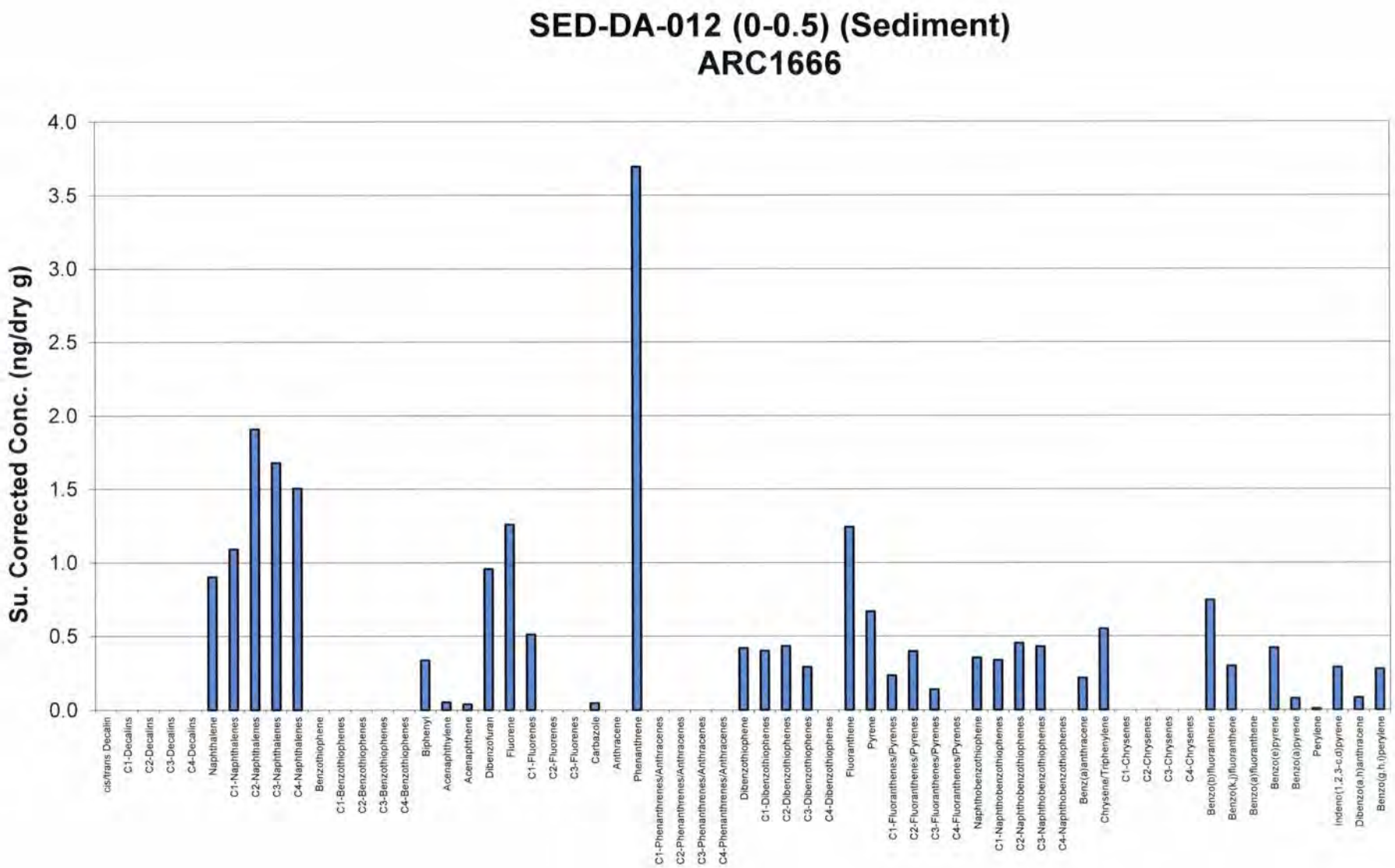

SED-DA-007 (1.0-1.5) (Sediment)
ARC1657
Su. Corrected Conc. (ng/dry g)
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

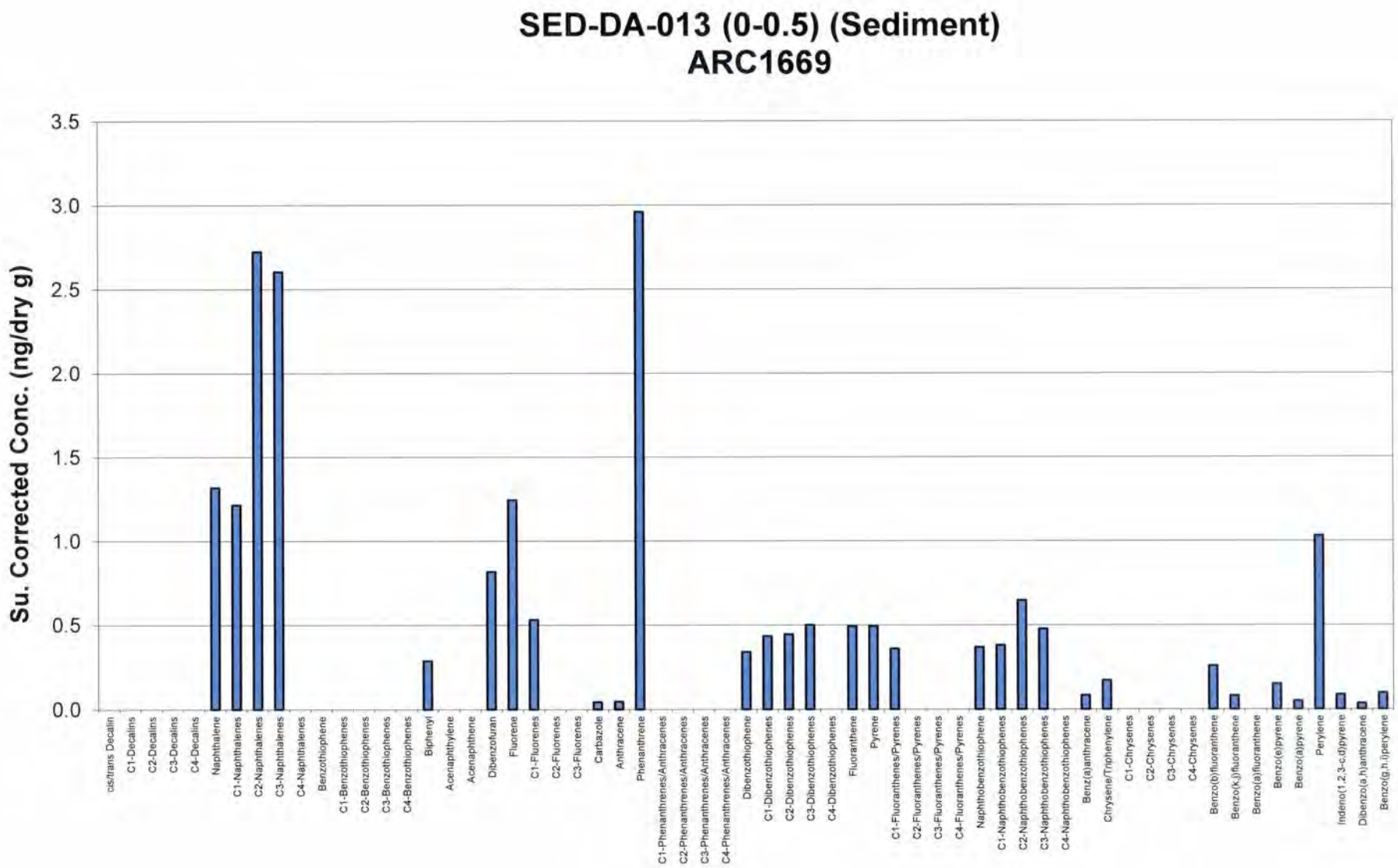

SED-DA-006 (0.5-1.0) (Sediment)
ARC1658
Su. Corrected Conc. (ng/dry g)
300
250
200
150
100
50
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

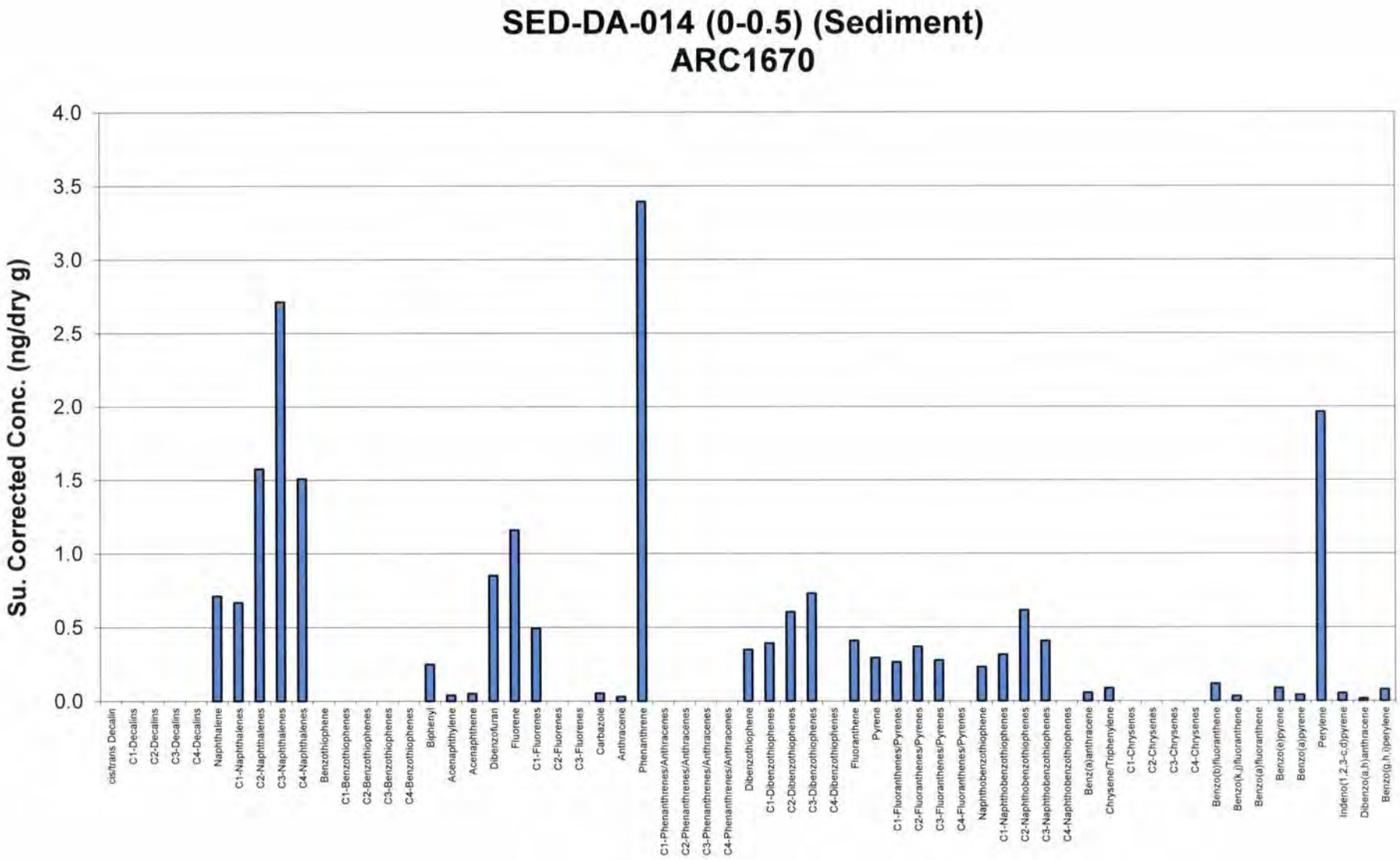

SED-DA-006 (1.0-1.5) (Sediment)
ARC1659
Su. Corrected Conc. (ng/dry g)
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

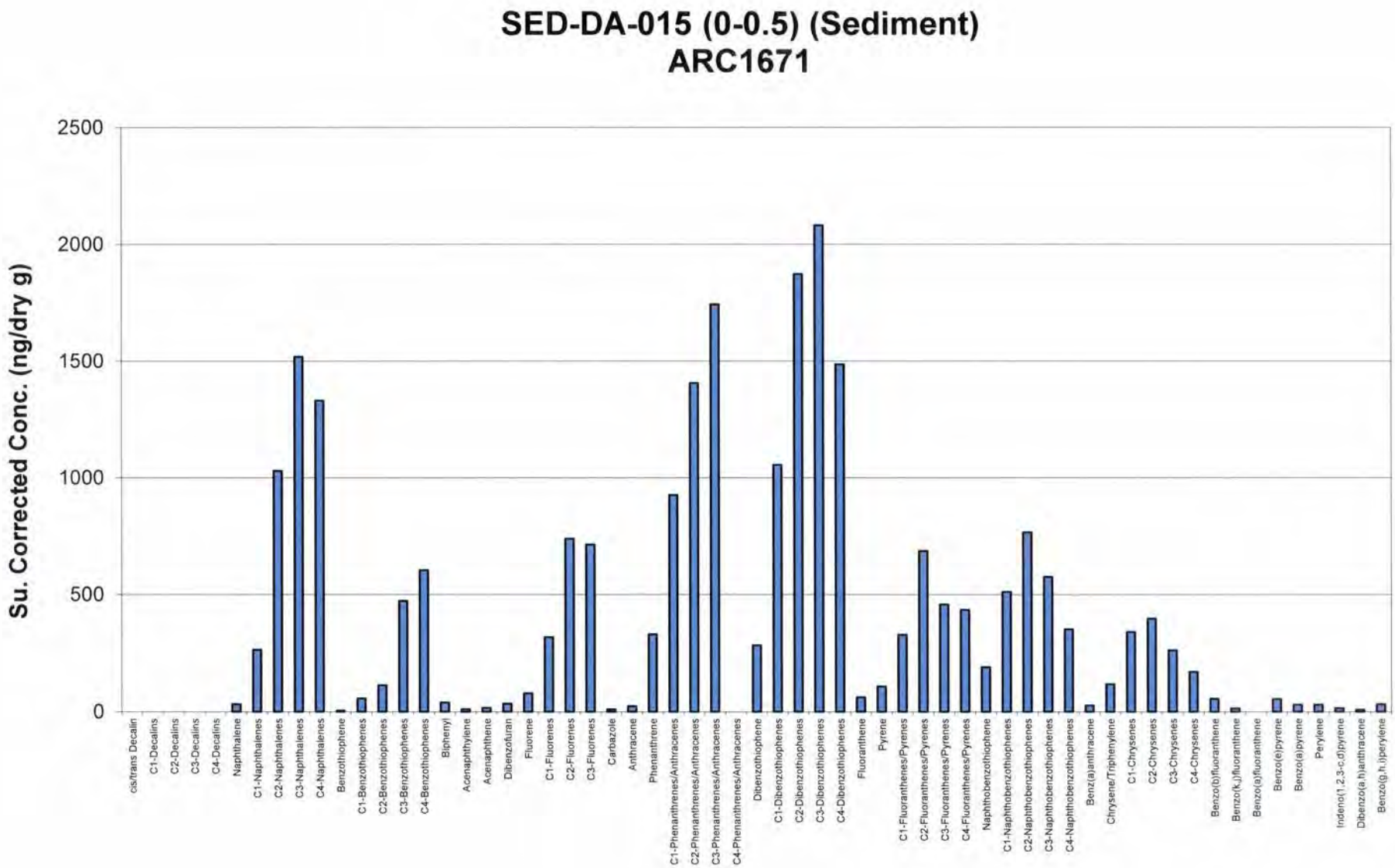

SED-DA-005 (0.5-1.0) (Sediment)
ARC1660
Su. Corrected Conc. (ng/dry g)
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

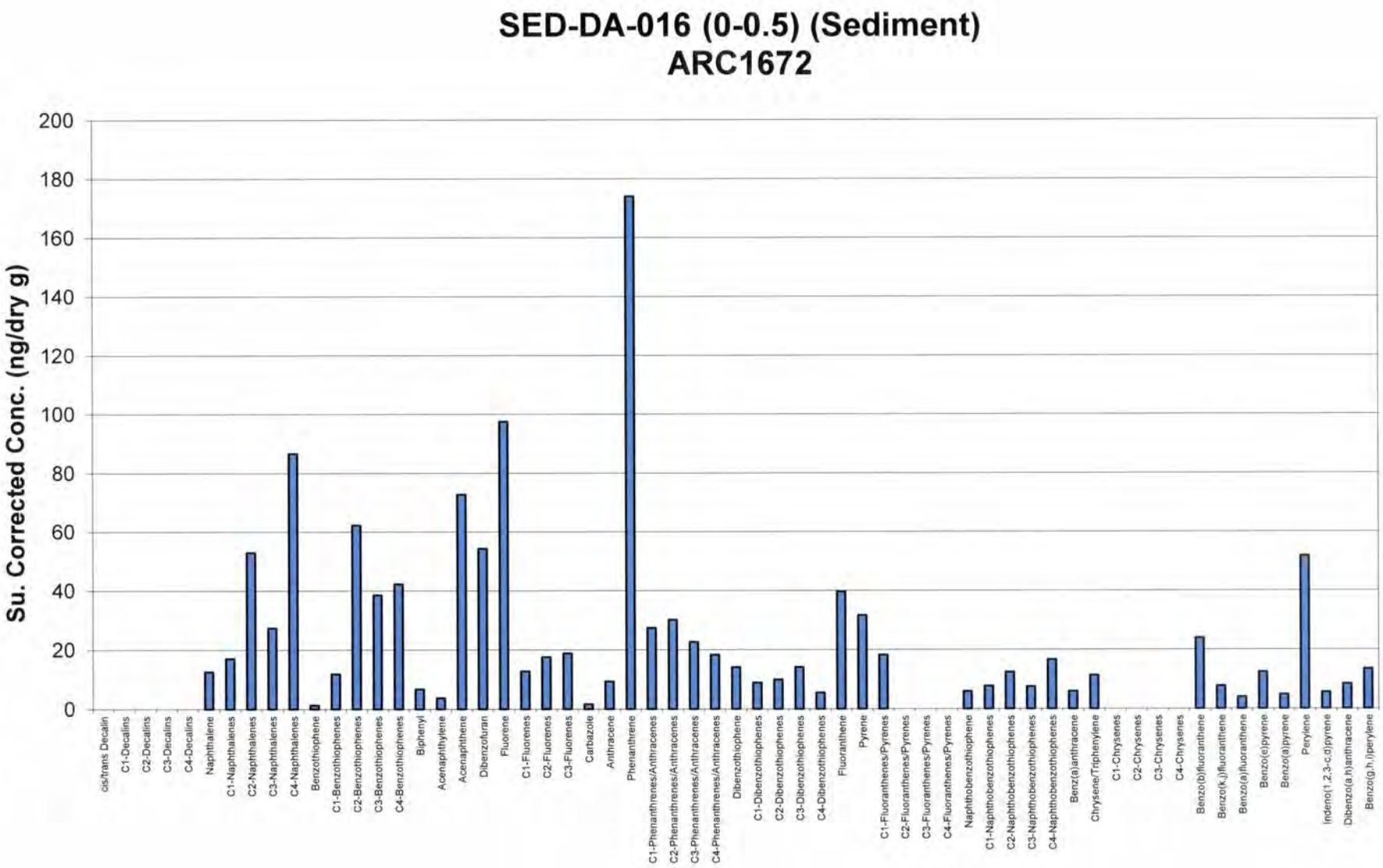

SED-DA-005 (1.0-1.5) (Sediment)
ARC1661
Su. Corrected Conc. (ng/dry g)
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

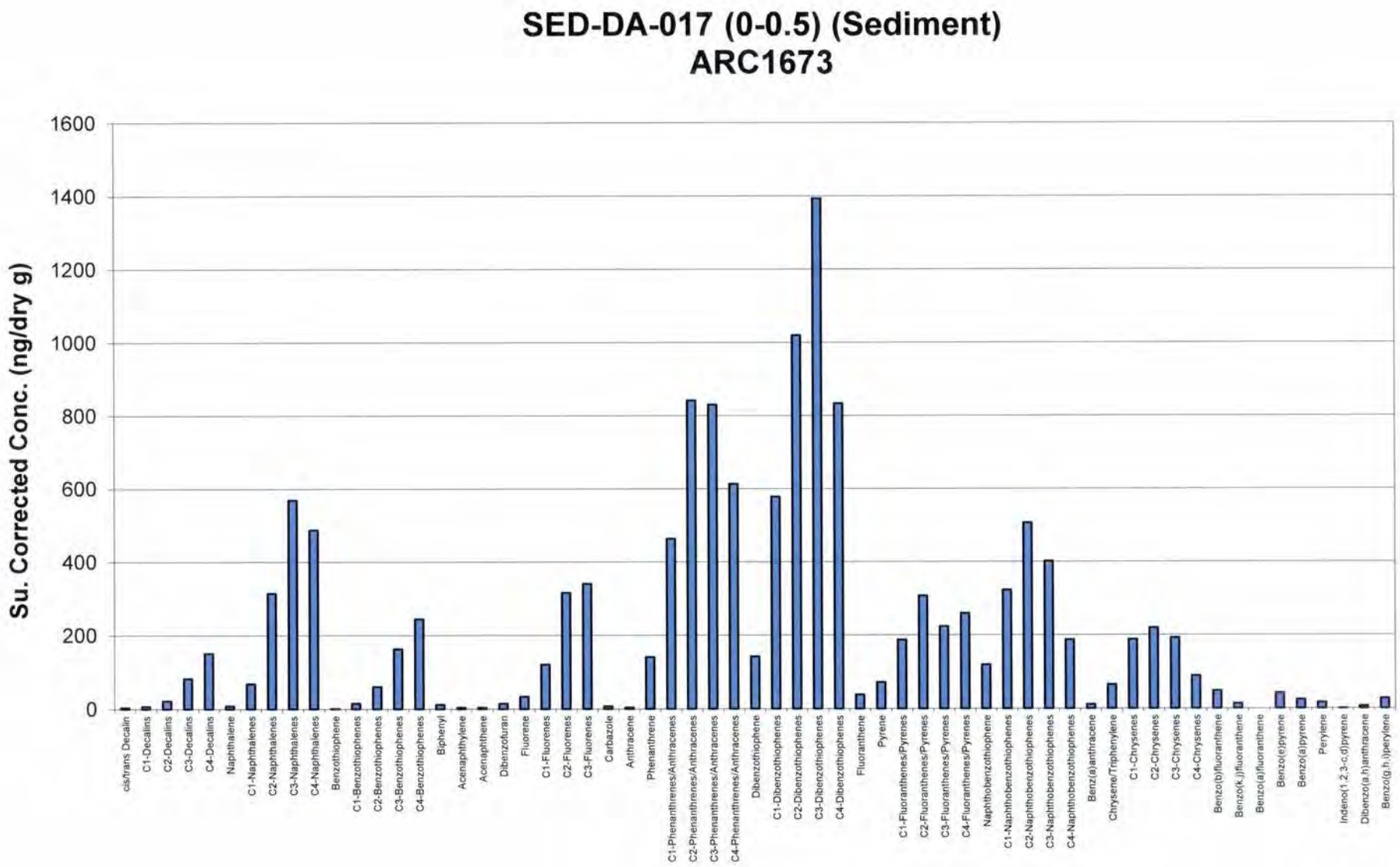

SED-DA-012 (0-0.5) (Sediment)
ARC1666
Su. Corrected Conc. (ng/dry g)
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene


SED-DA-013 (0-0.5) (Sediment)
ARC1669
Su. Corrected Conc. (ng/dry g)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene


SED-DA-014 (0-0.5) (Sediment)
ARC1670
Su. Corrected Conc. (ng/dry g)
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene


SED-DA-015 (0-0.5) (Sediment)
ARC1671
Su. Corrected Conc. (ng/dry g)
2500
2000
1500
1000
500
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene


SED-DA-016 (0-0.5) (Sediment)
ARC1672
Su. Corrected Conc. (ng/dry g)
0
20
40
60
80
100
120
140
160
180
200
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene


SED-DA-017 (0-0.5) (Sediment)
ARC1673
Su. Corrected Conc. (ng/dry g)
1600
1400
1200
1000
800
600
400
200
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

Polycyclic Aromatic Hydrocarbon Total Ion Chromatograms

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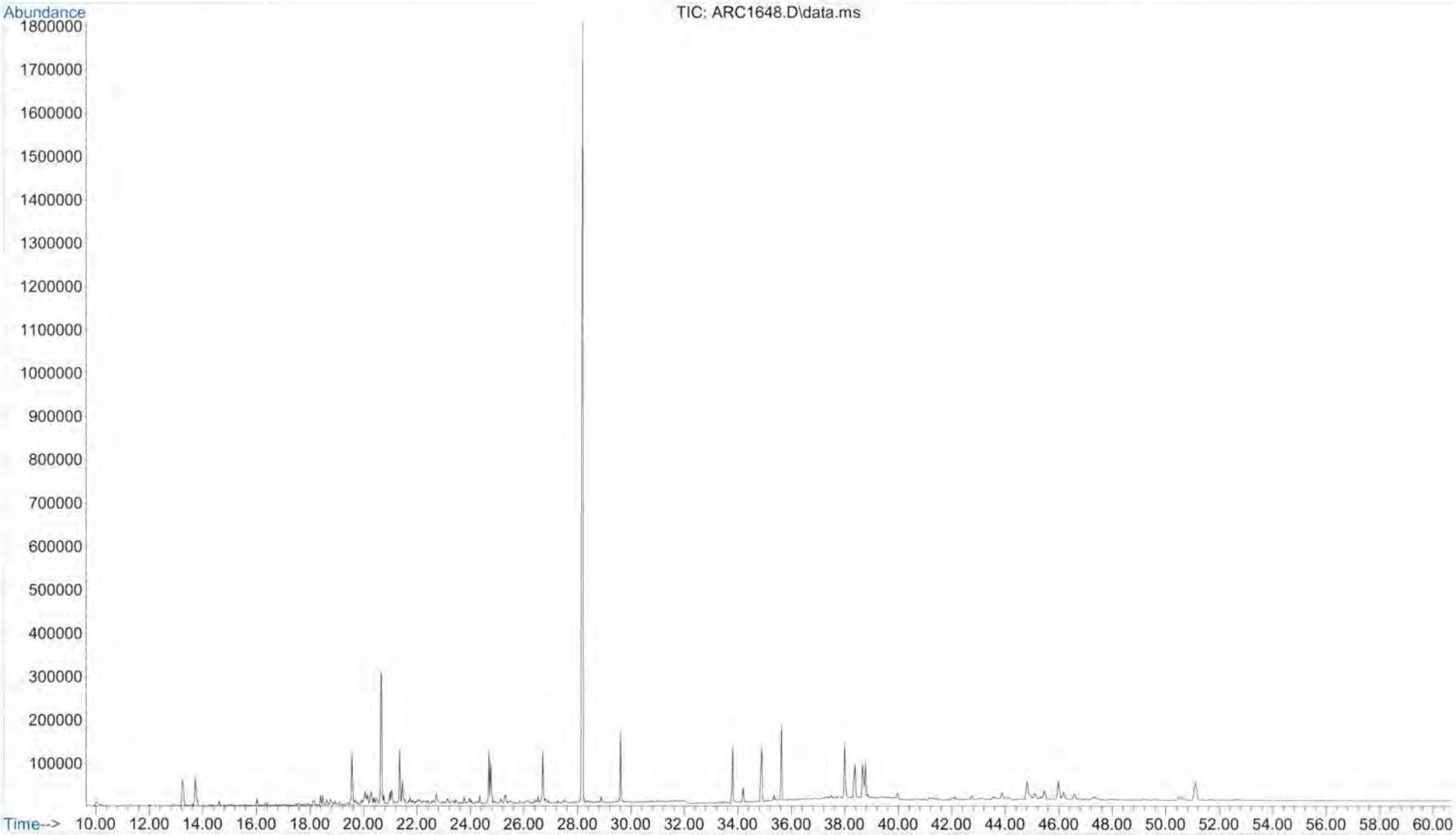
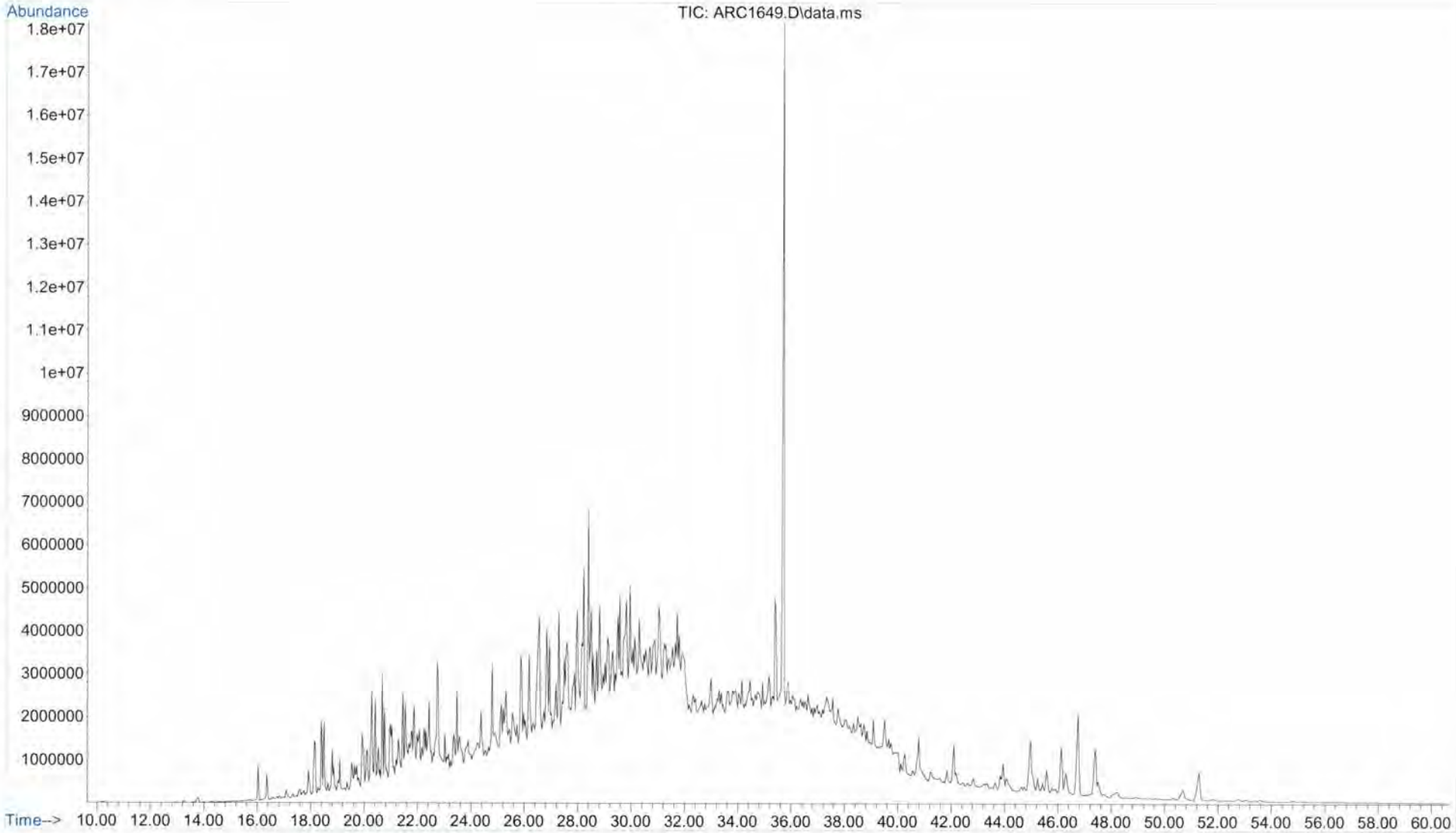
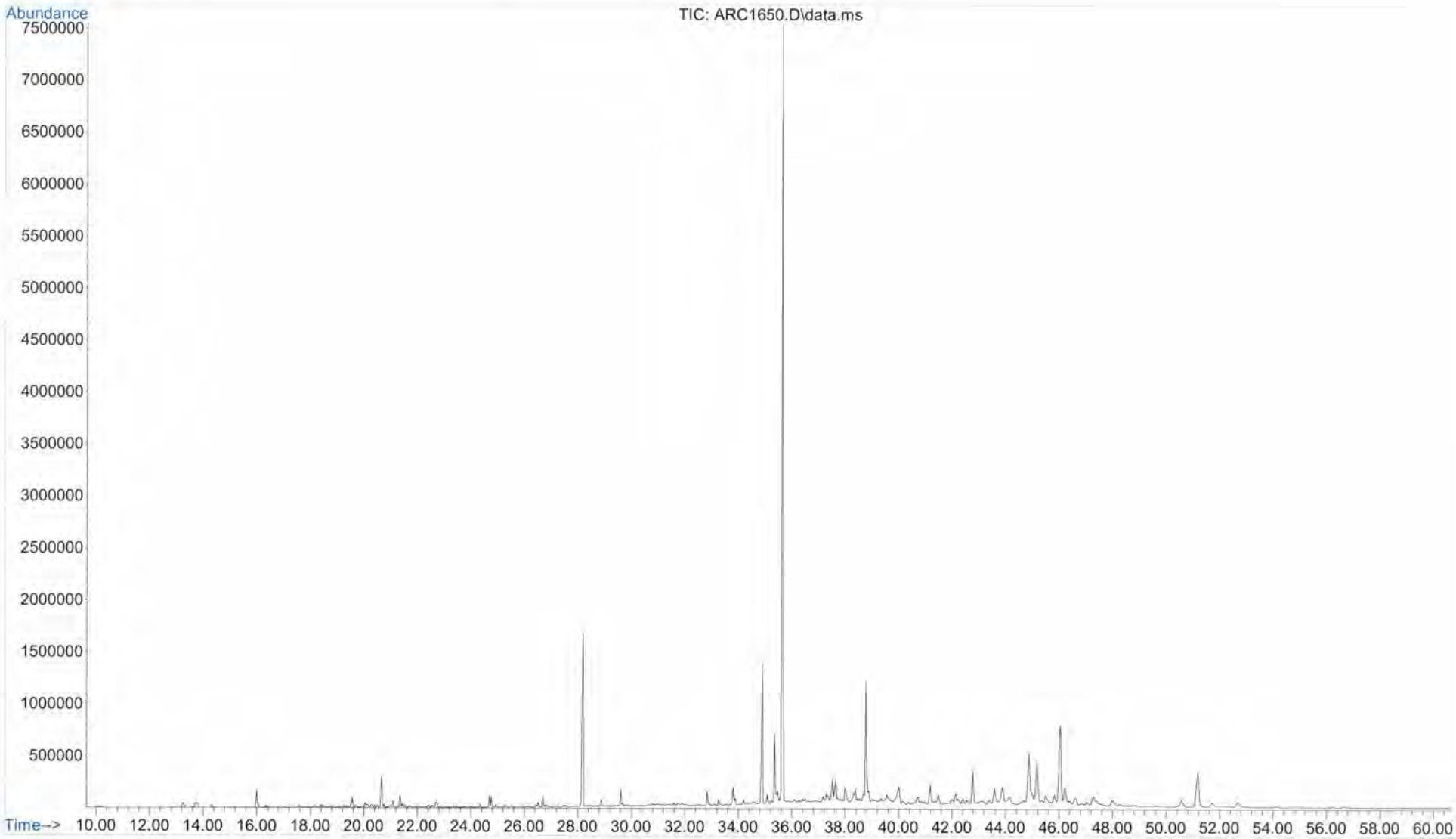
File        :C:\GCMS6\MS60142\ARC1648.D
Operator    : YM
Acquired    : 18 Aug 2013   4:50     using AcqMethod PAH-2012.M
Instrument :   GCMS6
Sample Name: SED-DA-014 (0.5-1.0)
Misc Info  :
Vial Number: 17
```



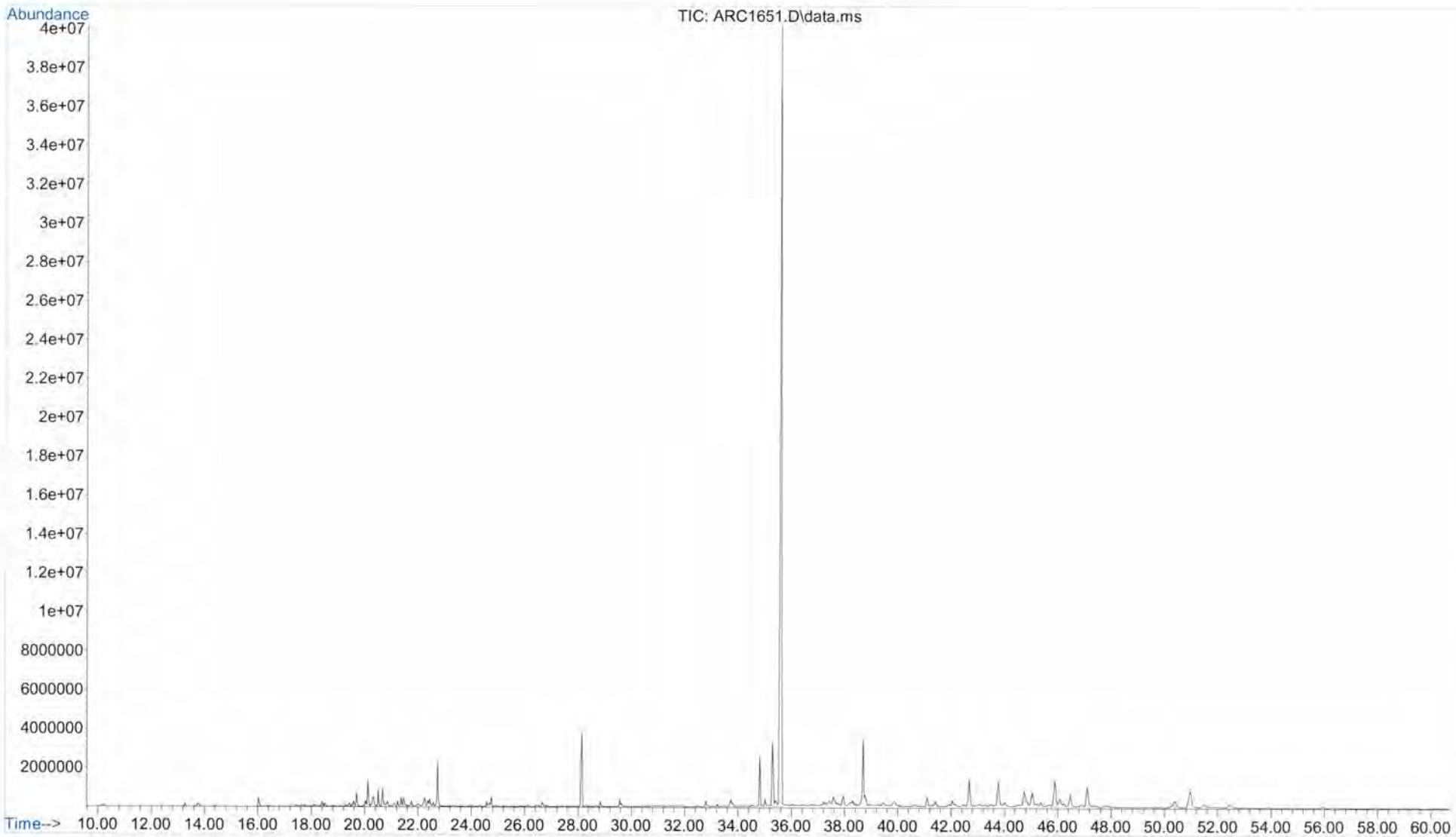
```
File        :C:\GCMS6\MS60142\ARC1649.D
Operator    : YM
Acquired    : 18 Aug 2013   5:59     using AcqMethod PAH-2012.M
Instrument :   GCMS6
Sample Name: SED-DA-015 (0.5-1.0)
Misc Info  :
Vial Number: 18
```



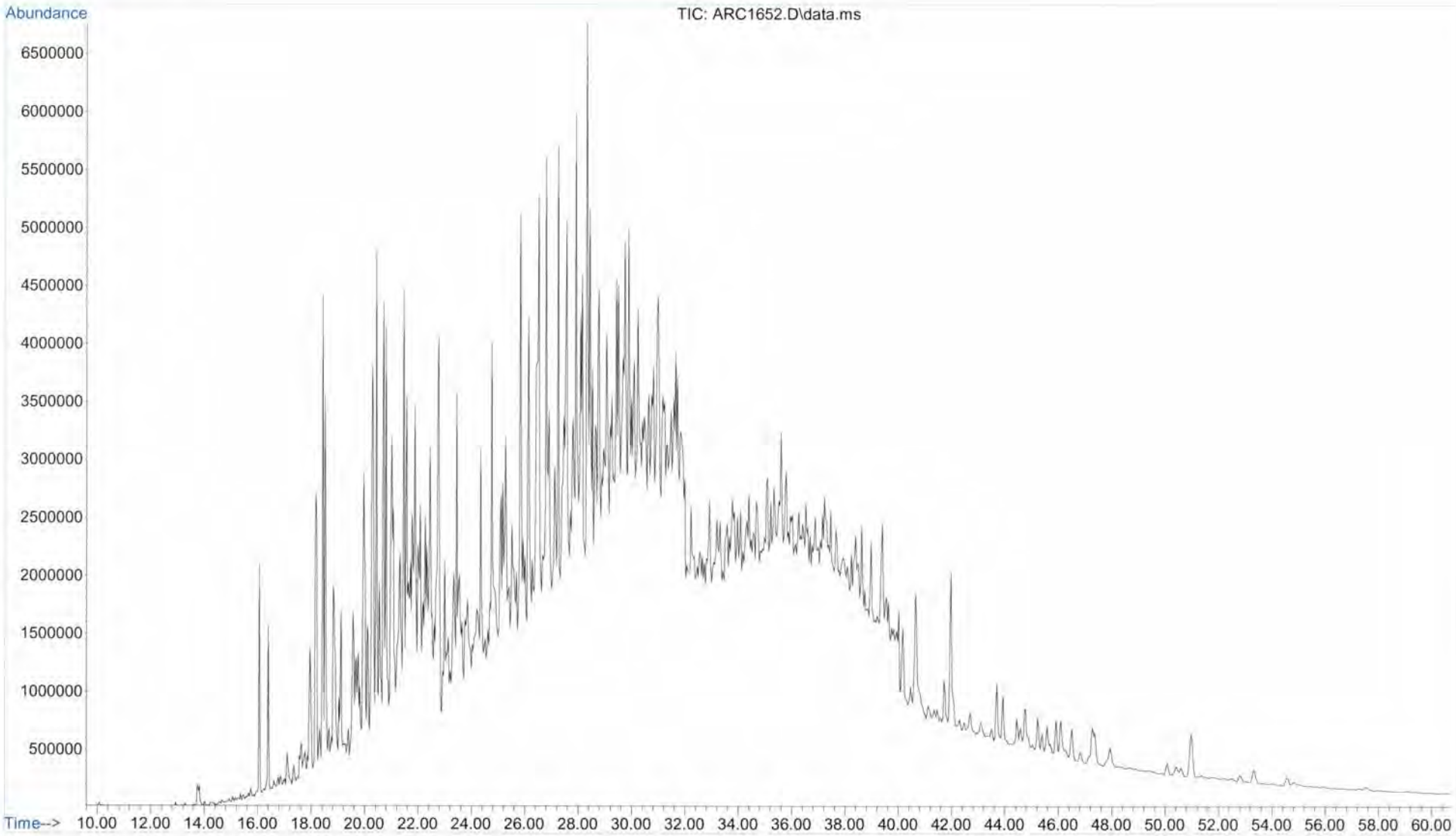
```
File        :C:\GCMS6\MS60142\ARC1650.D
Operator    : YM
Acquired    : 18 Aug 2013   7:08     using AcqMethod PAH-2012.M
Instrument :   GCMS6
Sample Name: SED-DA-015 (1.0-1.5)
Misc Info   :
Vial Number: 19
```



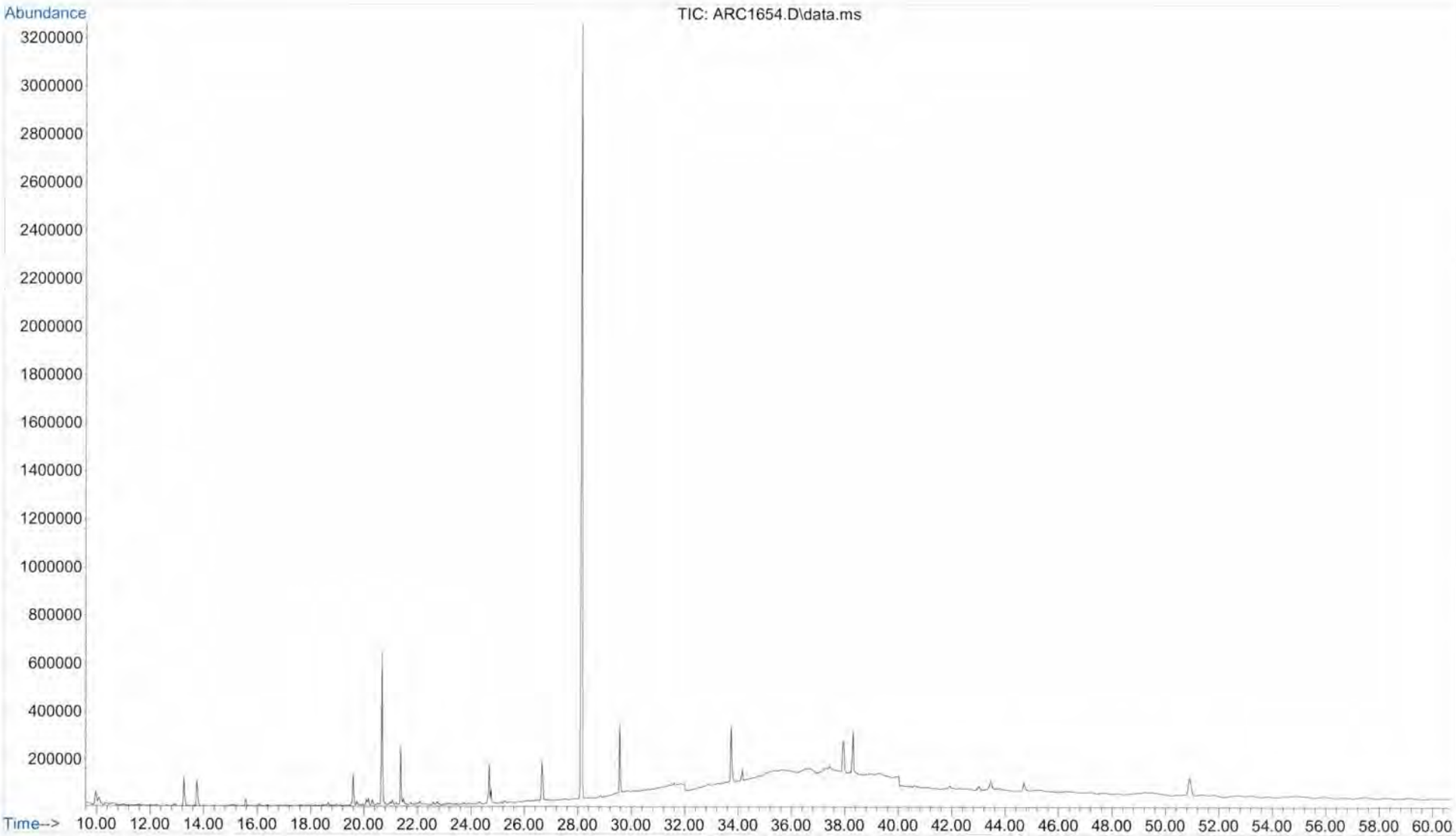
```
File        :C:\GCMS7\MS70060\ARC1651.D
Operator    : YM
Acquired    : 30 Aug 2013  10:28     using AcqMethod PAH-2012.M
Instrument :   GCMSD
Sample Name: SED-DA-016 (0.5-1.0)
Misc Info   :
Vial Number: 12
```



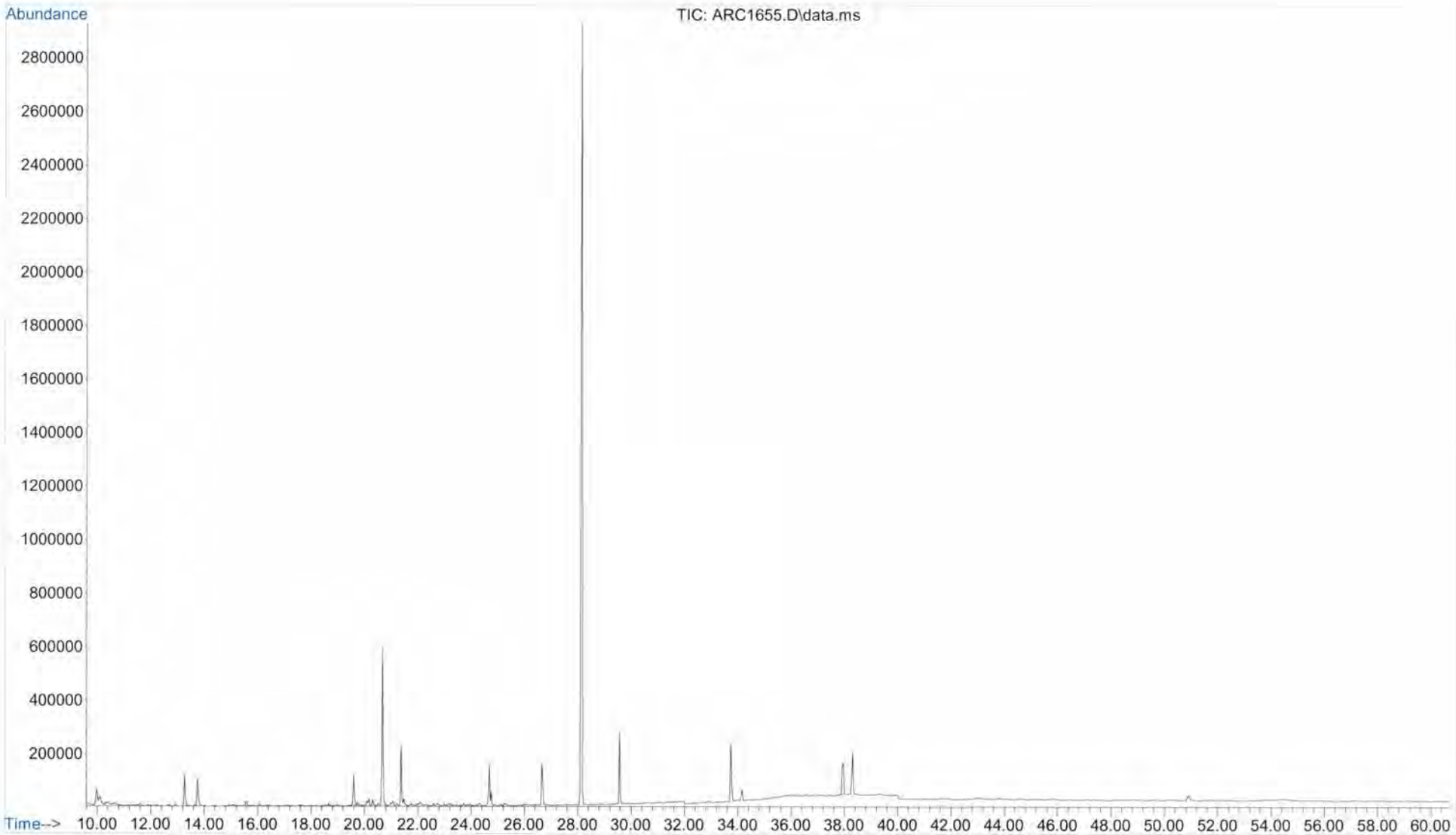
```
File        :C:\GCMS7\MS70061\ARC1652.D
Operator    : YM
Acquired    :  1 Sep 2013   4:54     using AcqMethod PAH-2012.M
Instrument  :   GCMSD
Sample Name: SED-DA-017 (0.5-1.0)
Misc Info   :
Vial Number: 38
```



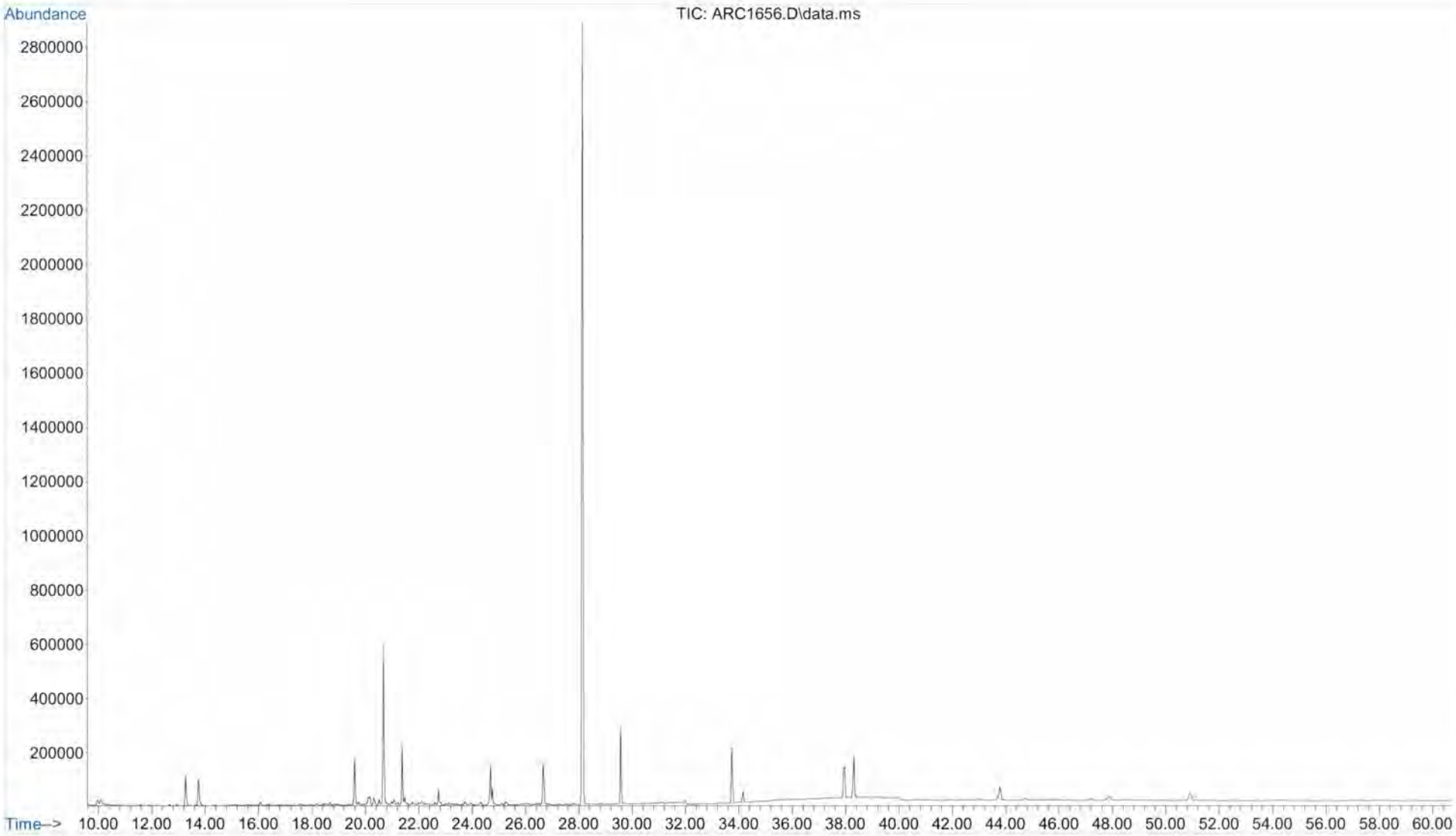
```
File        :C:\GCMS7\MS70060\ARC1654.D
Operator    : YM
Acquired    : 30 Aug 2013  12:45     using AcqMethod PAH-2012.M
Instrument  :   GCMSD
Sample Name: SED-DA-008 (0.5-1.0)
Misc Info   :
Vial Number: 14
```



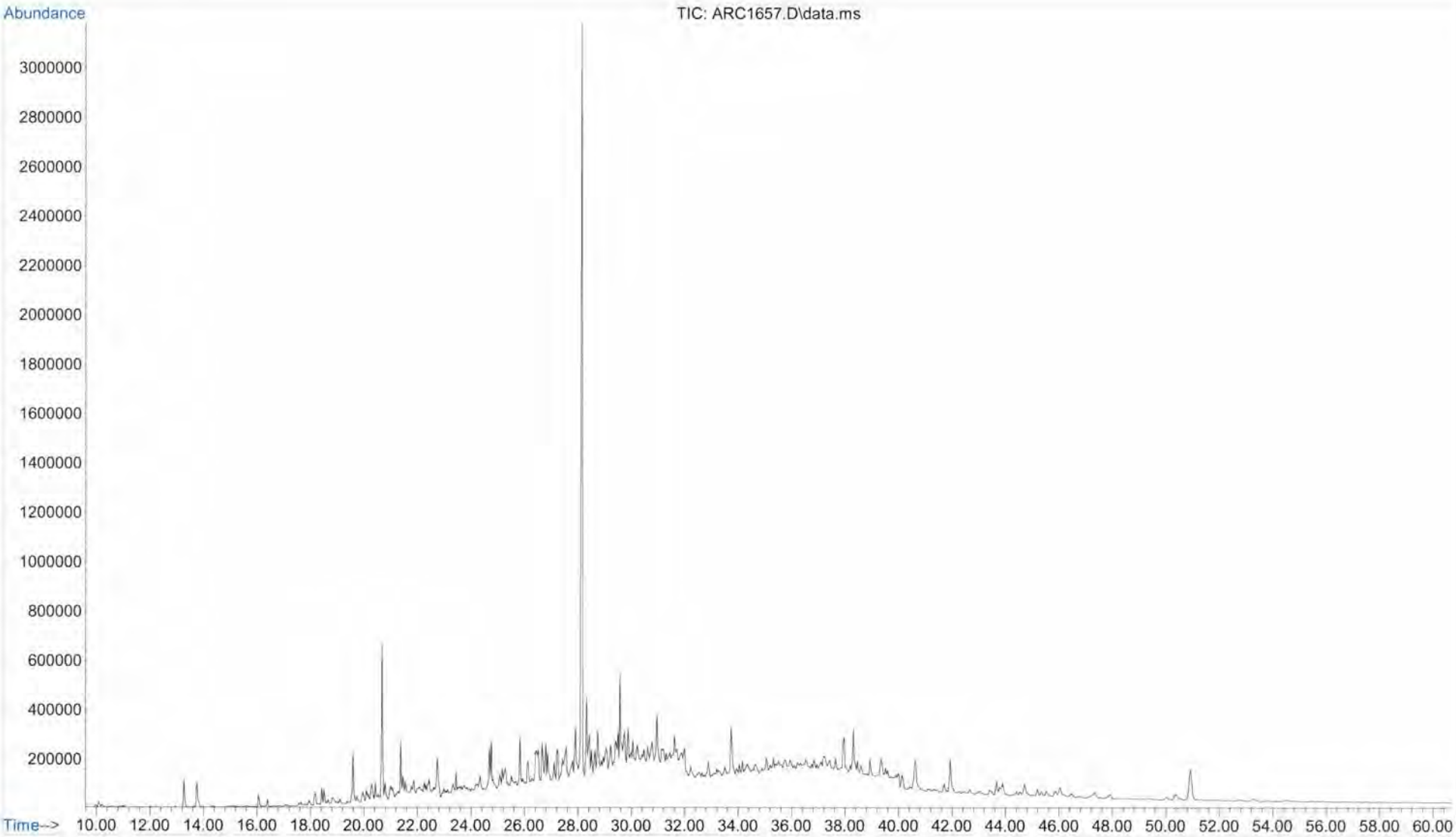
```
File        :C:\GCMS7\MS70060\ARC1655.D
Operator    : YM
Acquired    : 30 Aug 2013  13:54     using AcqMethod PAH-2012.M
Instrument :   GCMSD
Sample Name: SED-DA-008 (1.0-1.5)
Misc Info  :
Vial Number: 15
```



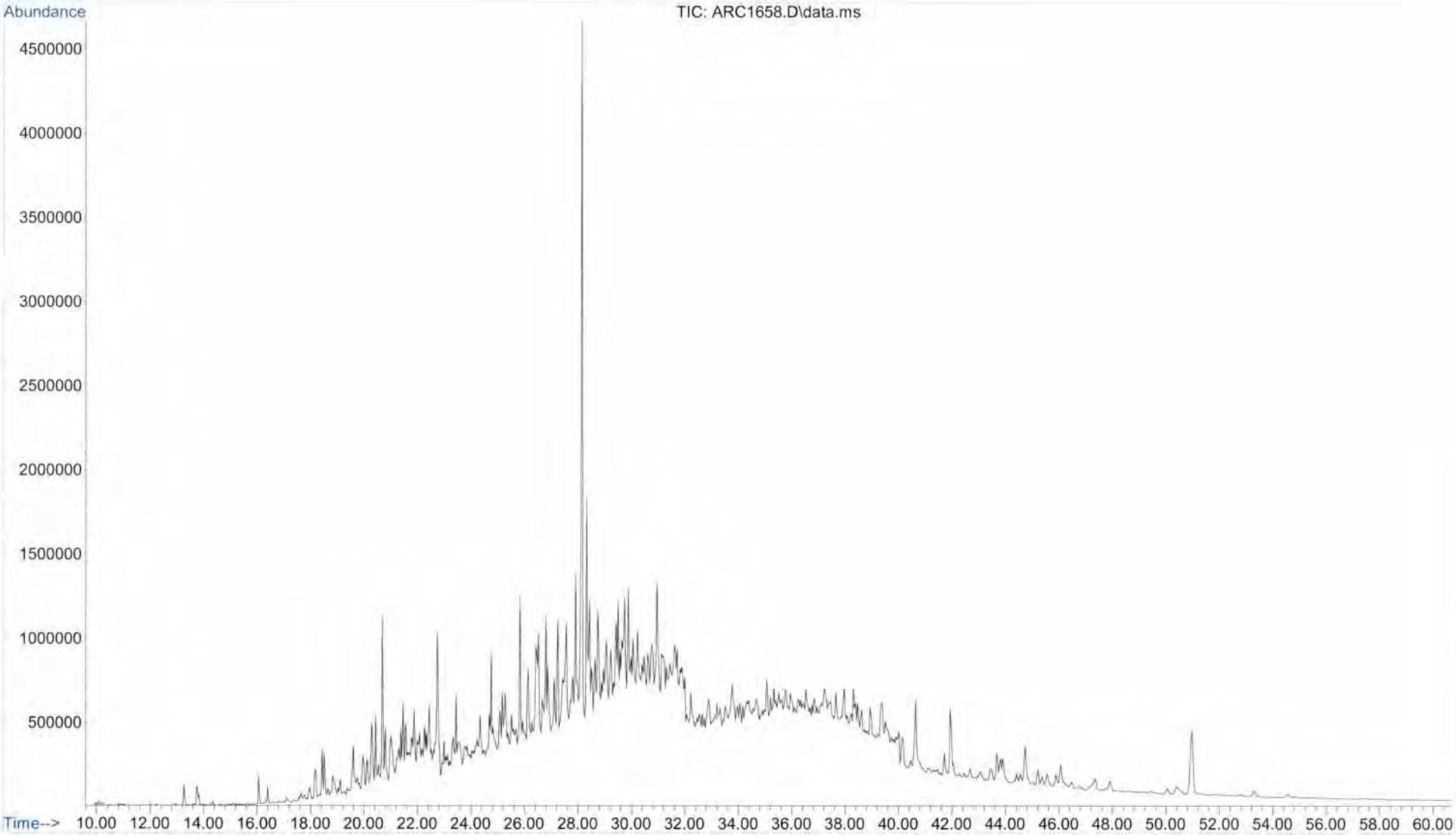
```
File        :C:\GCMS7\MS70060\ARC1656.D
Operator    : YM
Acquired    : 30 Aug 2013  15:02     using AcqMethod PAH-2012.M
Instrument :   GCMSD
Sample Name: SED-DA-007 (0.5-1.0)
Misc Info  :
Vial Number: 16
```



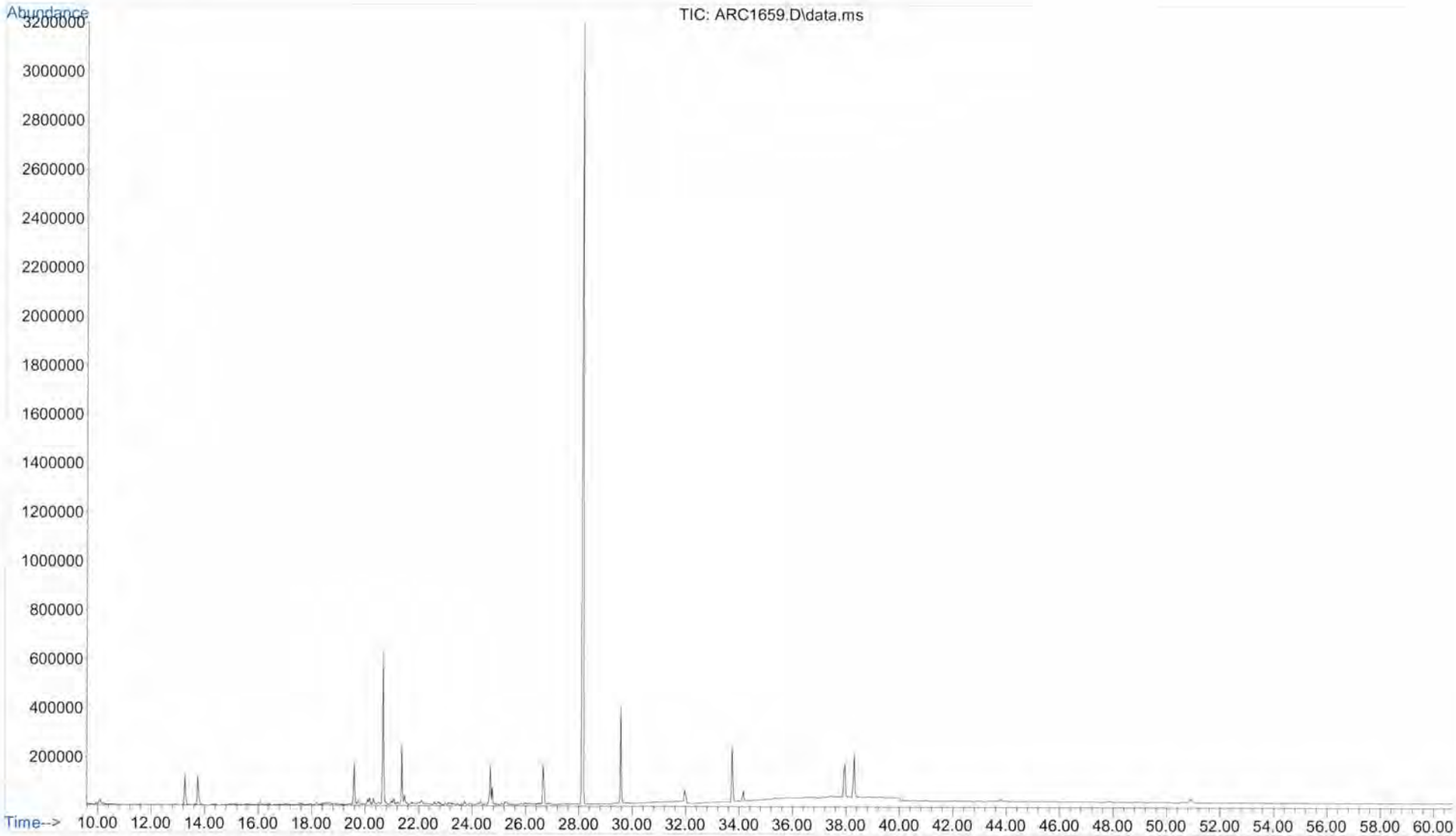
```
File        :C:\GCMS7\MS70060\ARC1657.D
Operator    : YM
Acquired    : 30 Aug 2013  16:11     using AcqMethod PAH-2012.M
Instrument :   GCMSD
Sample Name: SED-DA-007 (1.0-1.5)
Misc Info  :
Vial Number: 17
```



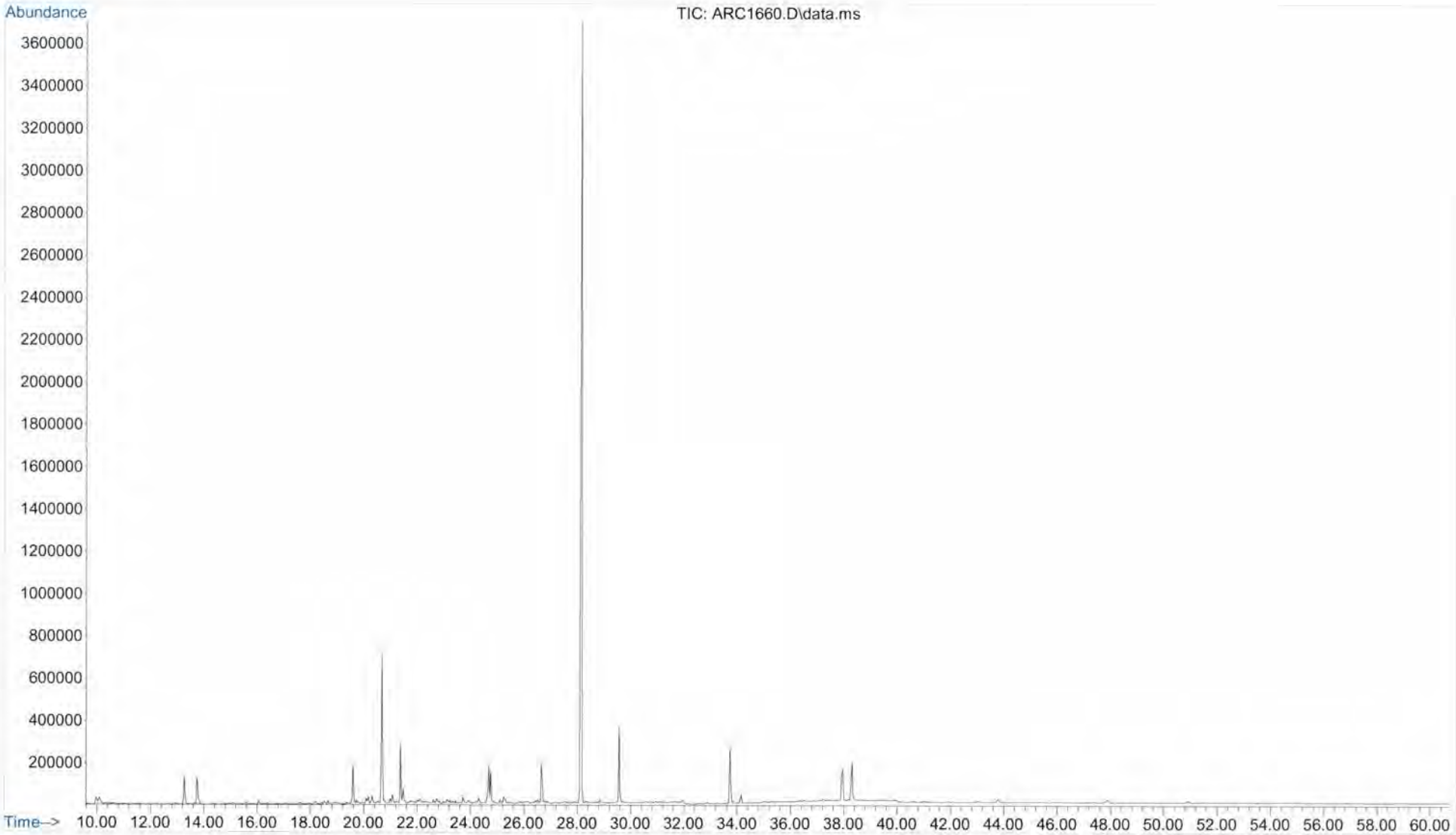
```
File        :C:\GCMS7\MS70060\ARC1658.D
Operator    : YM
Acquired    : 30 Aug 2013  17:20     using AcqMethod PAH-2012.M
Instrument  :   GCMSD
Sample Name: SED-DA-006 (0.5-1.0)
Misc Info   :
Vial Number: 18
```



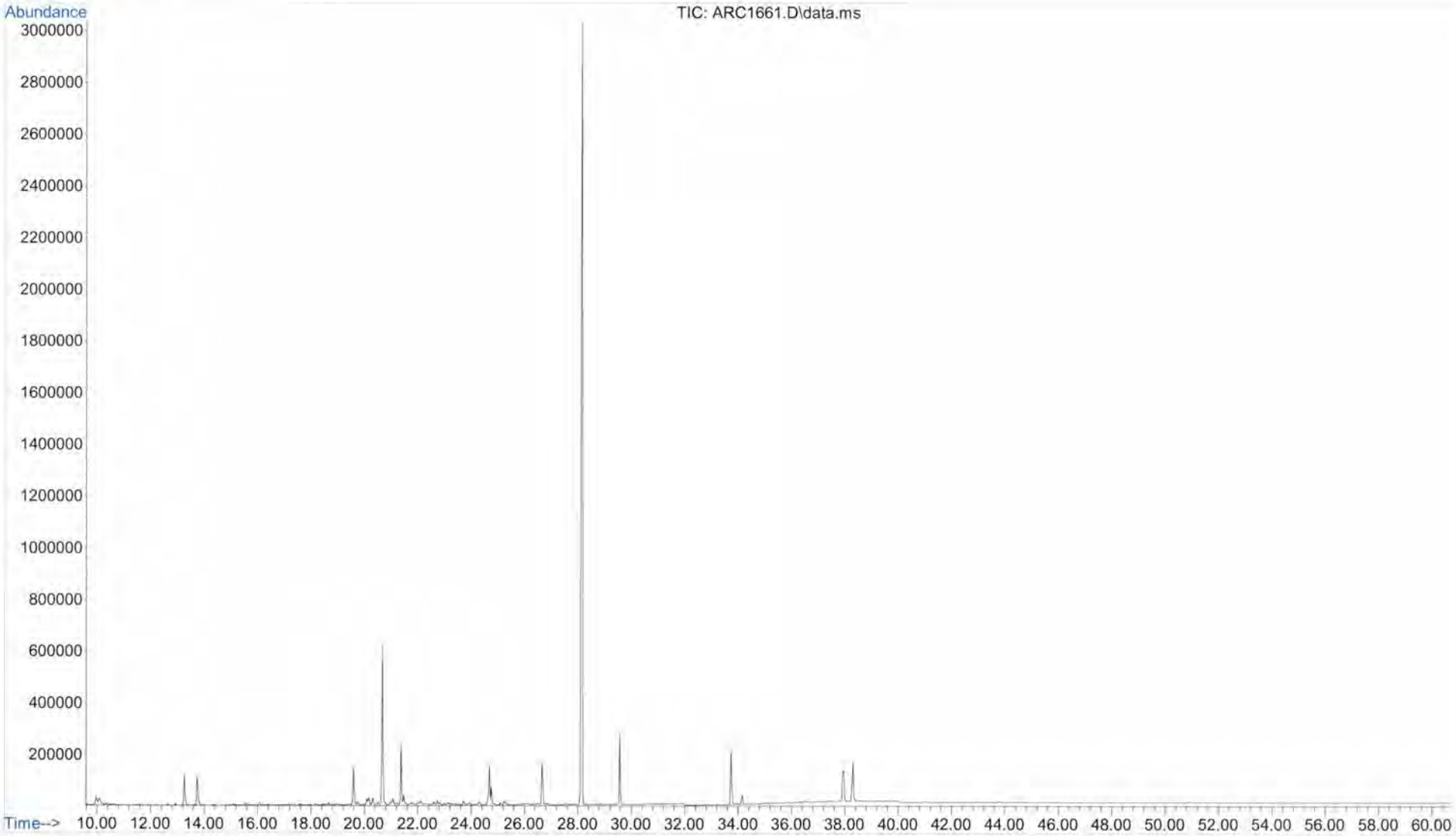
```
File        :C:\GCMS7\MS70060\ARC1659.D
Operator    : YM
Acquired    : 30 Aug 2013  18:28     using AcqMethod PAH-2012.M
Instrument :   GCMSD
Sample Name: SED-DA-006 (1.0-1.5)
Misc Info  :
Vial Number: 19
```



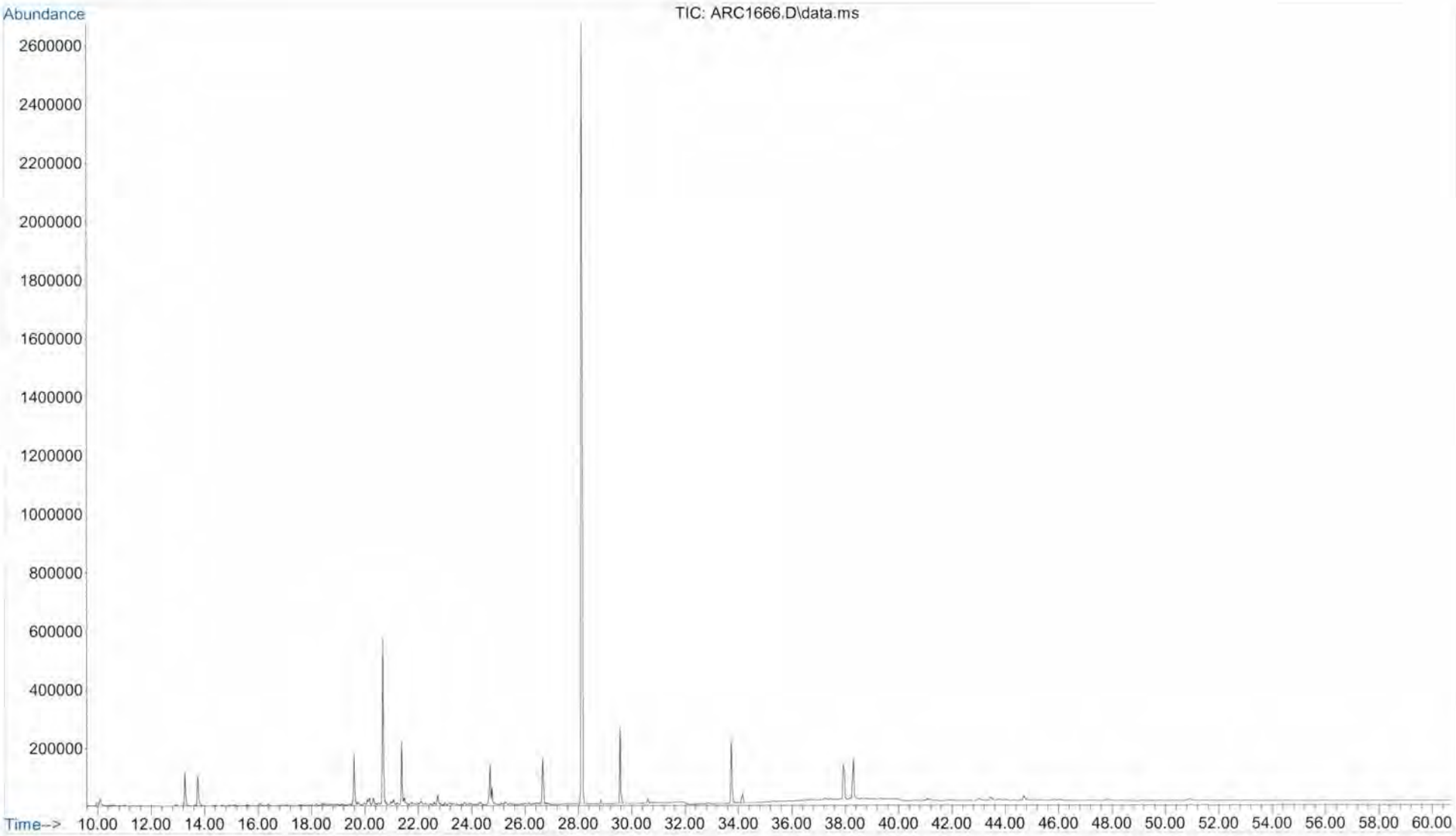
File :C:\GCMS7\MS70060\ARC1660.D
Operator : YM
Acquired : 30 Aug 2013 20:45 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SED-DA-005 (0.5-1.0)
Misc Info :
Vial Number: 21



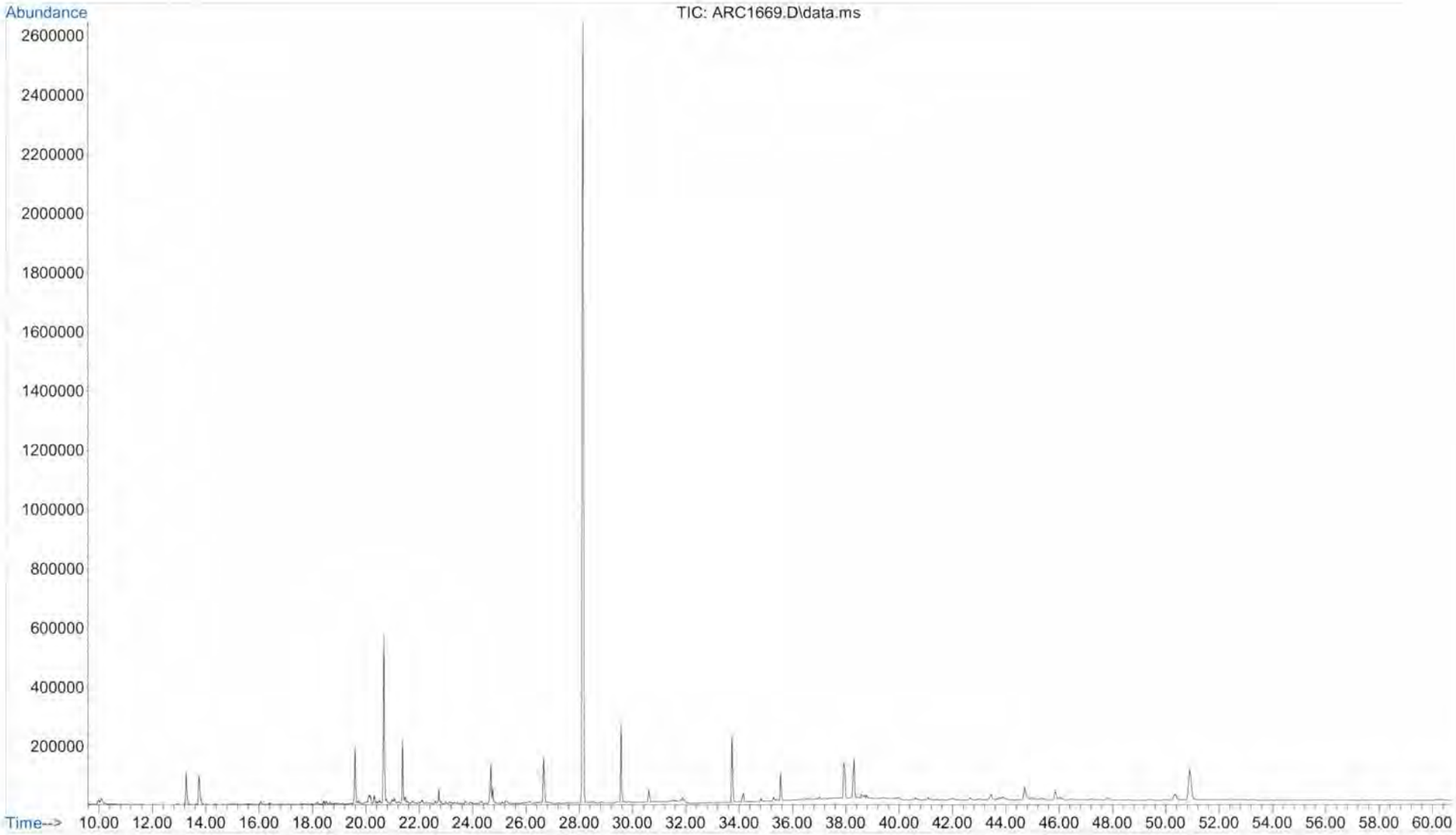
```
File        :C:\GCMS7\MS70060\ARC1661.D
Operator    : YM
Acquired    : 30 Aug 2013  21:54     using AcqMethod PAH-2012.M
Instrument :   GCMSD
Sample Name: SED-DA-005 (1.0-1.5)
Misc Info  :
Vial Number: 22
```



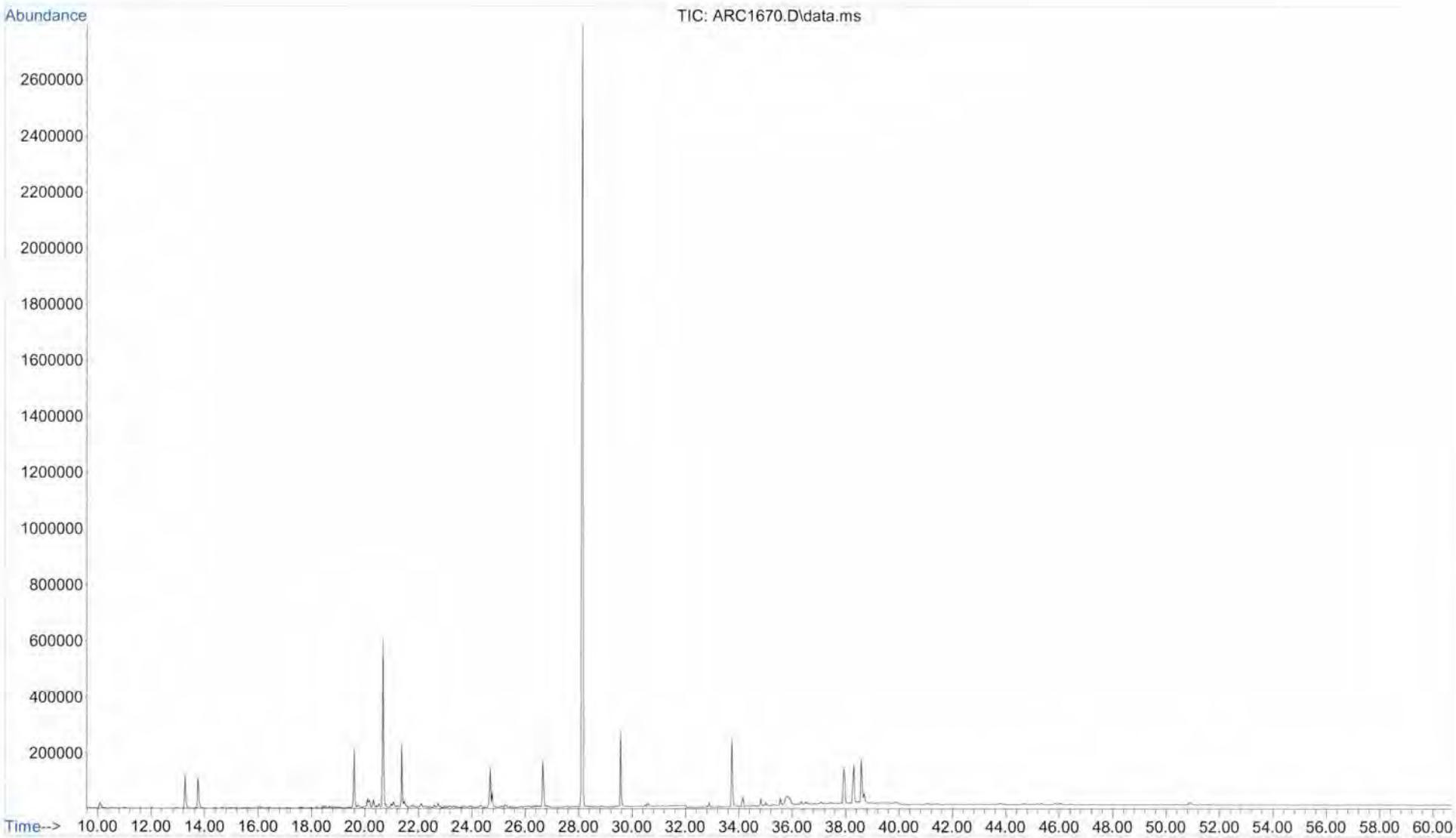
```
File        :C:\GCMS7\MS70060\ARC1666.D
Operator    : YM
Acquired    : 30 Aug 2013  23:03     using AcqMethod PAH-2012.M
Instrument :   GCMSD
Sample Name: SED-DA-012 (0-0.5)
Misc Info  :
Vial Number: 23
```



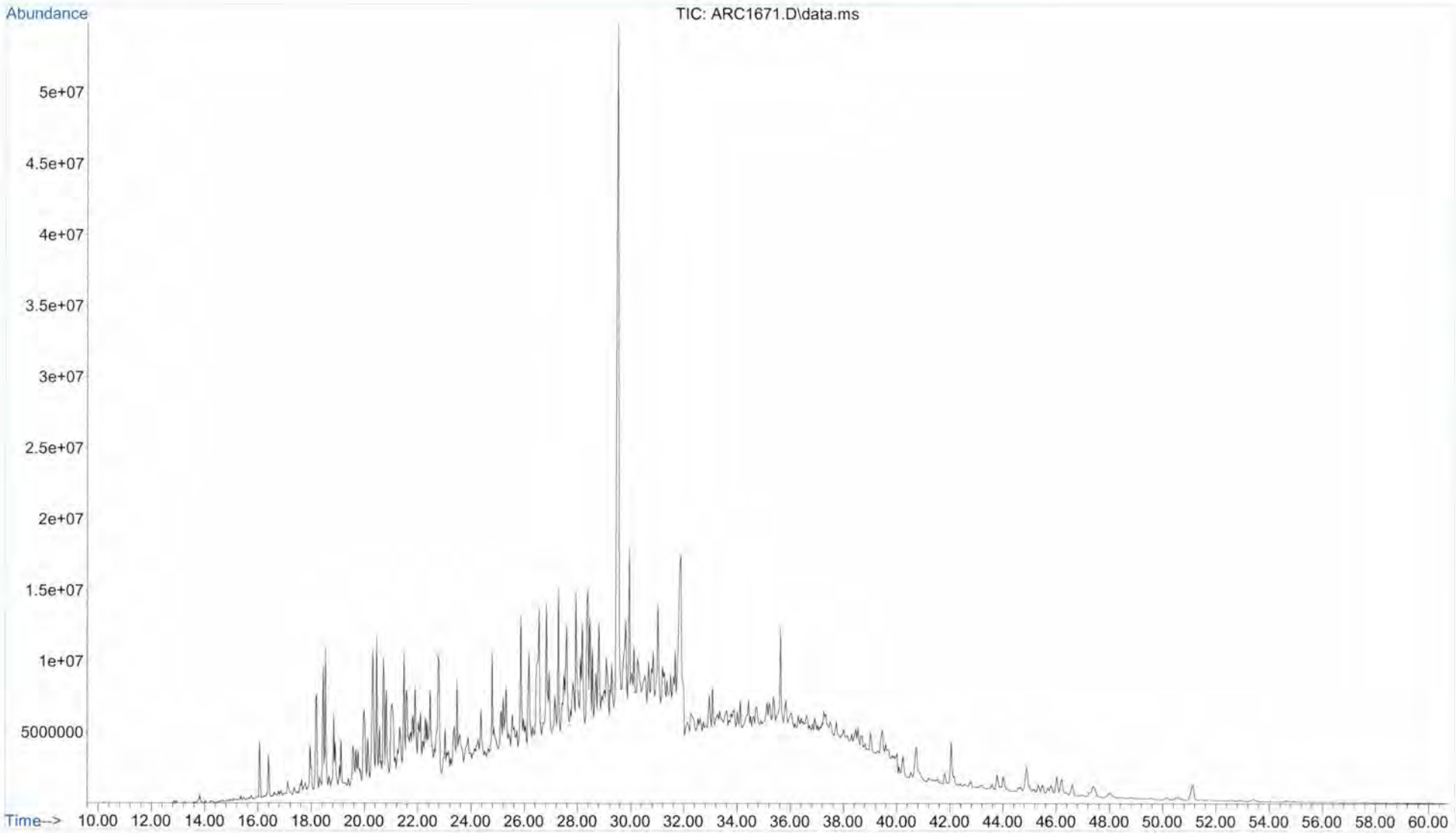
```
File        :C:\GCMS7\MS70060\ARC1669.D
Operator    : YM
Acquired    : 31 Aug 2013  00:11     using AcqMethod PAH-2012.M
Instrument :   GCMSD
Sample Name: SED-DA-013 (0-0.5)
Misc Info  :
Vial Number: 24
```



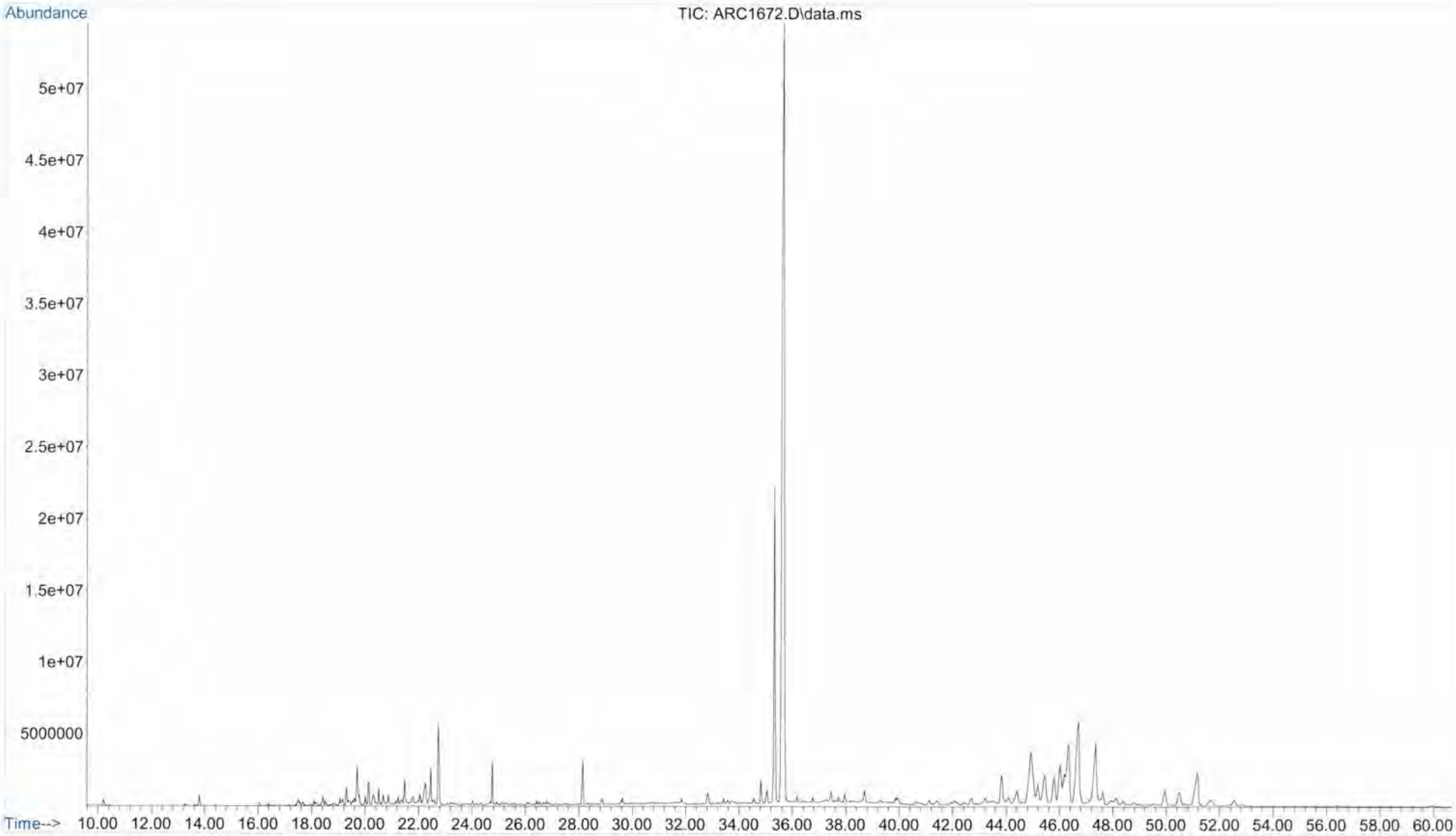
```
File        :C:\GCMS7\MS70060\ARC1670.D
Operator    : YM
Acquired    : 31 Aug 2013   1:20     using AcqMethod PAH-2012.M
Instrument :   GCMSD
Sample Name: SED-DA-014 (0-0.5)
Misc Info  :
Vial Number: 25
```



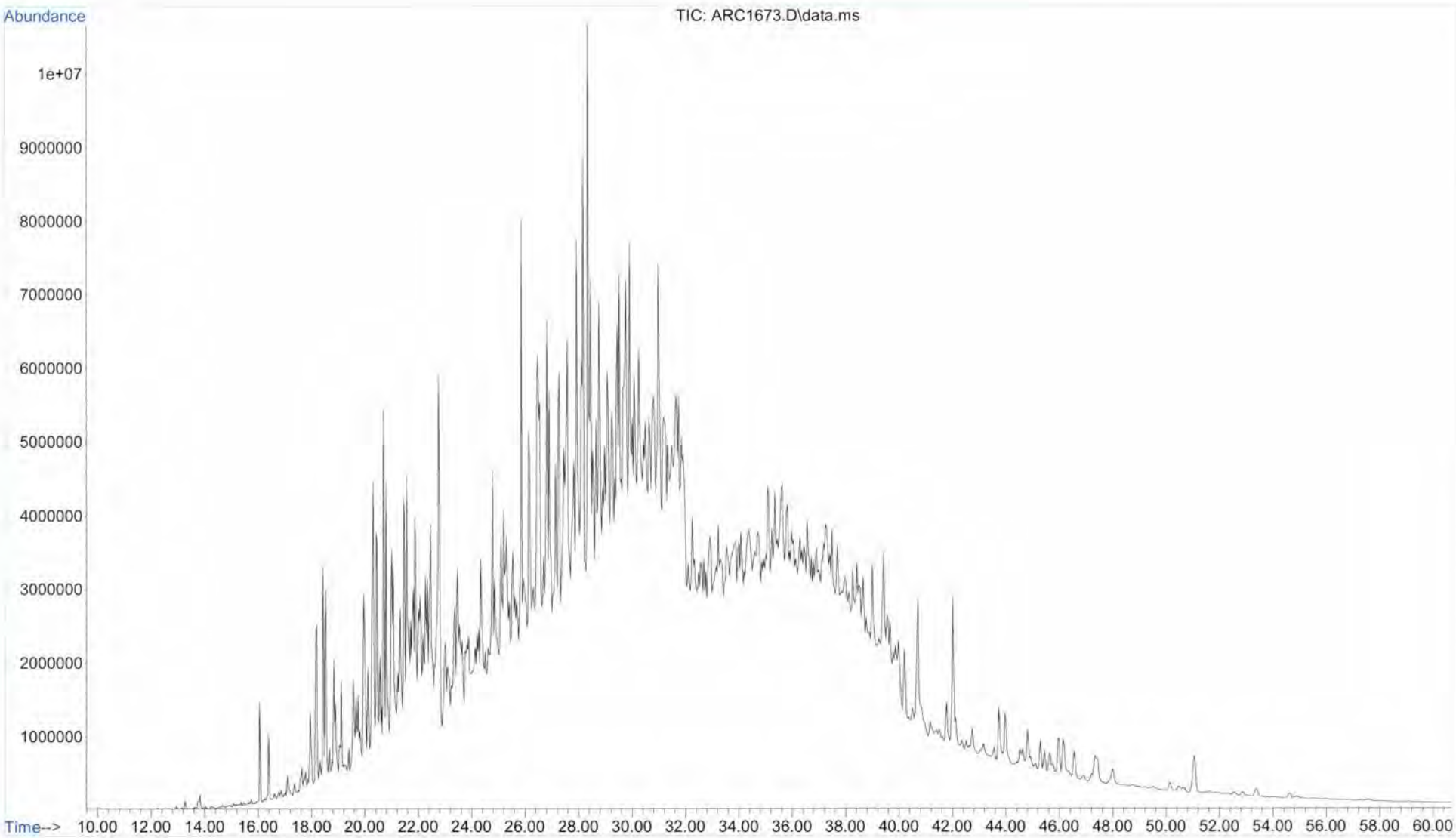
```
File        :C:\GCMS7\MS70060\ARC1671.D
Operator    : YM
Acquired    : 31 Aug 2013   2:29     using AcqMethod PAH-2012.M
Instrument :   GCMSD
Sample Name: SED-DA-015 (0-0.5)
Misc Info  :
Vial Number: 26
```



```
File        :C:\GCMS7\MS70060\ARC1672.D
Operator    : YM
Acquired    : 31 Aug 2013   3:38     using AcqMethod PAH-2012.M
Instrument :   GCMSD
Sample Name: SED-DA-016 (0-0.5)
Misc Info  :
Vial Number: 27
```



```
File        :C:\GCMS7\MS70060\ARC1673.D
Operator    : YM
Acquired    : 31 Aug 2013   4:46     using AcqMethod PAH-2012.M
Instrument :   GCMSD
Sample Name: SED-DA-017 (0-0.5)
Misc Info  :
Vial Number: 28
```



Total Petroleum Hydrocarbons/ Aliphatic Hydrocarbons Raw Data

B&B LABORATORIES ALIPHATICS/TEH QA FORM

Extraction Page: ENV 3082	Analyst: M. Dailey
Client: Arcadis Mayflower	Date: September 16, 2013
Job: #: J13034	Project Quality Manager: W Frank
SDG #: 13080601	Date: 09/17/13

Initial Calibration: No Failures	ICV No Failures

Surrogate Recoveries:
No Failures

Procedural Blank:
No Failures

Blank Spike:
NA

Blank Spike Duplicate:
NA

Laboratory Duplicate:
No Failures

Matrix Spike:
No Failures

Matirx Spike Duplicate:
No Failures

MC-252 Reference Oil
No Failures

Mass Discrimination Check (n-C36/n-C20 >0.7)
No Failures

FID Sequence Summary Report

B&B Laboratories, Inc.

Sequence name: FID10080 2013-08-19 15-44-06

Acquisition date: 8/19/2013 3:44:07 PM

Acquired by: Mark C. Garner

Data Directory C:\CHEM32\3\DATA\FID10080 2013-08-19 15-44-06

Line	Location	Sample Name	Datafile	Method	Injection Date
4	Vial 1	Solvent Blank	FID10080A.D	ALI2012.M	08/19/2013 19:23:19
5	Vial 2	AL-WKCC-25-024	FID10080B.D	ALI2012.M	08/19/2013 20:34:22
6	Vial 3	AL-SRM2779-20-01	FID10080C.D	ALI2012.M	08/19/2013 21:44:56
7	Vial 1	Solvent Blank	FID10080D.D	ALI2012.M	08/19/2013 22:56:02
8	Vial 4	AL-RetWin-001	FID10080E.D	ALI2012.M	08/20/2013 00:06:34
9	Vial 5	AL-WKPem-001	FID10080F.D	ALI2012.M	08/20/2013 01:17:13
10	Vial 6		ENV3082A.D	ALI2012.M	08/20/2013 02:27:52
11	Vial 7		ENV3082C.D	ALI2012.M	08/20/2013 03:38:27
12	Vial 8		ENV3082D.D	ALI2012.M	08/20/2013 04:49:04
13	Vial 9		ENV3082E.D	ALI2012.M	08/20/2013 05:59:37
14	Vial 10		ARC1666.D	ALI2012.M	08/20/2013 07:10:15
15	Vial 11	AL-WKCC-25-024	FID10080G.D	ALI2012.M	08/20/2013 08:21:01
16	Vial 12		ARC1669.D	ALI2012.M	08/20/2013 09:31:37
17	Vial 13		ARC1670.D	ALI2012.M	08/20/2013 10:42:16
18	Vial 14		ARC1671.D	ALI2012.M	08/20/2013 11:52:52
19	Vial 15		ARC1672.D	ALI2012.M	08/20/2013 13:03:29
20	Vial 16		ARC1673.D	ALI2012.M	08/20/2013 14:14:09
21	Vial 17	AL-WKCC-25-024	FID10080H.D	ALI2012.M	08/20/2013 15:24:47

Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3082\FID10080\
Data File : FID10080B.D
Signal(s) : FID1A.CH
Acq On : 19-Aug-2013, 20:34:22
Operator : Mark C. Garner
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autointl.e
Quant Time: Aug 21 14:37:48 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	n-hexadecane-d34	1.000	1.000	0.0	90	0.00
2		n-C8	0.945	0.992	-5.0	92	0.00
3		n-C9	1.010	1.046	-3.6	91	0.00
4		n-C10	1.087	1.107	-1.8	90	0.00
5		n-C11	1.105	1.114	-0.8	89	0.00
6	S	n-dodecane-d26	1.033	1.033	0.0	89	0.00
7		n-C12	1.156	1.167	-1.0	89	0.00
10		n-C13	1.154	1.163	-0.8	89	0.00
12		n-C14	1.185	1.200	-1.3	89	0.00
14		n-C15	1.196	1.210	-1.2	89	0.00
15		n-C16	1.200	1.219	-1.6	90	0.00
16	I	5a-androstane	1.000	1.000	0.0	90	0.00
18		n-C17	0.991	1.005	-1.4	90	0.00
19		Pristane	0.986	1.001	-1.5	90	0.00
20		n-C18	0.971	0.988	-1.8	90	0.00
21		Phytane	0.989	1.005	-1.6	90	0.00
22		n-C19	0.965	0.983	-1.9	90	0.00
23	S	n-eicosane-d42	0.769	0.778	-1.2	90	0.00
24		n-C20	0.967	0.987	-2.1	90	0.00
25		n-C21	0.972	0.994	-2.3	90	0.00
26		n-C22	0.972	0.992	-2.1	90	0.00
27		n-C23	0.973	0.996	-2.4	90	0.00
28		n-C24	0.972	0.993	-2.2	90	0.00
29		n-C25	0.973	0.991	-1.8	90	0.00
30		n-C26	0.973	0.991	-1.8	90	0.00
31		n-C27	0.950	0.965	-1.6	90	0.00
32		n-C28	0.963	0.980	-1.8	90	0.00
33		n-C29	0.967	0.984	-1.8	90	0.00
34	S	n-triacontane-d62	0.749	0.753	-0.5	89	0.00
35		n-C30	0.959	0.978	-2.0	90	0.00
36		n-C31	0.945	0.969	-2.5	90	0.00
37		n-C32	0.937	0.958	-2.2	90	0.00
38		n-C33	0.916	0.943	-2.9	90	0.00
39		n-C34	0.926	0.951	-2.7	90	0.00
40		n-C35	0.904	0.922	-2.0	89	0.00
41		n-C36	0.975	0.984	-0.9	87	0.00
42		n-C37	0.890	0.878	1.3	86	0.00
43		n-C38	0.876	0.865	1.3	85	0.00

44	n-C39	0.839	0.816	2.7	83	0.00
45	n-C40	0.786	0.754	4.1	82	0.00

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.019	0.000	100.0#	0#	-9.10#
9	i-14	0.019	0.000	100.0#	0#	-9.80#
11	i-15	0.019	0.000	100.0#	0#	-10.96#
13	i-16	0.020	0.000	100.0#	0#	-11.86#
17	i-18	0.019	0.000	100.0#	0#	-13.82#
46	TPH	0.019	0.000	100.0#	0#	-29.68#
47	TRH1	0.019	0.000	100.0#	0#	-7.92#
48	TRH2	0.019	0.000	100.0#	0#	-16.27#
49	TRH3	0.019	0.000	100.0#	0#	-23.89#
50	TRH4	0.019	0.000	100.0#	0#	-29.02#
51	TRH5	0.019	0.000	100.0#	0#	-34.11#
52	TRH6	0.019	0.000	100.0#	0#	-45.82#
53	GRO	0.019	0.000	100.0#	0#	-5.39#
54	DRO	0.019	0.000	100.0#	0#	-14.62#
55	RRO	0.019	0.000	100.0#	0#	-33.73#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

FID1C08FRONT081213.M Wed Aug 21 14:37:52 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3082\FID10080\
Data File : FID10080B.D
Signal(s) : FID1A.CH
Acq On : 19-Aug-2013, 20:34:22
Operator : Mark C. Garner
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 21 14:37:48 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	12.997	281387	50.000	ug/mlm
16) I	5a-androstane	18.291	347949	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.702	145274	24.997	ug/mlm
23) S	n-eicosane-d42	17.678	136131	25.461	ug/mlm
34) S	n-triacontane-d62	29.595	131016	25.174	ug/mlm
Target Compounds					
2)	n-C8	3.561	139668	26.252	ug/mlm
3)	n-C9	4.880	147136	25.877	ug/mlm
4)	n-C10	6.293	155803	25.464	ug/mlm
5)	n-C11	7.648	156913	25.234	ug/mlm
7)	n-C12	8.909	161344	24.793	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	10.081	163895	25.232	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	11.177	167843	25.164	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	12.208	169393	25.160	ug/mlm
15)	n-C16	13.251	169775	25.136	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.363	172467	25.047	ug/mlm
19)	Pristane	14.481	172317	25.151	ug/mlm
20)	n-C18	15.548	171793	25.458	ug/mlm
21)	Phytane	15.713	174235	25.353	ug/mlm
22)	n-C19	16.793	170637	25.440	ug/mlm
24)	n-C20	18.079	171786	25.575	ug/mlm
25)	n-C21	19.384	171113	25.327	ug/mlm
26)	n-C22	20.688	172553	25.539	ug/mlm
27)	n-C23	21.978	171275	25.329	ug/mlm
28)	n-C24	23.243	170510	25.237	ug/mlm
29)	n-C25	24.479	171570	25.365	ug/mlm
30)	n-C26	25.679	172428	25.507	ug/mlm
31)	n-C27	26.843	167662	25.397	ug/mlm
32)	n-C28	27.975	170226	25.434	ug/mlm
33)	n-C29	29.070	171222	25.474	ug/mlm
35)	n-C30	30.130	169180	25.397	ug/mlm
36)	n-C31	31.160	168329	25.644	ug/mlm
37)	n-C32	32.159	164290	25.240	ug/mlm
38)	n-C33	33.126	163799	25.746	ug/mlm
39)	n-C34	34.076	164825	25.624	ug/mlm
40)	n-C35	35.103	160177	25.494	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3082\FID10080\
Data File : FID10080B.D
Signal(s) : FID1A.CH
Acq On : 19-Aug-2013, 20:34:22
Operator : Mark C. Garner
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 21 14:37:48 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.280	167570	24.726	ug/mlm
42)	n-C37	37.633	152714	24.689	ug/mlm
43)	n-C38	39.225	150539	24.723	ug/mlm
44)	n-C39	41.072	141760	24.309	ug/mlm
45)	n-C40	43.271	130790	23.934	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

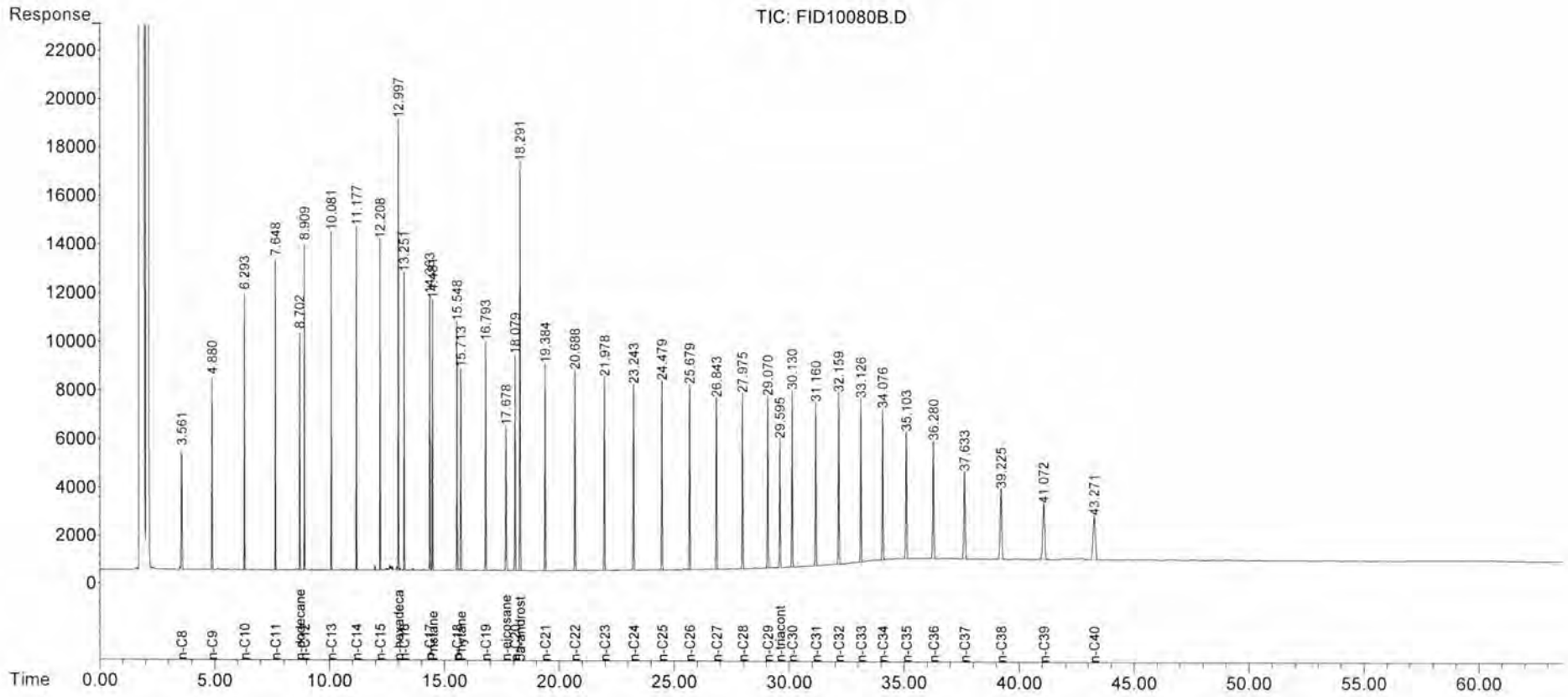
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3082\FID10080\
Data File : FID10080B.D
Signal(s) : FID1A.CH
Acq On : 19-Aug-2013, 20:34:22
Operator : Mark C. Garner
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 21 14:37:48 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3082\FID10080\
Data File : FID10080G.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 08:21:01
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 21 14:47:18 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	n-hexadecane-d34	1.000	1.000	0.0	83	0.00
2		n-C8	0.945	1.005	-6.3	86	0.00
3		n-C9	1.010	1.047	-3.7	84	0.00
4		n-C10	1.087	1.105	-1.7	83	0.00
5		n-C11	1.105	1.114	-0.8	82	0.00
6	S	n-dodecane-d26	1.033	1.032	0.1	82	0.00
7		n-C12	1.156	1.166	-0.9	82	0.00
10		n-C13	1.154	1.163	-0.8	82	0.00
12		n-C14	1.185	1.201	-1.4	82	0.00
14		n-C15	1.196	1.211	-1.3	82	0.00
15		n-C16	1.200	1.221	-1.8	83	0.00
16	I	5a-androstane	1.000	1.000	0.0	83	-0.01
18		n-C17	0.991	1.004	-1.3	83	0.00
19		Pristane	0.986	0.999	-1.3	83	0.00
20		n-C18	0.971	0.987	-1.6	83	0.00
21		Phytane	0.989	1.006	-1.7	83	0.00
22		n-C19	0.965	0.985	-2.1	83	0.00
23	S	n-eicosane-d42	0.769	0.780	-1.4	83	-0.02
24		n-C20	0.967	0.986	-2.0	83	0.00
25		n-C21	0.972	0.994	-2.3	83	0.00
26		n-C22	0.972	0.994	-2.3	83	-0.01
27		n-C23	0.973	0.996	-2.4	83	-0.01
28		n-C24	0.972	0.994	-2.3	83	0.00
29		n-C25	0.973	0.993	-2.1	83	-0.01
30		n-C26	0.973	0.993	-2.1	83	-0.01
31		n-C27	0.950	0.966	-1.7	83	-0.01
32		n-C28	0.963	0.981	-1.9	83	-0.01
33		n-C29	0.967	0.987	-2.1	83	-0.01
34	S	n-triacontane-d62	0.749	0.756	-0.9	83	-0.01
35		n-C30	0.959	0.980	-2.2	83	-0.01
36		n-C31	0.945	0.969	-2.5	83	-0.01
37		n-C32	0.937	0.962	-2.7	83	0.00
38		n-C33	0.916	0.940	-2.6	83	-0.01
39		n-C34	0.926	0.951	-2.7	83	-0.01
40		n-C35	0.904	0.925	-2.3	82	-0.01
41		n-C36	0.975	0.990	-1.5	81	-0.02
42		n-C37	0.890	0.882	0.9	79	-0.02
43		n-C38	0.876	0.863	1.5	78	-0.03

44	n-C39	0.839	0.818	2.5	77	-0.02
45	n-C40	0.786	0.751	4.5	75	-0.02

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.019	0.000	100.0#	0#	-9.10#
9	i-14	0.019	0.000	100.0#	0#	-9.80#
11	i-15	0.019	0.000	100.0#	0#	-10.96#
13	i-16	0.020	0.000	100.0#	0#	-11.86#
17	i-18	0.019	0.000	100.0#	0#	-13.82#
46	TPH	0.019	0.000	100.0#	0#	-29.68#
47	TRH1	0.019	0.000	100.0#	0#	-7.92#
48	TRH2	0.019	0.000	100.0#	0#	-16.27#
49	TRH3	0.019	0.000	100.0#	0#	-23.89#
50	TRH4	0.019	0.000	100.0#	0#	-29.02#
51	TRH5	0.019	0.000	100.0#	0#	-34.11#
52	TRH6	0.019	0.000	100.0#	0#	-45.82#
53	GRO	0.019	0.000	100.0#	0#	-5.39#
54	DRO	0.019	0.000	100.0#	0#	-14.62#
55	RRO	0.019	0.000	100.0#	0#	-33.73#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

FID1C08FRONT081213.M Wed Aug 21 14:47:30 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3082\FID10080\
Data File : FID10080G.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 08:21:01
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 21 14:47:18 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	12.993	258825	50.000	ug/mlm
16) I	5a-androstane	18.283	320188	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.698	133564	24.985	ug/mlm
23) S	n-eicosane-d42	17.671	125494	25.506	ug/mlm
34) S	n-triacontane-d62	29.584	120974	25.260	ug/mlm
Target Compounds					
2)	n-C8	3.557	130117	26.589	ug/mlm
3)	n-C9	4.878	135458	25.900	ug/mlm
4)	n-C10	6.290	142937	25.398	ug/mlm
5)	n-C11	7.644	144313	25.230	ug/mlm
7)	n-C12	8.905	148345	24.783	ug/mlm
8)	i-13	0.000	0	N.D.	ug/ml
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	10.077	150709	25.224	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	11.173	154444	25.174	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	12.204	155903	25.175	ug/mlm
15)	n-C16	13.246	156397	25.174	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.359	158595	25.030	ug/mlm
19)	Pristane	14.476	158300	25.108	ug/mlm
20)	n-C18	15.542	157838	25.418	ug/mlm
21)	Phytane	15.706	160436	25.370	ug/mlm
22)	n-C19	16.786	157336	25.491	ug/mlm
24)	n-C20	18.073	157914	25.548	ug/mlm
25)	n-C21	19.376	157475	25.330	ug/mlm
26)	n-C22	20.680	159022	25.577	ug/mlm
27)	n-C23	21.968	157568	25.323	ug/mlm
28)	n-C24	23.236	157031	25.257	ug/mlm
29)	n-C25	24.469	158185	25.414	ug/mlm
30)	n-C26	25.670	158937	25.550	ug/mlm
31)	n-C27	26.834	154416	25.418	ug/mlm
32)	n-C28	27.964	156859	25.468	ug/mlm
33)	n-C29	29.059	158028	25.549	ug/mlm
35)	n-C30	30.120	156114	25.468	ug/mlm
36)	n-C31	31.149	154961	25.655	ug/mlm
37)	n-C32	32.149	151824	25.347	ug/mlm
38)	n-C33	33.115	150242	25.662	ug/mlm
39)	n-C34	34.061	151747	25.636	ug/mlm
40)	n-C35	35.090	147897	25.581	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3082\FID10080\
Data File : FID10080G.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 08:21:01
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 21 14:47:18 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.263	155135	24.876	ug/mlm
42)	n-C37	37.616	141166	24.801	ug/mlm
43)	n-C38	39.197	138242	24.672	ug/mlm
44)	n-C39	41.047	130855	24.384	ug/mlm
45)	n-C40	43.247	119769	23.818	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

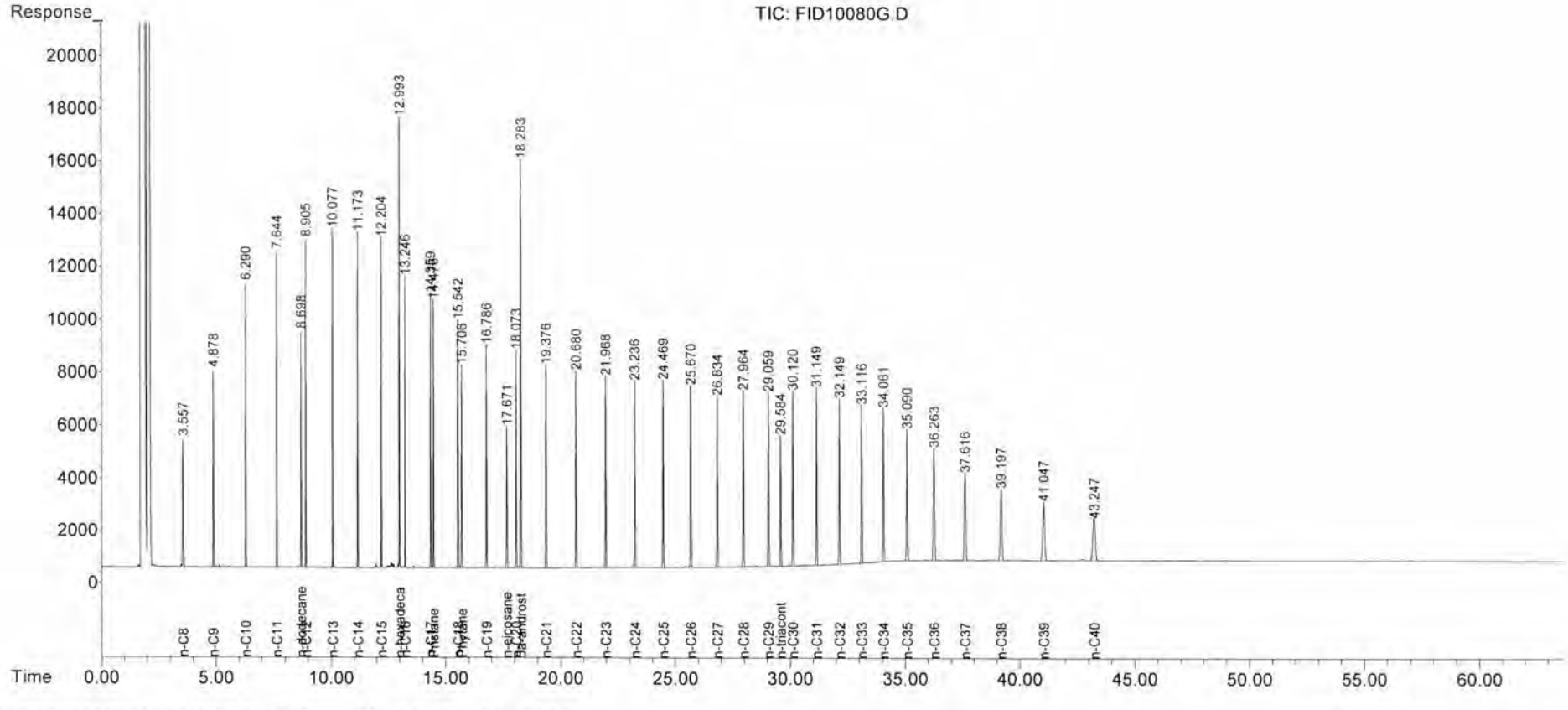
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3082\FID10080\
Data File : FID10080G.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 08:21:01
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 21 14:47:18 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3082\FID10080\
Data File : FID10080H.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 15:24:47
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 17 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 21 14:55:03 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	n-hexadecane-d34	1.000	1.000	0.0	97	0.00
2		n-C8	0.945	1.023	-8.3	103	0.00
3		n-C9	1.010	1.136	-12.5	107	0.00
4		n-C10	1.087	1.177	-8.3	104	0.00
5		n-C11	1.105	1.155	-4.5	100	0.00
6	S	n-dodecane-d26	1.033	1.058	-2.4	98	0.00
7		n-C12	1.156	1.192	-3.1	98	0.00
10		n-C13	1.154	1.178	-2.1	97	0.00
12		n-C14	1.185	1.207	-1.9	97	0.00
14		n-C15	1.196	1.211	-1.3	97	0.00
15		n-C16	1.200	1.216	-1.3	97	0.00
16	I	5a-androstane	1.000	1.000	0.0	97	0.00
18		n-C17	0.991	1.004	-1.3	97	0.00
19		Pristane	0.986	0.999	-1.3	97	0.00
20		n-C18	0.971	0.987	-1.6	97	0.00
21		Phytane	0.989	1.004	-1.5	97	0.00
22		n-C19	0.965	0.983	-1.9	97	0.00
23	S	n-eicosane-d42	0.769	0.778	-1.2	97	-0.01
24		n-C20	0.967	0.986	-2.0	98	0.00
25		n-C21	0.972	0.996	-2.5	98	0.00
26		n-C22	0.972	0.996	-2.5	98	0.00
27		n-C23	0.973	1.001	-2.9	98	0.00
28		n-C24	0.972	1.000	-2.9	98	0.00
29		n-C25	0.973	0.999	-2.7	98	0.00
30		n-C26	0.973	1.001	-2.9	98	0.00
31		n-C27	0.950	0.975	-2.6	98	0.00
32		n-C28	0.963	0.988	-2.6	98	0.00
33		n-C29	0.967	0.997	-3.1	98	0.00
34	S	n-triacontane-d62	0.749	0.762	-1.7	98	0.00
35		n-C30	0.959	0.985	-2.7	98	0.00
36		n-C31	0.945	0.973	-3.0	98	0.00
37		n-C32	0.937	0.973	-3.8	99	0.00
38		n-C33	0.916	0.938	-2.4	97	0.00
39		n-C34	0.926	0.960	-3.7	98	0.00
40		n-C35	0.904	0.939	-3.9	98	0.00
41		n-C36	0.975	1.002	-2.8	96	0.00
42		n-C37	0.890	0.901	-1.2	95	0.00
43		n-C38	0.876	0.876	0.0	93	0.00

44	n-C39	0.839	0.840	-0.1	93	0.00
45	n-C40	0.786	0.757	3.7	89	0.00

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.019	0.000	100.0#	0#	-9.10#
9	i-14	0.019	0.000	100.0#	0#	-9.80#
11	i-15	0.019	0.000	100.0#	0#	-10.96#
13	i-16	0.020	0.000	100.0#	0#	-11.86#
17	i-18	0.019	0.000	100.0#	0#	-13.82#
46	TPH	0.019	0.000	100.0#	0#	-29.68#
47	TRH1	0.019	0.000	100.0#	0#	-7.92#
48	TRH2	0.019	0.000	100.0#	0#	-16.27#
49	TRH3	0.019	0.000	100.0#	0#	-23.89#
50	TRH4	0.019	0.000	100.0#	0#	-29.02#
51	TRH5	0.019	0.000	100.0#	0#	-34.11#
52	TRH6	0.019	0.000	100.0#	0#	-45.82#
53	GRO	0.019	0.000	100.0#	0#	-5.39#
54	DRO	0.019	0.000	100.0#	0#	-14.62#
55	RRO	0.019	0.000	100.0#	0#	-33.73#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

FID1C08FRONT081213.M Wed Aug 21 14:55:18 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3082\FID10080\
Data File : FID10080H.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 15:24:47
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 17 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 21 14:55:03 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	12.996	304508	50.000	ug/mlm
16) I	5a-androstane	18.290	376143	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.701	161109	25.617	ug/mlm
23) S	n-eicosane-d42	17.675	147090	25.448	ug/mlm
34) S	n-triacontane-d62	29.593	143284	25.468	ug/mlm
Target Compounds					
2)	n-C8	3.563	155915	27.080	ug/mlm
3)	n-C9	4.882	172973	28.111	ug/mlm
4)	n-C10	6.293	179217	27.067	ug/mlm
5)	n-C11	7.647	176039	26.160	ug/mlm
7)	n-C12	8.908	178431	25.337	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	10.080	179697	25.564	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	11.175	182652	25.306	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	12.207	183434	25.177	ug/mlm
15)	n-C16	13.250	183233	25.069	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.362	186260	25.023	ug/mlm
19)	Pristane	14.480	185950	25.107	ug/mlm
20)	n-C18	15.546	185447	25.421	ug/mlm
21)	Phytane	15.710	188116	25.322	ug/mlm
22)	n-C19	16.792	184420	25.434	ug/mlm
24)	n-C20	18.079	185455	25.541	ug/mlm
25)	n-C21	19.384	185416	25.387	ug/mlm
26)	n-C22	20.689	187183	25.628	ug/mlm
27)	n-C23	21.975	186162	25.468	ug/mlm
28)	n-C24	23.242	185548	25.405	ug/mlm
29)	n-C25	24.478	186945	25.567	ug/mlm
30)	n-C26	25.679	188281	25.765	ug/mlm
31)	n-C27	26.843	183089	25.655	ug/mlm
32)	n-C28	27.975	185544	25.645	ug/mlm
33)	n-C29	29.068	187371	25.787	ug/mlm
35)	n-C30	30.132	184274	25.590	ug/mlm
36)	n-C31	31.158	182850	25.769	ug/mlm
37)	n-C32	32.155	180416	25.640	ug/mlm
38)	n-C33	33.126	176190	25.617	ug/mlm
39)	n-C34	34.073	179848	25.864	ug/mlm
40)	n-C35	35.104	176473	25.983	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3082\FID10080\
Data File : FID10080H.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 15:24:47
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 17 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 21 14:55:03 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.279	184482	25.181	ug/mlm
42)	n-C37	37.633	169300	25.319	ug/mlm
43)	n-C38	39.217	164838	25.042	ug/mlm
44)	n-C39	41.075	157810	25.033	ug/mlm
45)	n-C40	43.269	141799	24.004	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

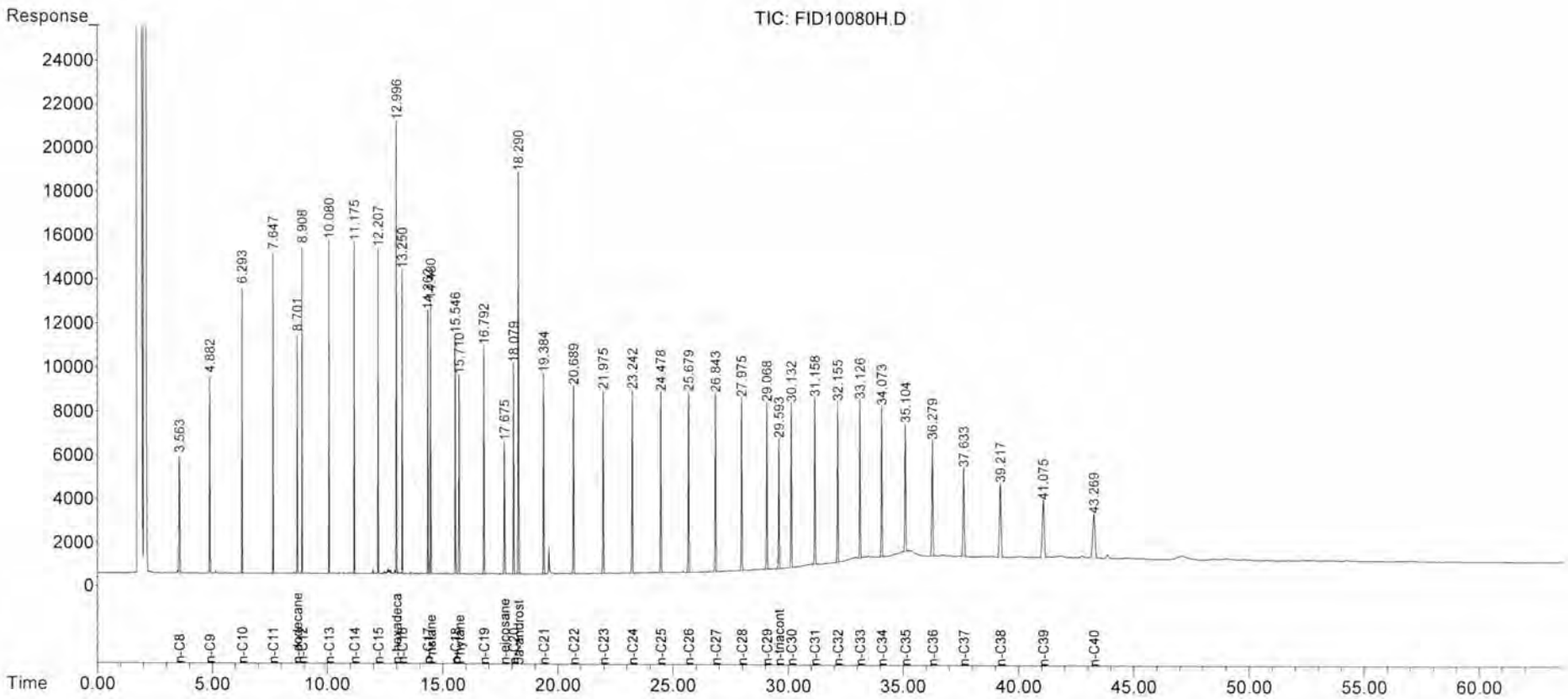
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3082\FID10080\
Data File : FID10080H.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 15:24:47
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 17 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 21 14:55:03 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	FID10080C.D		FID10080C.D
Sample Name	AL-SRM2779-20-01		AL-SRM2779-20-01
Misc Info	0		19-Aug-2013, 21:44:56
Data File Path	C:\msdchem\2\data\FID10080\		ALI2012.M
Operator	Meghan Dailey		
Date Acquired	19-Aug-2013, 21:44:56		0.05
Instrument Name	HP5890		
Acq. Method File	ALI2012.M	Vial #	3
Vial Number	3	IS Area 1	300820
Sample Multiplier	0.05	IS Area 2	400308

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.57	1769210	15.55	15.553
3)	n-C9	4.89	1527580	12.57	12.565
4)	n-C10	6.30	1435200	10.97	10.971
5)	n-C11	7.66	1353470	10.18	10.180
7)	n-C12	8.92	1212560	8.71	8.715
8)	i-13	9.10	279257	2.01	2.011
9)	i-14	9.80	179113	1.26	1.256
10)	n-C13	10.10	1059490	7.63	7.629
11)	i-15	10.96	255757	1.78	1.777
12)	n-C14	11.19	1002790	7.03	7.032
13)	i-16	11.86	391298	2.71	2.710
14)	n-C15	12.22	982874	6.83	6.828
15)	n-C16	13.27	799329	5.53	5.535
17)	i-18	13.83	229515	1.48	1.478
18)	n-C17	14.38	712500	4.50	4.497
19)	Pristane	14.49	372428	2.36	2.362
20)	n-C18	15.56	561140	3.61	3.614
21)	Phytane	15.72	228272	1.44	1.444
22)	n-C19	16.81	517099	3.35	3.350
24)	n-C20	18.09	432715	2.80	2.800
25)	n-C21	19.40	355947	2.29	2.290
26)	n-C22	20.70	326069	2.10	2.097
27)	n-C23	21.99	287490	1.85	1.848
28)	n-C24	23.26	255637	1.64	1.644
29)	n-C25	24.49	202086	1.30	1.298
30)	n-C26	25.69	175278	1.13	1.127
31)	n-C27	26.85	147199	0.97	0.969
32)	n-C28	27.98	116759	0.76	0.758
33)	n-C29	29.07	114044	0.74	0.737
35)	n-C30	30.14	100318	0.65	0.655
36)	n-C31	31.16	84559.6	0.56	0.560
37)	n-C32	32.16	65060.3	0.43	0.434
38)	n-C33	33.13	70636.5	0.48	0.483
39)	n-C34	34.08	60849.8	0.41	0.411
40)	n-C35	35.11	48769.3	0.34	0.337
41)	n-C36	36.28	31118.1	0.20	0.200
42)	n-C37	37.64	28476.6	0.20	0.200
43)	n-C38	39.22	23045.9	0.16	0.164
44)	n-C39	41.08	22527.5	0.17	0.168
45)	n-C40	43.26	21907.3	0.17	0.174
46)	TPH	7.66	101371000	679.94	679.940
47)	TRH1	7.66	17310800	116.11	116.111
48)	TRH2	12.22	11799200	79.14	79.142
49)	TRH3	21.99	1900600	12.74	12.742
50)	TRH4	26.85	1363600	9.15	9.146
51)	TRH5	33.13	855996	5.74	5.742
52)	TRH6	37.64	204822	1.37	1.374
53)	GRO	0.00	0	0.00	0.000
54)	DRO	0.00	0	0.00	0.000
55)	RRO	0.00	0	0.00	0.000
6)	n-dodecane-d26	8.70	122217	0.98	98.4
23)	n-eicosane-d42	17.68	122920	1.00	99.3
34)	n-triacontane-d62	29.60	114063	0.95	95.2
1)	n-hexadecane-d34	13.00	300820	2.50	300820.000
16)	5a-androstane	18.30	400308	2.50	400308.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : FID10080C.D
Signal(s) : FID1A.CH
Acq On : 19-Aug-2013, 21:44:56
Operator : Meghan Dailey
Sample : AL-SRM2779-20-01
Misc :
ALS Vial : 3 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Aug 21 15:38:44 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
Internal Standards				
1) I	n-hexadecane-d34	13.002	300820	50.000 ug/mlm
16) I	5a-androstane	18.304	400308	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.704	122217	0.984 ug/mlm
23) S	n-eicosane-d42	17.682	122920	0.999 ug/mlm
34) S	n-triacontane-d62	29.601	114063	0.953 ug/mlm
Target Compounds				
2)	n-C8	3.566	1769208	15.553 ug/mlm
3)	n-C9	4.891	1527576	12.565 ug/mlm
4)	n-C10	6.305	1435196	10.971 ug/mlm
5)	n-C11	7.660	1353469	10.180 ug/mlm
7)	n-C12	8.922	1212557	8.715 ug/mlm
8)	i-13	9.103	279257	2.011 ug/mlm
9)	i-14	9.804	179113	1.256 ug/mlm
10)	n-C13	10.095	1059491	7.629 ug/mlm
11)	i-15	10.963	255757	1.777 ug/mlm
12)	n-C14	11.191	1002786	7.032 ug/mlm
13)	i-16	11.856	391298	2.710 ug/mlm
14)	n-C15	12.222	982874	6.828 ug/mlm
15)	n-C16	13.266	799329	5.535 ug/mlm
17)	i-18	13.827	229515	1.478 ug/mlm
18)	n-C17	14.378	712500	4.497 ug/mlm
19)	Pristane	14.486	372428	2.362 ug/mlm
20)	n-C18	15.562	561140	3.614 ug/mlm
21)	Phytane	15.720	228272	1.444 ug/mlm
22)	n-C19	16.809	517099	3.350 ug/mlm
24)	n-C20	18.095	432715	2.800 ug/mlm
25)	n-C21	19.398	355947	2.290 ug/mlm
26)	n-C22	20.701	326069	2.097 ug/mlm
27)	n-C23	21.990	287490	1.848 ug/mlm
28)	n-C24	23.255	255637	1.644 ug/mlm
29)	n-C25	24.489	202086	1.298 ug/mlm
30)	n-C26	25.688	175278	1.127 ug/mlm
31)	n-C27	26.851	147199	0.969 ug/mlm
32)	n-C28	27.978	116759	0.758 ug/mlm
33)	n-C29	29.075	114044	0.737 ug/mlm
35)	n-C30	30.135	100318	0.655 ug/mlm
36)	n-C31	31.164	84560	0.560 ug/mlm
37)	n-C32	32.159	65060	0.434 ug/mlm
38)	n-C33	33.129	70637	0.483 ug/mlm
39)	n-C34	34.078	60850	0.411 ug/mlm
40)	n-C35	35.110	48769	0.337 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : FID10080C.D
Signal(s) : FID1A.CH
Acq On : 19-Aug-2013, 21:44:56
Operator : Meghan Dailey
Sample : AL-SRM2779-20-01
Misc :
ALS Vial : 3 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Aug 21 15:38:44 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.280	31118	0.200	ug/mlm
42)	n-C37	37.636	28477	0.200	ug/mlm
43)	n-C38	39.222	23046	0.164	ug/mlm
44)	n-C39	41.083	22527	0.168	ug/mlm
45)	n-C40	43.264	21907	0.174	ug/mlm
46)	TPH	7.660f	101371342	679.938	ug/mlm
47)	TRH1	7.660	17310811	116.111	ug/mlm
48)	TRH2	12.222f	11799161	79.142	ug/mlm
49)	TRH3	21.990f	1900598	12.742	ug/mlm
50)	TRH4	26.851f	1363600	9.146	ug/mlm
51)	TRH5	33.129	855996	5.742	ug/mlm
52)	TRH6	37.636f	204822	1.374	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

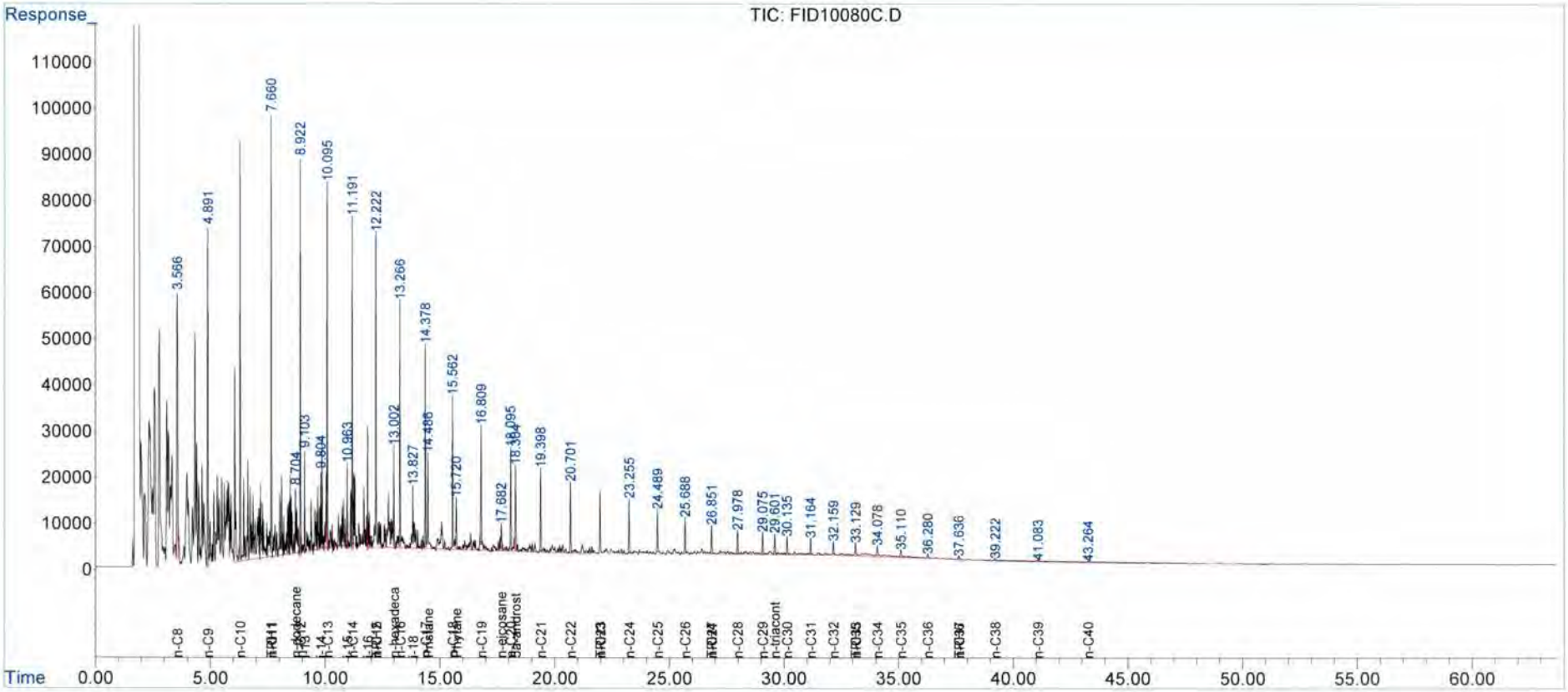
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : FID10080C.D
Signal(s) : FID1A.CH
Acq On : 19-Aug-2013, 21:44:56
Operator : Meghan Dailey
Sample : AL-SRM2779-20-01
Misc :
ALS Vial : 3 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Aug 21 15:38:44 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	FID10080F.D		FID10080F.D
Sample Name	AL-WKPem-001		AL-WKPem-001
Misc Info	0		20-Aug-2013, 01:17:13
Data File Path	C:\msdchem\2\data\FID10080\		ALI2012.M
Operator	Mark C. Garner		
Date Acquired	20-Aug-2013, 01:17:13		1
Instrument Name	HP5890		
Acq. Method File	ALI2012.M	Vial #	5
Vial Number	5	IS Area 1	276006
Sample Multiplier	1	IS Area 2	343242

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	0.00	0	0.00	0.000
3)	n-C9	0.00	0	0.00	0.000
4)	n-C10	0.00	0	0.00	0.000
5)	n-C11	0.00	0	0.00	0.000
7)	n-C12	0.00	0	0.00	0.000
8)	i-13	0.00	0	0.00	0.000
9)	i-14	0.00	0	0.00	0.000
10)	n-C13	0.00	0	0.00	0.000
11)	i-15	0.00	0	0.00	0.000
12)	n-C14	0.00	0	0.00	0.000
13)	i-16	0.00	0	0.00	0.000
14)	n-C15	0.00	0	0.00	0.000
15)	n-C16	0.00	0	0.00	0.000
17)	i-18	0.00	0	0.00	0.000
18)	n-C17	0.00	0	0.00	0.000
19)	Pristane	0.00	0	0.00	0.000
20)	n-C18	0.00	0	0.00	0.000
21)	Phytane	0.00	0	0.00	0.000
22)	n-C19	0.00	0	0.00	0.000
24)	n-C20	0.00	0	0.00	0.000
25)	n-C21	0.00	0	0.00	0.000
26)	n-C22	0.00	0	0.00	0.000
27)	n-C23	0.00	0	0.00	0.000
28)	n-C24	0.00	0	0.00	0.000
29)	n-C25	0.00	0	0.00	0.000
30)	n-C26	0.00	0	0.00	0.000
31)	n-C27	0.00	0	0.00	0.000
32)	n-C28	0.00	0	0.00	0.000
33)	n-C29	0.00	0	0.00	0.000
35)	n-C30	0.00	0	0.00	0.000
36)	n-C31	0.00	0	0.00	0.000
37)	n-C32	0.00	0	0.00	0.000
38)	n-C33	0.00	0	0.00	0.000
39)	n-C34	0.00	0	0.00	0.000
40)	n-C35	0.00	0	0.00	0.000
41)	n-C36	0.00	0	0.00	0.000
42)	n-C37	0.00	0	0.00	0.000
43)	n-C38	0.00	0	0.00	0.000
44)	n-C39	0.00	0	0.00	0.000
45)	n-C40	0.00	0	0.00	0.000
46)	TPH	13.00	8091510	1265.92	1265.920
47)	TRH1	8.70	128999	20.18	20.182
48)	TRH2	13.00	765874	119.82	119.822
49)	TRH3	28.53	23462	3.67	3.669
50)	TRH4	29.59	169726	26.55	26.554
51)	TRH5	36.27	11996.2	1.88	1.877
52)	TRH6	40.09	63402.1	9.92	9.919
53)	GRO	0.00	0	0.00	0.000
54)	DRO	0.00	0	0.00	0.000
55)	RRO	0.00	0	0.00	0.000
6)	n-dodecane-d26	8.70	113285	19.87	99.4
23)	n-eicosane-d42	17.67	105164	19.94	99.0
34)	n-triacontane-d62	29.59	101860	19.84	99.1
1)	n-hexadecane-d34	13.00	276006	50.00	276006.000
16)	5a-androstane	18.29	343242	50.07	343242.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : FID10080F.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 01:17:13
Operator : Mark C. Garner
Sample : AL-WKPem-001
Misc :
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 21 15:56:34 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	12.996	276006	50.000	ug/mlm
16) I	5a-androstane	18.287	343242	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.700	113285	19.873	ug/mlm
23) S	n-eicosane-d42	17.674	105164	19.939	ug/mlm
34) S	n-triacontane-d62	29.588	101860	19.840	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/ml
3)	n-C9	0.000	0	N.D.	ug/mld
4)	n-C10	0.000	0	N.D.	ug/mld
5)	n-C11	0.000	0	N.D.	ug/mld
7)	n-C12	0.000	0	N.D.	ug/mld
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	0.000	0	N.D.	ug/mld
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	0.000	0	N.D.	ug/mld
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	0.000	0	N.D.	ug/mld
15)	n-C16	0.000	0	N.D.	ug/mld
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	0.000	0	N.D.	ug/mld
19)	Pristane	0.000	0	N.D.	ug/mld
20)	n-C18	0.000	0	N.D.	ug/mld
21)	Phytane	0.000	0	N.D.	ug/mld
22)	n-C19	0.000	0	N.D.	ug/mld
24)	n-C20	0.000	0	N.D.	ug/mld
25)	n-C21	0.000	0	N.D.	ug/mld
26)	n-C22	0.000	0	N.D.	ug/mld
27)	n-C23	0.000	0	N.D.	ug/mld
28)	n-C24	0.000	0	N.D.	ug/mld
29)	n-C25	0.000	0	N.D.	ug/mld
30)	n-C26	0.000	0	N.D.	ug/mld
31)	n-C27	0.000	0	N.D.	ug/mld
32)	n-C28	0.000	0	N.D.	ug/mld
33)	n-C29	0.000	0	N.D.	ug/mld
35)	n-C30	0.000	0	N.D.	ug/mld
36)	n-C31	0.000	0	N.D.	ug/mld
37)	n-C32	0.000	0	N.D.	ug/mld
38)	n-C33	0.000	0	N.D.	ug/mld
39)	n-C34	0.000	0	N.D.	ug/mld
40)	n-C35	0.000	0	N.D.	ug/mld

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : FID10080F.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 01:17:13
Operator : Mark C. Garner
Sample : AL-WKPem-001
Misc :
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 21 15:56:34 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	0.000	0	N.D.	ug/mld
42)	n-C37	0.000	0	N.D.	ug/mld
43)	n-C38	0.000	0	N.D.	ug/mld
44)	n-C39	0.000	0	N.D.	ug/mld
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	12.996f	8091512	1265.925	ug/mlm
47)	TRH1	8.700	128999	20.182	ug/mlm
48)	TRH2	12.996f	765874	119.822	ug/mlm
49)	TRH3	28.526f	23462	3.669	ug/mlm
50)	TRH4	29.588	169726	26.554	ug/mlm
51)	TRH5	36.268f	11996	1.877	ug/mlm
52)	TRH6	40.087f	63402	9.919	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

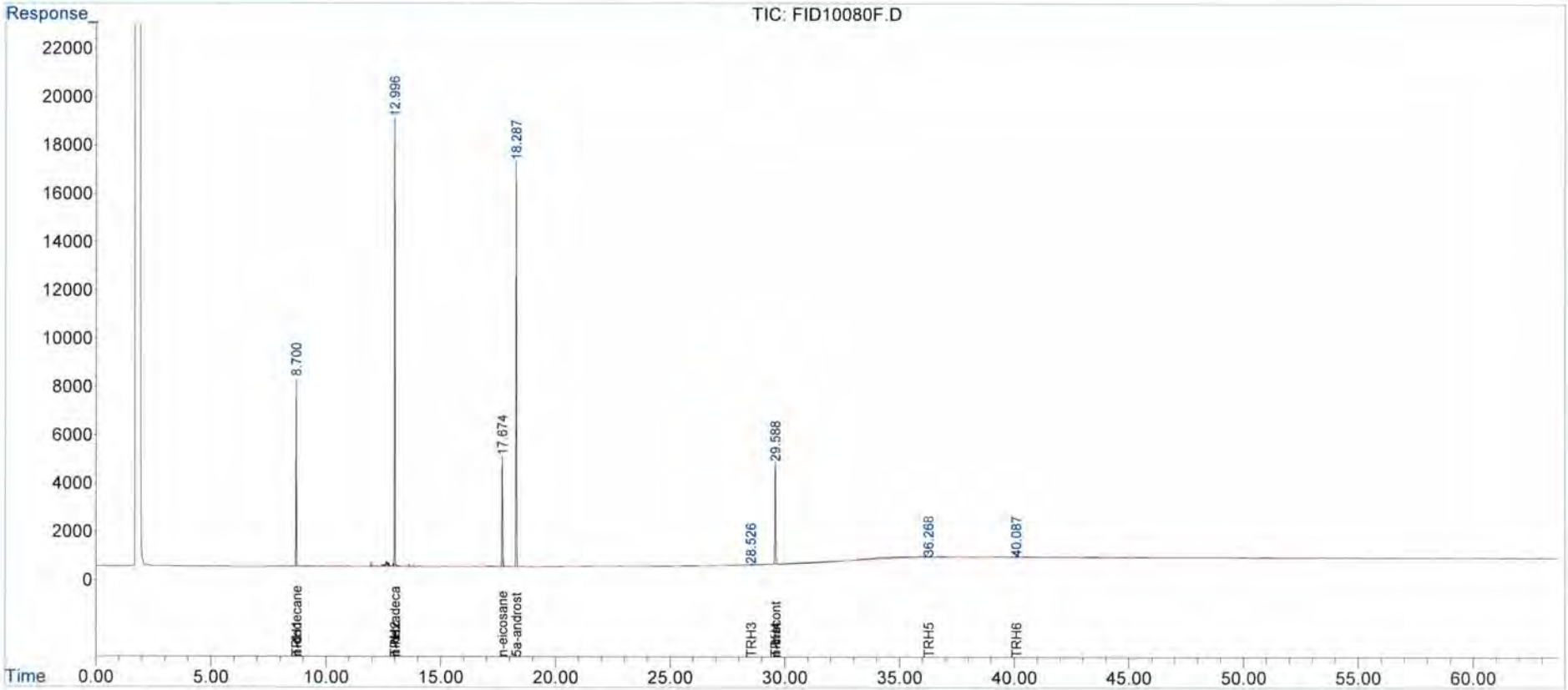
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : FID10080F.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 01:17:13
Operator : Mark C. Garner
Sample : AL-WKPem-001
Misc :
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 21 15:56:34 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	ENV3082A.D		ENV3082A.D
Sample Name	Procedural Blank		Procedural Blank
Misc Info	0		20-Aug-2013, 02:27:52
Data File Path	C:\msdchem\2\data\FID10080\		ALI2012.M
Operator	Meghan Dailey		
Date Acquired	20-Aug-2013, 02:27:52		0.0666667
Instrument Name	HP5890		
Acq. Method File	ALI2012.M	Vial #	6
Vial Number	6	IS Area 1	258352
Sample Multiplier	0.0666667	IS Area 2	321564

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	0.00	0	0.00	0.000
3)	n-C9	0.00	0	0.00	0.000
4)	n-C10	0.00	0	0.00	0.000
5)	n-C11	0.00	0	0.00	0.000
7)	n-C12	0.00	0	0.00	0.000
8)	i-13	0.00	0	0.00	0.000
9)	i-14	0.00	0	0.00	0.000
10)	n-C13	0.00	0	0.00	0.000
11)	i-15	0.00	0	0.00	0.000
12)	n-C14	0.00	0	0.00	0.000
13)	i-16	0.00	0	0.00	0.000
14)	n-C15	0.00	0	0.00	0.000
15)	n-C16	0.00	0	0.00	0.000
17)	i-18	0.00	0	0.00	0.000
18)	n-C17	0.00	0	0.00	0.000
19)	Pristane	0.00	0	0.00	0.000
20)	n-C18	0.00	0	0.00	0.000
21)	Phytane	0.00	0	0.00	0.000
22)	n-C19	0.00	0	0.00	0.000
24)	n-C20	0.00	0	0.00	0.000
25)	n-C21	0.00	0	0.00	0.000
26)	n-C22	0.00	0	0.00	0.000
27)	n-C23	0.00	0	0.00	0.000
28)	n-C24	0.00	0	0.00	0.000
29)	n-C25	0.00	0	0.00	0.000
30)	n-C26	0.00	0	0.00	0.000
31)	n-C27	0.00	0	0.00	0.000
32)	n-C28	0.00	0	0.00	0.000
33)	n-C29	0.00	0	0.00	0.000
35)	n-C30	0.00	0	0.00	0.000
36)	n-C31	0.00	0	0.00	0.000
37)	n-C32	0.00	0	0.00	0.000
38)	n-C33	0.00	0	0.00	0.000
39)	n-C34	0.00	0	0.00	0.000
40)	n-C35	0.00	0	0.00	0.000
41)	n-C36	0.00	0	0.00	0.000
42)	n-C37	0.00	0	0.00	0.000
43)	n-C38	0.00	0	0.00	0.000
44)	n-C39	0.00	0	0.00	0.000
45)	n-C40	0.00	0	0.00	0.000
46)	TPH	12.99	7158190	79.69	79.693
47)	TRH1	8.70	132335	1.47	1.473
48)	TRH2	12.99	739580	8.23	8.234
49)	TRH3	23.37	10086.5	0.11	0.112
50)	TRH4	29.59	116752	1.30	1.300
51)	TRH5	34.54	1761.63	0.02	0.020
52)	TRH6	39.99	48963.5	0.55	0.545
53)	GRO	0.00	0	0.00	0.000
54)	DRO	0.00	0	0.00	0.000
55)	RRO	0.00	0	0.00	0.000
6)	n-dodecane-d26	8.70	101782	1.27	95.4
23)	n-eicosane-d42	17.67	96544.2	1.30	97.1
34)	n-triacontane-d62	29.59	92741.2	1.29	96.3
1)	n-hexadecane-d34	12.99	258352	3.33	258352.000
16)	5a-androstane	18.28	321564	3.34	321564.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ENV3082A.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 02:27:52
Operator : Meghan Dailey
Sample : Procedural Blank
Misc :
ALS Vial : 6 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Aug 30 08:44:36 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Wed Aug 21 14:26:03 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	12.995	258352	50.000	ug/mlm
16) I	5a-androstane	18.285	321564	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.699	101782	1.272	ug/mlm
23) S	n-eicosane-d42	17.673	96544	1.303	ug/mlm
34) S	n-triacontane-d62	29.587	92741	1.285	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/mld
3)	n-C9	0.000	0	N.D.	ug/mld
4)	n-C10	0.000	0	N.D.	ug/mld
5)	n-C11	0.000	0	N.D.	ug/mld
7)	n-C12	0.000	0	N.D.	ug/mld
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	0.000	0	N.D.	ug/mld
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	0.000	0	N.D.	ug/mld
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	0.000	0	N.D.	ug/mld
15)	n-C16	0.000	0	N.D.	ug/mld
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	0.000	0	N.D.	ug/mld
19)	Pristane	0.000	0	N.D.	ug/mld
20)	n-C18	0.000	0	N.D.	ug/mld
21)	Phytane	0.000	0	N.D.	ug/mld
22)	n-C19	0.000	0	N.D.	ug/mld
24)	n-C20	0.000	0	N.D.	ug/mld
25)	n-C21	0.000	0	N.D.	ug/mld
26)	n-C22	0.000	0	N.D.	ug/mld
27)	n-C23	0.000	0	N.D.	ug/mld
28)	n-C24	0.000	0	N.D.	ug/mld
29)	n-C25	0.000	0	N.D.	ug/mld
30)	n-C26	0.000	0	N.D.	ug/mld
31)	n-C27	0.000	0	N.D.	ug/mld
32)	n-C28	0.000	0	N.D.	ug/mld
33)	n-C29	0.000	0	N.D.	ug/mld
35)	n-C30	0.000	0	N.D.	ug/mld
36)	n-C31	0.000	0	N.D.	ug/mld
37)	n-C32	0.000	0	N.D.	ug/mld
38)	n-C33	0.000	0	N.D.	ug/mld
39)	n-C34	0.000	0	N.D.	ug/mld
40)	n-C35	0.000	0	N.D.	ug/mld

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ENV3082A.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 02:27:52
Operator : Meghan Dailey
Sample : Procedural Blank
Misc :
ALS Vial : 6 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Aug 30 08:44:36 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Wed Aug 21 14:26:03 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	0.000	0	N.D.	ug/mld
42)	n-C37	0.000	0	N.D.	ug/mld
43)	n-C38	0.000	0	N.D.	ug/mld
44)	n-C39	0.000	0	N.D.	ug/mld
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	12.995f	7158185	79.694	ug/mlm
47)	TRH1	8.699	132335	1.473	ug/mlm
48)	TRH2	12.995f	739580	8.234	ug/mlm
49)	TRH3	23.372	10086	0.112	ug/mlm
50)	TRH4	29.587	116752	1.300	ug/mlm
51)	TRH5	34.539	1762	0.020	ug/mlm
52)	TRH6	39.986f	48964	0.545	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

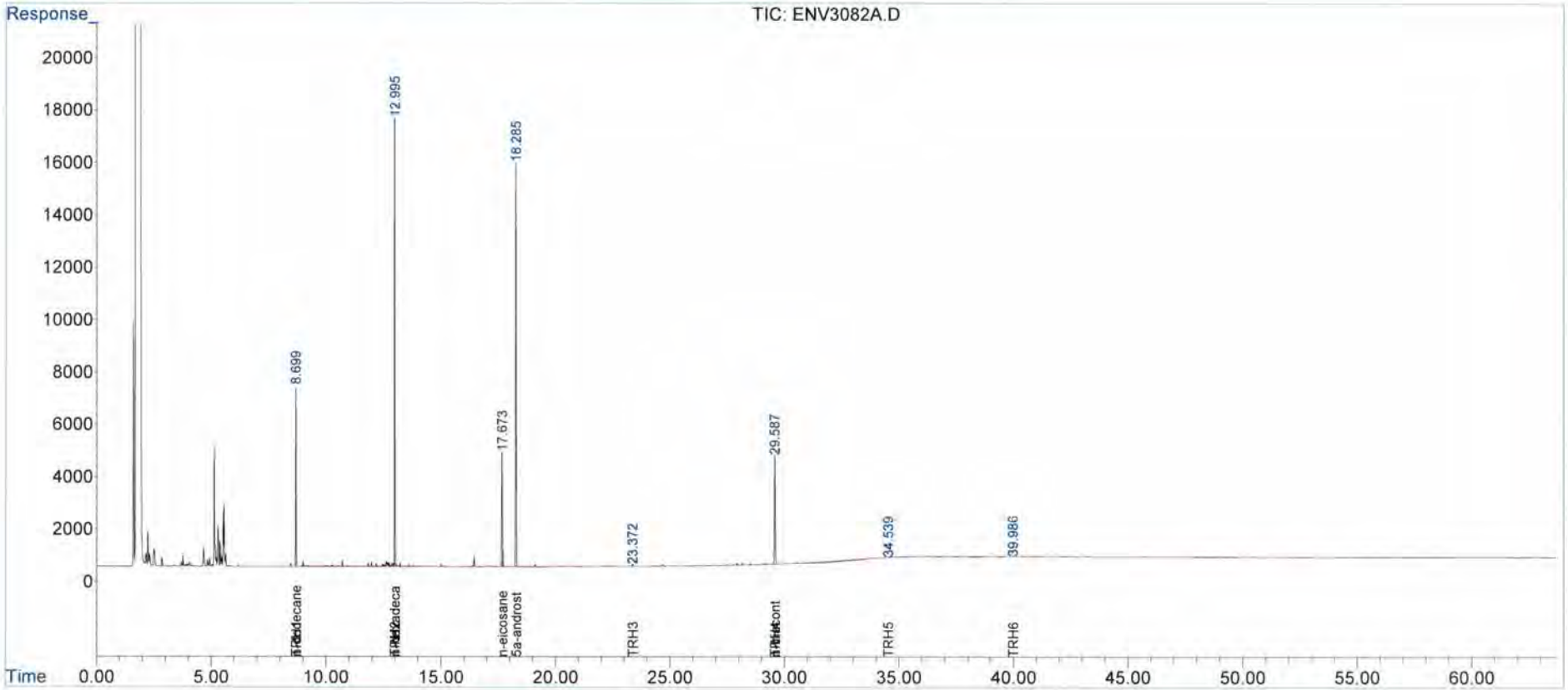
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ENV3082A.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 02:27:52
Operator : Meghan Dailey
Sample : Procedural Blank
Misc :
ALS Vial : 6 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Aug 30 08:44:36 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Wed Aug 21 14:26:03 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	ENV3082C.D		ENV3082C.D
Sample Name	MS (SED-DA-012 (0-0.5))		MS (SED-DA-012 (0-0.5))
Misc Info	0		20-Aug-2013, 03:38:27
Data File Path	C:\msdchem\2\data\FID10080\		ALI2012.M
Operator	Meghan Dailey		
Date Acquired	20-Aug-2013, 03:38:27		0.0664452
Instrument Name	HP5890		
Acq. Method File	ALI2012.M	Vial #	7
Vial Number	7	IS Area 1	267220
Sample Multiplier	0.0664452	IS Area 2	332295

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.56	21393.3	0.28	0.281
3)	n-C9	4.88	43241	0.53	0.532
4)	n-C10	6.29	52443.5	0.60	0.600
5)	n-C11	7.64	56304	0.63	0.634
7)	n-C12	8.91	59927.6	0.64	0.644
8)	i-13	0.00	0	0.00	0.000
9)	i-14	0.00	0	0.00	0.000
10)	n-C13	10.08	61069.9	0.66	0.658
11)	i-15	0.00	0	0.00	0.000
12)	n-C14	11.17	63671.6	0.67	0.668
13)	i-16	0.00	0	0.00	0.000
14)	n-C15	12.20	67054.1	0.70	0.697
15)	n-C16	13.25	66579.5	0.69	0.690
17)	i-18	0.00	0	0.00	0.000
18)	n-C17	14.36	68443	0.69	0.692
19)	Pristane	14.48	66831.3	0.68	0.679
20)	n-C18	15.54	67890.3	0.70	0.700
21)	Phytane	15.71	67535.7	0.68	0.684
22)	n-C19	16.79	67380.5	0.70	0.699
24)	n-C20	18.07	66970.5	0.69	0.694
25)	n-C21	19.38	67065	0.69	0.691
26)	n-C22	20.68	68082.3	0.70	0.701
27)	n-C23	21.97	67257.8	0.69	0.692
28)	n-C24	23.23	66966.2	0.69	0.690
29)	n-C25	24.47	67717.9	0.70	0.697
30)	n-C26	25.67	68019.2	0.70	0.700
31)	n-C27	26.83	67070.2	0.71	0.707
32)	n-C28	27.96	68285	0.71	0.710
33)	n-C29	29.06	70382.6	0.73	0.729
35)	n-C30	30.12	66500.2	0.69	0.695
36)	n-C31	31.15	69676.7	0.74	0.739
37)	n-C32	32.15	64979.7	0.69	0.695
38)	n-C33	33.12	68172	0.75	0.746
39)	n-C34	34.06	65201.1	0.71	0.705
40)	n-C35	35.09	65508	0.73	0.725
41)	n-C36	36.26	68724.4	0.71	0.706
42)	n-C37	37.62	64569.7	0.73	0.726
43)	n-C38	39.20	63901.5	0.73	0.730
44)	n-C39	41.05	62062.1	0.74	0.740
45)	n-C40	43.24	58153.1	0.74	0.740
46)	TPH	0.00	0	0.00	0.000
47)	TRH1	0.00	0	0.00	0.000
48)	TRH2	0.00	0	0.00	0.000
49)	TRH3	0.00	0	0.00	0.000
50)	TRH4	0.00	0	0.00	0.000
51)	TRH5	0.00	0	0.00	0.000
52)	TRH6	0.00	0	0.00	0.000
53)	GRO	0.00	0	0.00	0.000
54)	DRO	0.00	0	0.00	0.000
55)	RRO	0.00	0	0.00	0.000
6)	n-dodecane-d26	8.70	104130	1.25	94.3
23)	n-eicosane-d42	17.67	98455.5	1.28	95.8
34)	n-triacontane-d62	29.59	97595.7	1.30	98.1
1)	n-hexadecane-d34	12.99	267220	3.32	267220.000
16)	5a-androstane	18.29	332295	3.33	332295.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ENV3082C.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 03:38:27
Operator : Meghan Dailey
Sample : MS (SED-DA-012 (0-0.5))
Misc :
ALS Vial : 7 Sample Multiplier: 0.0664452

Integration File: autoint1.e
Quant Time: Aug 21 16:53:41 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
Internal Standards				
1) I	n-hexadecane-d34	12.995	267220	50.000 ug/mlm
16) I	5a-androstane	18.286	332295	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.699	104130	1.254 ug/mlm
23) S	n-eicosane-d42	17.673	98455	1.281 ug/mlm
34) S	n-triacontane-d62	29.587	97596	1.305 ug/mlm
Target Compounds				
2)	n-C8	3.557	21393	0.281 ug/mlm
3)	n-C9	4.880	43241	0.532 ug/mlm
4)	n-C10	6.291	52443	0.600 ug/mlm
5)	n-C11	7.644	56304	0.634 ug/mlm
7)	n-C12	8.906	59928	0.644 ug/mlm
8)	i-13	0.000	0	N.D. ug/mld
9)	i-14	0.000	0	N.D. ug/mld
10)	n-C13	10.077	61070	0.658 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	11.173	63672	0.668 ug/mlm
13)	i-16	0.000	0	N.D. ug/mld
14)	n-C15	12.204	67054	0.697 ug/mlm
15)	n-C16	13.247	66580	0.690 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	14.357	68443	0.692 ug/mlm
19)	Pristane	14.476	66831	0.679 ug/mlm
20)	n-C18	15.542	67890	0.700 ug/mlm
21)	Phytane	15.705	67536	0.684 ug/mlm
22)	n-C19	16.788	67380	0.699 ug/mlm
24)	n-C20	18.072	66970	0.694 ug/mlm
25)	n-C21	19.375	67065	0.691 ug/mlm
26)	n-C22	20.680	68082	0.701 ug/mlm
27)	n-C23	21.970	67258	0.692 ug/mlm
28)	n-C24	23.234	66966	0.690 ug/mlm
29)	n-C25	24.470	67718	0.697 ug/mlm
30)	n-C26	25.670	68019	0.700 ug/mlm
31)	n-C27	26.834	67070	0.707 ug/mlm
32)	n-C28	27.964	68285	0.710 ug/mlm
33)	n-C29	29.061	70383	0.729 ug/mlm
35)	n-C30	30.121	66500	0.695 ug/mlm
36)	n-C31	31.151	69677	0.739 ug/mlm
37)	n-C32	32.147	64980	0.695 ug/mlm
38)	n-C33	33.116	68172	0.746 ug/mlm
39)	n-C34	34.063	65201	0.705 ug/mlm
40)	n-C35	35.092	65508	0.725 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ENV3082C.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 03:38:27
Operator : Meghan Dailey
Sample : MS (SED-DA-012 (0-0.5))
Misc :
ALS Vial : 7 Sample Multiplier: 0.0664452

Integration File: autoint1.e
Quant Time: Aug 21 16:53:41 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
41)	n-C36	36.264	68724	0.706 ug/mlm
42)	n-C37	37.619	64570	0.726 ug/mlm
43)	n-C38	39.197	63901	0.730 ug/mlm
44)	n-C39	41.052	62062	0.740 ug/mlm
45)	n-C40	43.240	58153	0.740 ug/mlm
46)	TPH	0.000	0	N.D. ug/mld
47)	TRH1	0.000	0	N.D. ug/mld
48)	TRH2	0.000	0	N.D. ug/mld
49)	TRH3	0.000	0	N.D. ug/mld
50)	TRH4	0.000	0	N.D. ug/mld
51)	TRH5	0.000	0	N.D. ug/mld
52)	TRH6	0.000	0	N.D. ug/mld
53)	GRO	0.000	0	N.D. ug/mld
54)	DRO	0.000	0	N.D. ug/mld
55)	RRO	0.000	0	N.D. ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

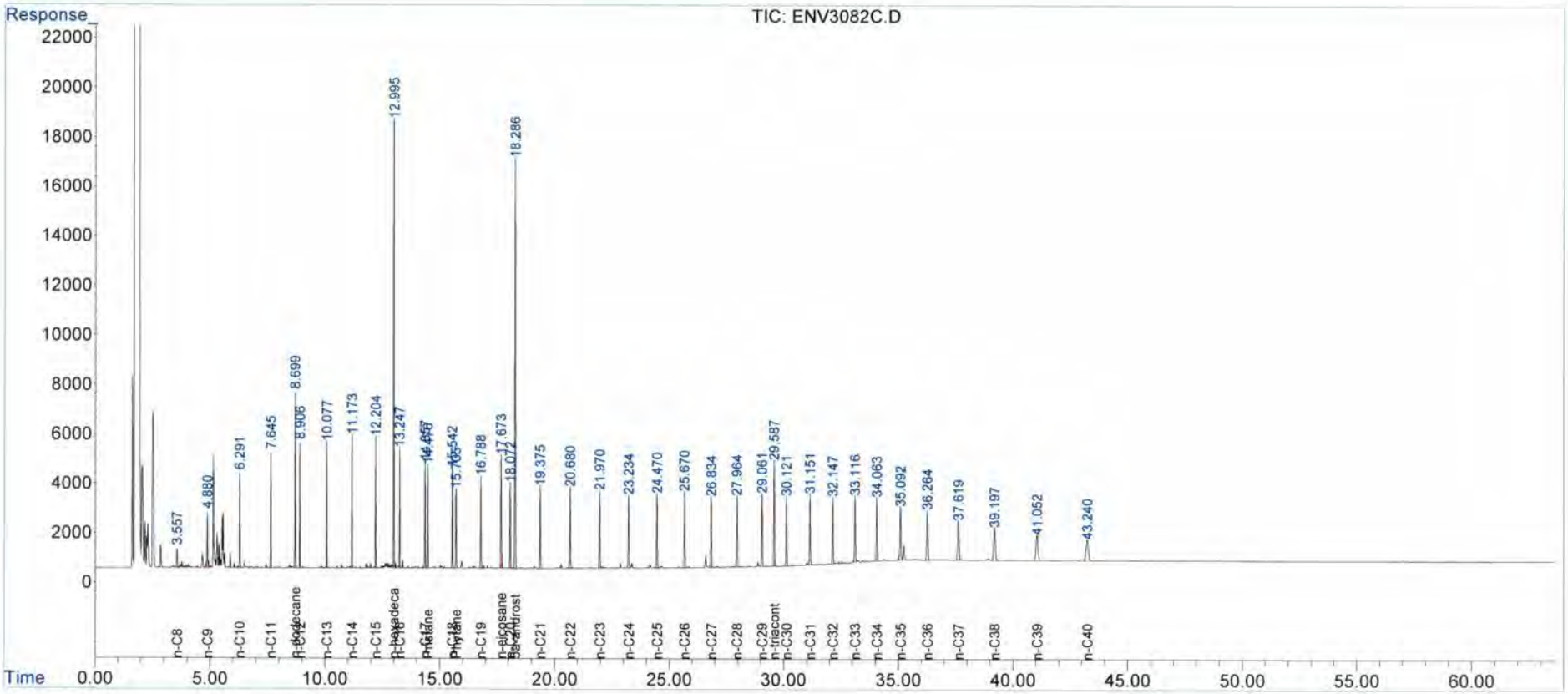
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ENV3082C.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 03:38:27
Operator : Meghan Dailey
Sample : MS (SED-DA-012 (0-0.5))
Misc :
ALS Vial : 7 Sample Multiplier: 0.0664452

Integration File: autoint1.e
Quant Time: Aug 21 16:53:41 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	ENV3082D.D		ENV3082D.D
Sample Name	MSD (SED-DA-012 (0-0.5))		MSD (SED-DA-012 (0-0.5)
Misc Info	0		20-Aug-2013, 04:49:04
Data File Path	C:\msdchem\2\data\FID10080\		ALI2012.M
Operator	Meghan Dailey		
Date Acquired	20-Aug-2013, 04:49:04		0.0666223
Instrument Name	HP5890		
Acq. Method File	ALI2012.M	Vial #	8
Vial Number	8	IS Area 1	229007
Sample Multiplier	0.0666223	IS Area 2	284988

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.56	18855	0.29	0.290
3)	n-C9	4.88	38180.2	0.55	0.550
4)	n-C10	6.29	45391.5	0.61	0.607
5)	n-C11	7.64	48737	0.64	0.642
7)	n-C12	8.90	51833.5	0.65	0.652
8)	i-13	0.00	0	0.00	0.000
9)	i-14	0.00	0	0.00	0.000
10)	n-C13	10.08	52632.6	0.66	0.663
11)	i-15	0.00	0	0.00	0.000
12)	n-C14	11.17	54953.6	0.67	0.674
13)	i-16	0.00	0	0.00	0.000
14)	n-C15	12.20	57831.2	0.70	0.703
15)	n-C16	13.25	57466.5	0.70	0.696
17)	i-18	0.00	0	0.00	0.000
18)	n-C17	14.36	59366.5	0.70	0.701
19)	Pristane	14.48	57674	0.68	0.685
20)	n-C18	15.54	58750	0.71	0.708
21)	Phytane	15.71	58461.7	0.69	0.692
22)	n-C19	16.79	58339.5	0.71	0.707
24)	n-C20	18.07	57733.3	0.70	0.699
25)	n-C21	19.38	57544.5	0.69	0.693
26)	n-C22	20.68	58389	0.70	0.703
27)	n-C23	21.97	57925.7	0.70	0.697
28)	n-C24	23.23	57470.9	0.69	0.692
29)	n-C25	24.47	58227.7	0.70	0.700
30)	n-C26	25.67	58186.3	0.70	0.700
31)	n-C27	26.83	57220	0.71	0.705
32)	n-C28	27.96	58154.5	0.71	0.707
33)	n-C29	29.06	59819	0.72	0.724
35)	n-C30	30.12	55479.8	0.68	0.677
36)	n-C31	31.15	58658.8	0.73	0.727
37)	n-C32	32.15	54702.4	0.68	0.684
38)	n-C33	33.12	56939	0.73	0.728
39)	n-C34	34.06	53753.6	0.68	0.680
40)	n-C35	35.09	54832.9	0.71	0.710
41)	n-C36	36.26	55748.5	0.67	0.669
42)	n-C37	37.61	51747.9	0.68	0.680
43)	n-C38	39.20	50242.1	0.67	0.671
44)	n-C39	41.05	48563.7	0.68	0.677
45)	n-C40	43.25	44853.7	0.67	0.668
46)	TPH	0.00	0	0.00	0.000
47)	TRH1	0.00	0	0.00	0.000
48)	TRH2	0.00	0	0.00	0.000
49)	TRH3	0.00	0	0.00	0.000
50)	TRH4	0.00	0	0.00	0.000
51)	TRH5	0.00	0	0.00	0.000
52)	TRH6	0.00	0	0.00	0.000
53)	GRO	0.00	0	0.00	0.000
54)	DRO	0.00	0	0.00	0.000
55)	RRO	0.00	0	0.00	0.000
6)	n-dodecane-d26	8.70	89811	1.27	94.9
23)	n-eicosane-d42	17.67	83924.7	1.28	95.2
34)	n-triacontane-d62	29.59	82730.7	1.29	96.9
1)	n-hexadecane-d34	12.99	229007	3.33	229007.000
16)	5a-androstane	18.28	284988	3.34	284988.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ENV3082D.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 04:49:04
Operator : Meghan Dailey
Sample : MSD (SED-DA-012 (0-0.5))
Misc :
ALS Vial : 8 Sample Multiplier: 0.0666223

Integration File: autoint1.e
Quant Time: Aug 21 17:07:10 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
Internal Standards				
1) I	n-hexadecane-d34	12.994	229007	50.000 ug/mlm
16) I	5a-androstane	18.285	284988	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.699	89811	1.265 ug/mlm
23) S	n-eicosane-d42	17.672	83925	1.277 ug/mlm
34) S	n-triacontane-d62	29.586	82731	1.293 ug/mlm
Target Compounds				
2)	n-C8	3.561	18855	0.290 ug/mlm
3)	n-C9	4.879	38180	0.550 ug/mlm
4)	n-C10	6.290	45392	0.607 ug/mlm
5)	n-C11	7.644	48737	0.642 ug/mlm
7)	n-C12	8.905	51834	0.652 ug/mlm
8)	i-13	0.000	0	N.D. ug/mld
9)	i-14	0.000	0	N.D. ug/mld
10)	n-C13	10.077	52633	0.663 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	11.172	54954	0.674 ug/mlm
13)	i-16	0.000	0	N.D. ug/mld
14)	n-C15	12.204	57831	0.703 ug/mlm
15)	n-C16	13.246	57467	0.696 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	14.357	59366	0.701 ug/mlm
19)	Pristane	14.476	57674	0.685 ug/mlm
20)	n-C18	15.540	58750	0.708 ug/mlm
21)	Phytane	15.705	58462	0.692 ug/mlm
22)	n-C19	16.787	58340	0.707 ug/mlm
24)	n-C20	18.072	57733	0.699 ug/mlm
25)	n-C21	19.376	57545	0.693 ug/mlm
26)	n-C22	20.680	58389	0.703 ug/mlm
27)	n-C23	21.968	57926	0.697 ug/mlm
28)	n-C24	23.235	57471	0.692 ug/mlm
29)	n-C25	24.469	58228	0.700 ug/mlm
30)	n-C26	25.670	58186	0.700 ug/mlm
31)	n-C27	26.833	57220	0.705 ug/mlm
32)	n-C28	27.963	58155	0.707 ug/mlm
33)	n-C29	29.061	59819	0.724 ug/mlm
35)	n-C30	30.120	55480	0.677 ug/mlm
36)	n-C31	31.149	58659	0.727 ug/mlm
37)	n-C32	32.147	54702	0.684 ug/mlm
38)	n-C33	33.116	56939	0.728 ug/mlm
39)	n-C34	34.063	53754	0.680 ug/mlm
40)	n-C35	35.091	54833	0.710 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ENV3082D.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 04:49:04
Operator : Meghan Dailey
Sample : MSD (SED-DA-012 (0-0.5))
Misc :
ALS Vial : 8 Sample Multiplier: 0.0666223

Integration File: autoint1.e
Quant Time: Aug 21 17:07:10 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
41)	n-C36	36.264	55749	0.669 ug/mlm
42)	n-C37	37.613	51748	0.680 ug/mlm
43)	n-C38	39.198	50242	0.671 ug/mlm
44)	n-C39	41.049	48564	0.677 ug/mlm
45)	n-C40	43.247	44854	0.668 ug/mlm
46)	TPH	0.000	0	N.D. ug/mld
47)	TRH1	0.000	0	N.D. ug/mld
48)	TRH2	0.000	0	N.D. ug/mld
49)	TRH3	0.000	0	N.D. ug/mld
50)	TRH4	0.000	0	N.D. ug/mld
51)	TRH5	0.000	0	N.D. ug/mld
52)	TRH6	0.000	0	N.D. ug/mld
53)	GRO	0.000	0	N.D. ug/mld
54)	DRO	0.000	0	N.D. ug/mld
55)	RRO	0.000	0	N.D. ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

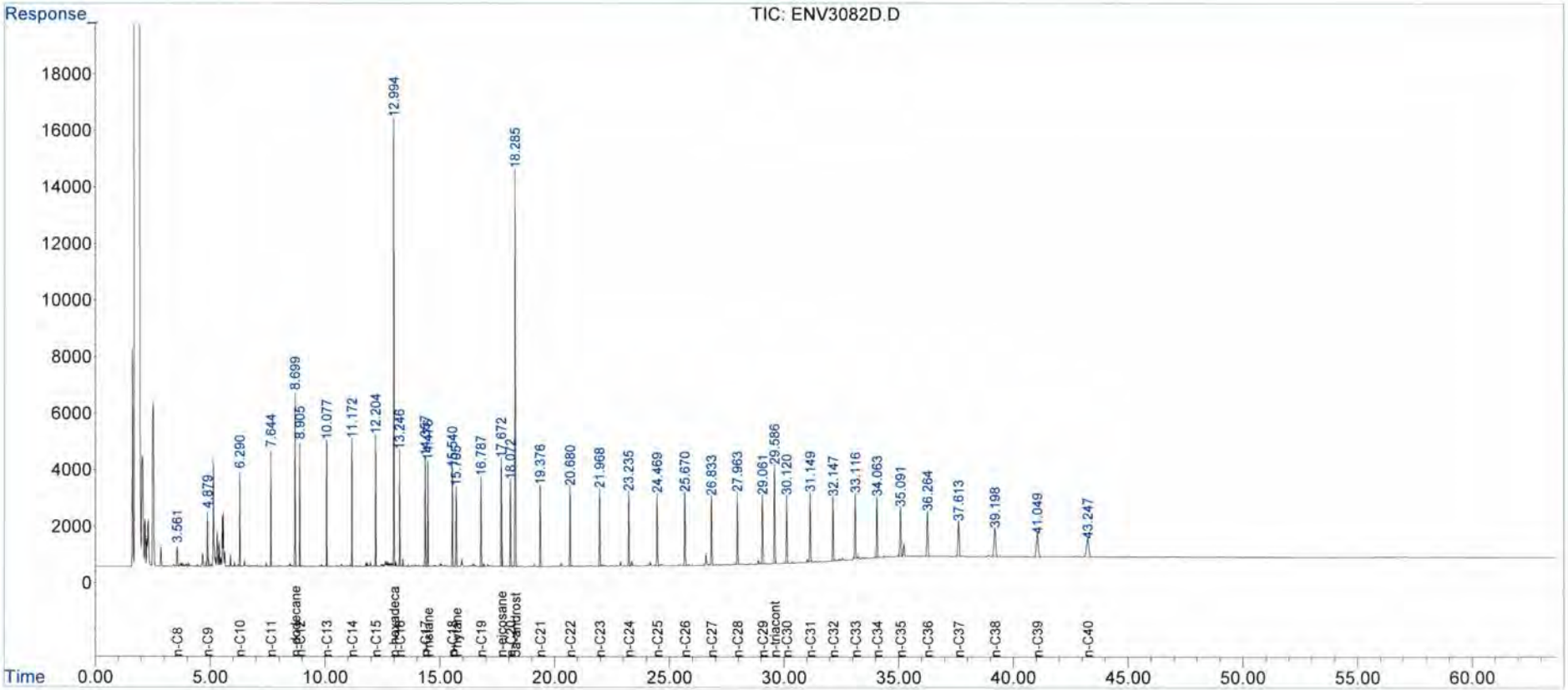
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ENV3082D.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 04:49:04
Operator : Meghan Dailey
Sample : MSD (SED-DA-012 (0-0.5))
Misc :
ALS Vial : 8 Sample Multiplier: 0.0666223

Integration File: autoint1.e
Quant Time: Aug 21 17:07:10 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	ENV3082E.D		ENV3082E.D
Sample Name	Dupl (SED-DA-014 (0-0.5))		Dupl (SED-DA-014 (0-0.5)
Misc Info	0		20-Aug-2013, 05:59:37
Data File Path	C:\msdchem\2\data\FID10080\		ALI2012.M
Operator	Meghan Dailey		
Date Acquired	20-Aug-2013, 05:59:37		0.066357
Instrument Name	HP5890		
Acq. Method File	ALI2012.M	Vial #	9
Vial Number	9	IS Area 1	234338
Sample Multiplier	0.066357	IS Area 2	292283

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	0.00	0	0.00	0.000
3)	n-C9	0.00	0	0.00	0.000
4)	n-C10	0.00	0	0.00	0.000
5)	n-C11	0.00	0	0.00	0.000
7)	n-C12	0.00	0	0.00	0.000
8)	i-13	0.00	0	0.00	0.000
9)	i-14	0.00	0	0.00	0.000
10)	n-C13	0.00	0	0.00	0.000
11)	i-15	0.00	0	0.00	0.000
12)	n-C14	0.00	0	0.00	0.000
13)	i-16	0.00	0	0.00	0.000
14)	n-C15	0.00	0	0.00	0.000
15)	n-C16	0.00	0	0.00	0.000
17)	i-18	0.00	0	0.00	0.000
18)	n-C17	0.00	0	0.00	0.000
19)	Pristane	0.00	0	0.00	0.000
20)	n-C18	0.00	0	0.00	0.000
21)	Phytane	0.00	0	0.00	0.000
22)	n-C19	0.00	0	0.00	0.000
24)	n-C20	0.00	0	0.00	0.000
25)	n-C21	0.00	0	0.00	0.000
26)	n-C22	0.00	0	0.00	0.000
27)	n-C23	0.00	0	0.00	0.000
28)	n-C24	0.00	0	0.00	0.000
29)	n-C25	0.00	0	0.00	0.000
30)	n-C26	0.00	0	0.00	0.000
31)	n-C27	0.00	0	0.00	0.000
32)	n-C28	0.00	0	0.00	0.000
33)	n-C29	0.00	0	0.00	0.000
35)	n-C30	0.00	0	0.00	0.000
36)	n-C31	0.00	0	0.00	0.000
37)	n-C32	0.00	0	0.00	0.000
38)	n-C33	0.00	0	0.00	0.000
39)	n-C34	0.00	0	0.00	0.000
40)	n-C35	0.00	0	0.00	0.000
41)	n-C36	0.00	0	0.00	0.000
42)	n-C37	0.00	0	0.00	0.000
43)	n-C38	0.00	0	0.00	0.000
44)	n-C39	0.00	0	0.00	0.000
45)	n-C40	0.00	0	0.00	0.000
46)	TPH	12.99	6711500	81.82	81.824
47)	TRH1	8.70	122676	1.50	1.496
48)	TRH2	12.99	690183	8.41	8.414
49)	TRH3	26.59	16513.1	0.20	0.201
50)	TRH4	29.58	98808.2	1.20	1.205
51)	TRH5	35.23	36084.2	0.44	0.440
52)	TRH6	0.00	0	0.00	0.000
53)	GRO	0.00	0	0.00	0.000
54)	DRO	0.00	0	0.00	0.000
55)	RRO	0.00	0	0.00	0.000
6)	n-dodecane-d26	8.70	86626	1.19	89.5
23)	n-eicosane-d42	17.67	88083.6	1.30	97.4
34)	n-triacontane-d62	29.58	84936.7	1.29	97.0
1)	n-hexadecane-d34	12.99	234338	3.32	234338.000
16)	5a-androstane	18.28	292283	3.32	292283.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ENV3082E.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 05:59:37
Operator : Meghan Dailey
Sample : Dupl (SED-DA-014 (0-0.5))
Misc :
ALS Vial : 9 Sample Multiplier: 0.066357

Integration File: autoint1.e
Quant Time: Aug 22 09:06:29 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	12.993	234338	50.000	ug/mlm
16) I	5a-androstane	18.282	292283	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.699	86626	1.188	ug/mlm
23) S	n-eicosane-d42	17.672	88084	1.301	ug/mlm
34) S	n-triacontane-d62	29.583	84937	1.289	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/mld
3)	n-C9	0.000	0	N.D.	ug/mld
4)	n-C10	0.000	0	N.D.	ug/mld
5)	n-C11	0.000	0	N.D.	ug/mld
7)	n-C12	0.000	0	N.D.	ug/mld
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	0.000	0	N.D.	ug/mld
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	0.000	0	N.D.	ug/mld
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	0.000	0	N.D.	ug/mld
15)	n-C16	0.000	0	N.D.	ug/mld
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	0.000	0	N.D.	ug/mld
19)	Pristane	0.000	0	N.D.	ug/mld
20)	n-C18	0.000	0	N.D.	ug/mld
21)	Phytane	0.000	0	N.D.	ug/mld
22)	n-C19	0.000	0	N.D.	ug/mld
24)	n-C20	0.000	0	N.D.	ug/mld
25)	n-C21	0.000	0	N.D.	ug/mld
26)	n-C22	0.000	0	N.D.	ug/mld
27)	n-C23	0.000	0	N.D.	ug/mld
28)	n-C24	0.000	0	N.D.	ug/mld
29)	n-C25	0.000	0	N.D.	ug/mld
30)	n-C26	0.000	0	N.D.	ug/mld
31)	n-C27	0.000	0	N.D.	ug/mld
32)	n-C28	0.000	0	N.D.	ug/mld
33)	n-C29	0.000	0	N.D.	ug/mld
35)	n-C30	0.000	0	N.D.	ug/mld
36)	n-C31	0.000	0	N.D.	ug/mld
37)	n-C32	0.000	0	N.D.	ug/mld
38)	n-C33	0.000	0	N.D.	ug/mld
39)	n-C34	0.000	0	N.D.	ug/mld
40)	n-C35	0.000	0	N.D.	ug/mld

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ENV3082E.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 05:59:37
Operator : Meghan Dailey
Sample : Dupl (SED-DA-014 (0-0.5))
Misc :
ALS Vial : 9 Sample Multiplier: 0.066357

Integration File: autoint1.e
Quant Time: Aug 22 09:06:29 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	0.000	0	N.D.	ug/mld
42)	n-C37	0.000	0	N.D.	ug/mld
43)	n-C38	0.000	0	N.D.	ug/mld
44)	n-C39	0.000	0	N.D.	ug/mld
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	12.993f	6711496	81.824	ug/mlm
47)	TRH1	8.699	122676	1.496	ug/mlm
48)	TRH2	12.993f	690183	8.414	ug/mlm
49)	TRH3	26.590f	16513	0.201	ug/mlm
50)	TRH4	29.583	98808	1.205	ug/mlm
51)	TRH5	35.225	36084	0.440	ug/mlm
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

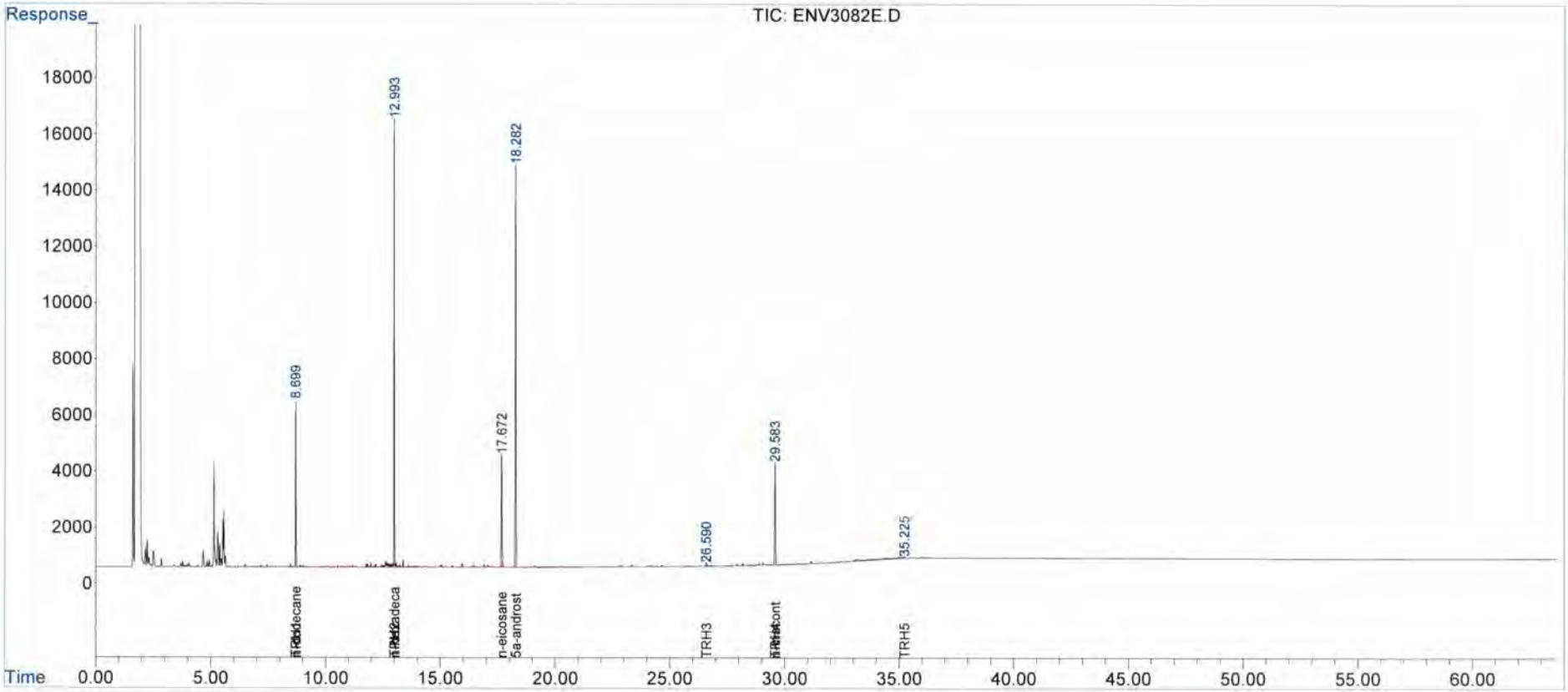
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ENV3082E.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 05:59:37
Operator : Meghan Dailey
Sample : Dupl (SED-DA-014 (0-0.5))
Misc :
ALS Vial : 9 Sample Multiplier: 0.066357

Integration File: autoint1.e
Quant Time: Aug 22 09:06:29 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	ARC1666.D		ARC1666.D
Sample Name	SED-DA-012 (0-0.5)		SED-DA-012 (0-0.5)
Misc Info	0		20-Aug-2013, 07:10:15
Data File Path	C:\msdchem\2\data\FID10080\		ALI2012.M
Operator	Mark C. Garner		
Date Acquired	20-Aug-2013, 07:10:15		0.0666667
Instrument Name	HP5890		
Acq. Method File	ALI2012.M	Vial #	10
Vial Number	10	IS Area 1	229566
Sample Multiplier	0.0666667	IS Area 2	287254

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	0.00	0	0.00	0.000
3)	n-C9	0.00	0	0.00	0.000
4)	n-C10	0.00	0	0.00	0.000
5)	n-C11	0.00	0	0.00	0.000
7)	n-C12	8.90	1356.97	0.02	0.017
8)	i-13	0.00	0	0.00	0.000
9)	i-14	9.79	264.868	0.00	0.003
10)	n-C13	10.08	743.52	0.01	0.009
11)	i-15	10.95	589.169	0.01	0.007
12)	n-C14	11.17	1338.66	0.02	0.016
13)	i-16	11.85	196.311	0.00	0.002
14)	n-C15	12.20	657.725	0.01	0.008
15)	n-C16	13.24	1840.16	0.02	0.022
17)	i-18	13.82	527.95	0.01	0.006
18)	n-C17	14.36	5031.07	0.06	0.059
19)	Pristane	14.48	110.223	0.00	0.001
20)	n-C18	15.54	1115.78	0.01	0.013
21)	Phytane	15.69	340.354	0.00	0.004
22)	n-C19	16.79	795.732	0.01	0.010
24)	n-C20	18.07	228.936	0.00	0.003
25)	n-C21	19.38	893.641	0.01	0.011
26)	n-C22	20.67	332.252	0.00	0.004
27)	n-C23	21.97	570.156	0.01	0.007
28)	n-C24	23.23	522.203	0.01	0.006
29)	n-C25	24.47	764.53	0.01	0.009
30)	n-C26	25.67	421.249	0.01	0.005
31)	n-C27	26.83	1134.43	0.01	0.014
32)	n-C28	27.95	411.322	0.00	0.005
33)	n-C29	29.07	1627.79	0.02	0.020
35)	n-C30	30.12	339.32	0.00	0.004
36)	n-C31	31.13	1456.45	0.02	0.018
37)	n-C32	32.14	280.683	0.00	0.003
38)	n-C33	33.13	1120.47	0.01	0.014
39)	n-C34	34.06	192.399	0.00	0.002
40)	n-C35	35.08	360.817	0.00	0.005
41)	n-C36	0.00	0	0.00	0.000
42)	n-C37	0.00	0	0.00	0.000
43)	n-C38	0.00	0	0.00	0.000
44)	n-C39	0.00	0	0.00	0.000
45)	n-C40	0.00	0	0.00	0.000
46)	TPH	12.99	7729050	96.33	96.327
47)	TRH1	8.70	147066	1.83	1.833
48)	TRH2	12.99	708254	8.83	8.827
49)	TRH3	26.59	26126.2	0.33	0.325
50)	TRH4	29.58	125120	1.56	1.559
51)	TRH5	33.14	161252	2.01	2.010
52)	TRH6	38.93	36402.9	0.45	0.454
53)	GRO	0.00	0	0.00	0.000
54)	DRO	0.00	0	0.00	0.000
55)	RRO	0.00	0	0.00	0.000
6)	n-dodecane-d26	8.70	87529.7	1.23	92.3
23)	n-eicosane-d42	17.67	84645.1	1.28	95.3
34)	n-triacontane-d62	29.58	81735.3	1.27	95.0
1)	n-hexadecane-d34	12.99	229566	3.33	229566.000
16)	5a-androstane	18.28	287254	3.34	287254.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ARC1666.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 07:10:15
Operator : Mark C. Garner
Sample : SED-DA-012 (0-0.5)
Misc :
ALS Vial : 10 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Aug 21 16:02:34 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
Internal Standards				
1) I	n-hexadecane-d34	12.993	229566	50.000 ug/mlm
16) I	5a-androstane	18.282	287254	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.699	87530	1.231 ug/mlm
23) S	n-eicosane-d42	17.672	84645	1.278 ug/mlm
34) S	n-triacontane-d62	29.584	81735	1.268 ug/mlm
Target Compounds				
2)	n-C8	0.000	0	N.D. ug/mld
3)	n-C9	0.000	0	N.D. ug/mld
4)	n-C10	0.000	0	N.D. ug/mld
5)	n-C11	0.000	0	N.D. ug/mld
7)	n-C12	8.902	1357	0.017 ug/mlm
8)	i-13	0.000	0	N.D. ug/mld
9)	i-14	9.792	265	0.003 ug/mlm
10)	n-C13	10.078	744	0.009 ug/mlm
11)	i-15	10.954	589	0.007 ug/mlm
12)	n-C14	11.173	1339	0.016 ug/mlm
13)	i-16	11.847	196	0.002 ug/mlm
14)	n-C15	12.200	658	0.008 ug/mlm
15)	n-C16	13.243	1840	0.022 ug/mlm
17)	i-18	13.818	528	0.006 ug/mlm
18)	n-C17	14.356	5031	0.059 ug/mlm
19)	Pristane	14.476	110	0.001 ug/mlm
20)	n-C18	15.537	1116	0.013 ug/mlm
21)	Phytane	15.694	340	0.004 ug/mlm
22)	n-C19	16.792	796	0.010 ug/mlm
24)	n-C20	18.065	229	0.003 ug/mlm
25)	n-C21	19.379	894	0.011 ug/mlm
26)	n-C22	20.672	332	0.004 ug/mlm
27)	n-C23	21.967	570	0.007 ug/mlm
28)	n-C24	23.231	522	0.006 ug/mlm
29)	n-C25	24.467	765	0.009 ug/mlm
30)	n-C26	25.672	421	0.005 ug/mlm
31)	n-C27	26.828	1134	0.014 ug/mlm
32)	n-C28	27.947	411	0.005 ug/mlm
33)	n-C29	29.065	1628	0.020 ug/mlm
35)	n-C30	30.117	339	0.004 ug/mlm
36)	n-C31	31.134	1456	0.018 ug/mlm
37)	n-C32	32.142	281	0.003 ug/mlm
38)	n-C33	33.130	1120	0.014 ug/mlm
39)	n-C34	34.062	192	0.002 ug/mlm
40)	n-C35	35.077	361	0.005 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ARC1666.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 07:10:15
Operator : Mark C. Garner
Sample : SED-DA-012 (0-0.5)
Misc :
ALS Vial : 10 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Aug 21 16:02:34 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	0.000	0	N.D.	ug/mld
42)	n-C37	0.000	0	N.D.	ug/mld
43)	n-C38	0.000	0	N.D.	ug/mld
44)	n-C39	0.000	0	N.D.	ug/mld
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	12.993f	7729053	96.327	ug/mlm
47)	TRH1	8.699	147066	1.833	ug/mlm
48)	TRH2	12.993f	708254	8.827	ug/mlm
49)	TRH3	26.592f	26126	0.325	ug/mlm
50)	TRH4	29.584	125120	1.559	ug/mlm
51)	TRH5	33.137	161252	2.010	ug/mlm
52)	TRH6	38.930f	36403	0.454	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

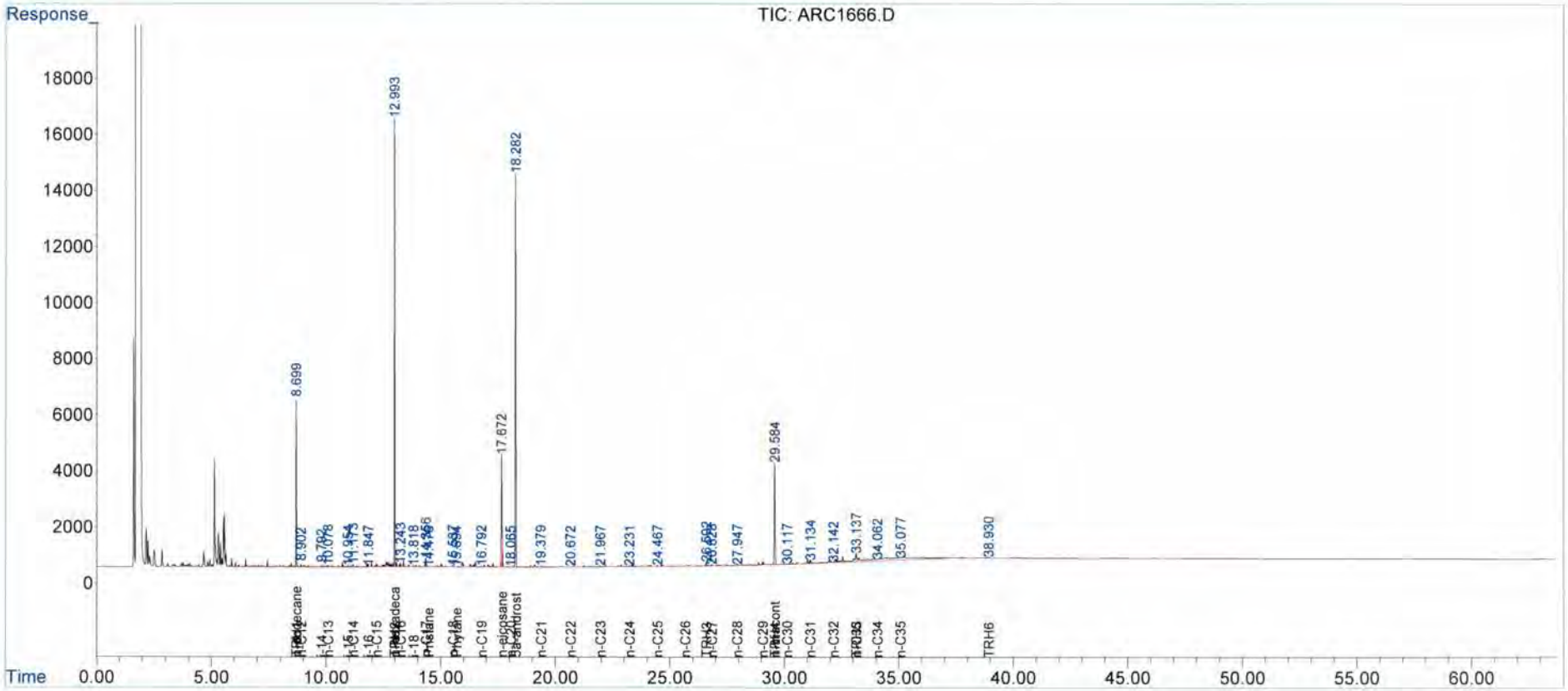
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ARC1666.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 07:10:15
Operator : Mark C. Garner
Sample : SED-DA-012 (0-0.5)
Misc :
ALS Vial : 10 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Aug 21 16:02:34 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	ARC1669.D		ARC1669.D
Sample Name	SED-DA-013 (0-0.5)		SED-DA-013 (0-0.5)
Misc Info	0		20-Aug-2013, 09:31:37
Data File Path	C:\msdchem\2\data\FID10080\		ALI2012.M
Operator	Meghan Dailey		
Date Acquired	20-Aug-2013, 09:31:37		0.0658328
Instrument Name	HP5890		
Acq. Method File	ALI2012.M	Vial #	12
Vial Number	12	IS Area 1	221350
Sample Multiplier	0.0658328	IS Area 2	277911

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	0.00	0	0.00	0.000
3)	n-C9	0.00	0	0.00	0.000
4)	n-C10	0.00	0	0.00	0.000
5)	n-C11	0.00	0	0.00	0.000
7)	n-C12	8.90	1006.66	0.01	0.013
8)	i-13	0.00	0	0.00	0.000
9)	i-14	0.00	0	0.00	0.000
10)	n-C13	10.08	525.878	0.01	0.007
11)	i-15	0.00	0	0.00	0.000
12)	n-C14	11.17	880.158	0.01	0.011
13)	i-16	0.00	0	0.00	0.000
14)	n-C15	12.20	313.923	0.00	0.004
15)	n-C16	13.24	1679.36	0.02	0.021
17)	i-18	0.00	0	0.00	0.000
18)	n-C17	14.36	399.083	0.00	0.005
19)	Pristane	0.00	0	0.00	0.000
20)	n-C18	15.54	967.751	0.01	0.012
21)	Phytane	0.00	0	0.00	0.000
22)	n-C19	16.79	468.25	0.01	0.006
24)	n-C20	18.07	187.56	0.00	0.002
25)	n-C21	19.37	292.638	0.00	0.004
26)	n-C22	20.67	316.687	0.00	0.004
27)	n-C23	21.97	414.7	0.01	0.005
28)	n-C24	23.22	448.046	0.01	0.005
29)	n-C25	24.46	826.869	0.01	0.010
30)	n-C26	25.67	412.216	0.01	0.005
31)	n-C27	26.83	995.612	0.01	0.012
32)	n-C28	27.95	417.189	0.01	0.005
33)	n-C29	29.06	2765.29	0.03	0.034
35)	n-C30	30.11	515.554	0.01	0.006
36)	n-C31	31.14	1676.49	0.02	0.021
37)	n-C32	32.08	2249.08	0.03	0.028
38)	n-C33	33.13	5488.33	0.07	0.071
39)	n-C34	33.98	774.157	0.01	0.010
40)	n-C35	35.05	2306.3	0.03	0.030
41)	n-C36	0.00	0	0.00	0.000
42)	n-C37	0.00	0	0.00	0.000
43)	n-C38	0.00	0	0.00	0.000
44)	n-C39	0.00	0	0.00	0.000
45)	n-C40	0.00	0	0.00	0.000
46)	TPH	12.99	6945140	88.35	88.348
47)	TRH1	8.70	112920	1.44	1.436
48)	TRH2	12.99	664261	8.45	8.450
49)	TRH3	26.59	33447	0.43	0.425
50)	TRH4	29.58	110228	1.40	1.402
51)	TRH5	35.23	200979	2.56	2.557
52)	TRH6	40.22	70596.1	0.90	0.898
53)	GRO	0.00	0	0.00	0.000
54)	DRO	0.00	0	0.00	0.000
55)	RRO	0.00	0	0.00	0.000
6)	n-dodecane-d26	8.70	79071.3	1.14	86.5
23)	n-eicosane-d42	17.67	84376.7	1.30	98.2
34)	n-triacontane-d62	29.58	82243	1.30	98.8
1)	n-hexadecane-d34	12.99	221350	3.29	221350.000
16)	5a-androstane	18.28	277911	3.30	277911.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ARC1669.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 09:31:37
Operator : Meghan Dailey
Sample : SED-DA-013 (0-0.5)
Misc :
ALS Vial : 12 Sample Multiplier: 0.0658328

Integration File: autoint1.e
Quant Time: Aug 30 08:55:05 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	12.992	221350	50.000	ug/mlm
16) I	5a-androstane	18.279	277911	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.697	79071	1.139	ug/mlm
23) S	n-eicosane-d42	17.670	84377	1.301	ug/mlm
34) S	n-triacontane-d62	29.580	82243	1.302	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/mld
3)	n-C9	0.000	0	N.D.	ug/mld
4)	n-C10	0.000	0	N.D.	ug/mld
5)	n-C11	0.000	0	N.D.	ug/mld
7)	n-C12	8.901	1007	0.013	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	10.076	526	0.007	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	11.172	880	0.011	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	12.197	314	0.004	ug/mlm
15)	n-C16	13.243	1679	0.021	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.357	399	0.005	ug/mlm
19)	Pristane	0.000	0	N.D.	ug/mld
20)	n-C18	15.535	968	0.012	ug/mlm
21)	Phytane	0.000	0	N.D.	ug/mld
22)	n-C19	16.787	468	0.006	ug/mlm
24)	n-C20	18.067	188	0.002	ug/mlm
25)	n-C21	19.372	293	0.004	ug/mlm
26)	n-C22	20.674	317	0.004	ug/mlm
27)	n-C23	21.965	415	0.005	ug/mlm
28)	n-C24	23.224	448	0.005	ug/mlm
29)	n-C25	24.463	827	0.010	ug/mlm
30)	n-C26	25.665	412	0.005	ug/mlm
31)	n-C27	26.828	996	0.012	ug/mlm
32)	n-C28	27.951	417	0.005	ug/mlm
33)	n-C29	29.058	2765	0.034	ug/mlm
35)	n-C30	30.108	516	0.006	ug/mlm
36)	n-C31	31.139	1676	0.021	ug/mlm
37)	n-C32	32.080f	2249	0.028	ug/mlm
38)	n-C33	33.130	5488	0.071	ug/mlm
39)	n-C34	33.977f	774	0.010	ug/mlm
40)	n-C35	35.046f	2306	0.030	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ARC1669.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 09:31:37
Operator : Meghan Dailey
Sample : SED-DA-013 (0-0.5)
Misc :
ALS Vial : 12 Sample Multiplier: 0.0658328

Integration File: autoint1.e
Quant Time: Aug 30 08:55:05 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	0.000	0	N.D.	ug/mld
42)	n-C37	0.000	0	N.D.	ug/mld
43)	n-C38	0.000	0	N.D.	ug/mld
44)	n-C39	0.000	0	N.D.	ug/mld
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	12.992f	6945139	88.348	ug/mlm
47)	TRH1	8.697	112920	1.436	ug/mlm
48)	TRH2	12.992f	664261	8.450	ug/mlm
49)	TRH3	26.588f	33447	0.425	ug/mlm
50)	TRH4	29.580	110228	1.402	ug/mlm
51)	TRH5	35.226	200979	2.557	ug/mlm
52)	TRH6	40.224f	70596	0.898	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

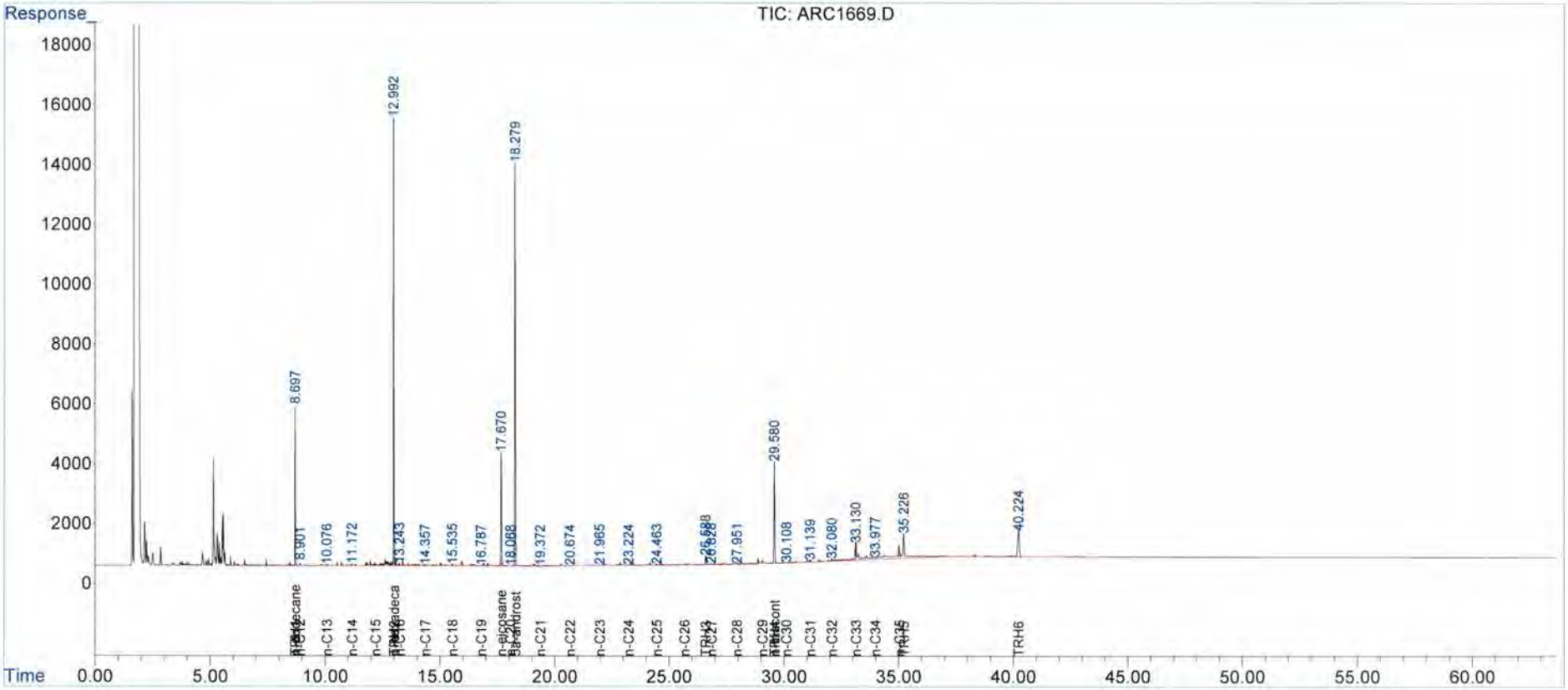
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ARC1669.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 09:31:37
Operator : Meghan Dailey
Sample : SED-DA-013 (0-0.5)
Misc :
ALS Vial : 12 Sample Multiplier: 0.0658328

Integration File: autoint1.e
Quant Time: Aug 30 08:55:05 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	ARC1670.D		ARC1670.D
Sample Name	SED-DA-014 (0-0.5)		SED-DA-014 (0-0.5)
Misc Info	0		20-Aug-2013, 10:42:16
Data File Path	C:\msdchem\2\data\FID10080\		ALI2012.M
Operator	Meghan Dailey		
Date Acquired	20-Aug-2013, 10:42:16		0.066357
Instrument Name	HP5890		
Acq. Method File	ALI2012.M	Vial #	13
Vial Number	13	IS Area 1	230911
Sample Multiplier	0.066357	IS Area 2	288369

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	0.00	0	0.00	0.000
3)	n-C9	0.00	0	0.00	0.000
4)	n-C10	0.00	0	0.00	0.000
5)	n-C11	0.00	0	0.00	0.000
7)	n-C12	0.00	0	0.00	0.000
8)	i-13	0.00	0	0.00	0.000
9)	i-14	0.00	0	0.00	0.000
10)	n-C13	0.00	0	0.00	0.000
11)	i-15	0.00	0	0.00	0.000
12)	n-C14	0.00	0	0.00	0.000
13)	i-16	0.00	0	0.00	0.000
14)	n-C15	0.00	0	0.00	0.000
15)	n-C16	0.00	0	0.00	0.000
17)	i-18	0.00	0	0.00	0.000
18)	n-C17	0.00	0	0.00	0.000
19)	Pristane	0.00	0	0.00	0.000
20)	n-C18	0.00	0	0.00	0.000
21)	Phytane	0.00	0	0.00	0.000
22)	n-C19	0.00	0	0.00	0.000
24)	n-C20	0.00	0	0.00	0.000
25)	n-C21	0.00	0	0.00	0.000
26)	n-C22	0.00	0	0.00	0.000
27)	n-C23	0.00	0	0.00	0.000
28)	n-C24	0.00	0	0.00	0.000
29)	n-C25	0.00	0	0.00	0.000
30)	n-C26	0.00	0	0.00	0.000
31)	n-C27	0.00	0	0.00	0.000
32)	n-C28	0.00	0	0.00	0.000
33)	n-C29	0.00	0	0.00	0.000
35)	n-C30	0.00	0	0.00	0.000
36)	n-C31	0.00	0	0.00	0.000
37)	n-C32	0.00	0	0.00	0.000
38)	n-C33	0.00	0	0.00	0.000
39)	n-C34	0.00	0	0.00	0.000
40)	n-C35	0.00	0	0.00	0.000
41)	n-C36	0.00	0	0.00	0.000
42)	n-C37	0.00	0	0.00	0.000
43)	n-C38	0.00	0	0.00	0.000
44)	n-C39	0.00	0	0.00	0.000
45)	n-C40	0.00	0	0.00	0.000
46)	TPH	12.99	6394300	79.02	79.015
47)	TRH1	8.70	112807	1.39	1.394
48)	TRH2	12.99	681190	8.42	8.418
49)	TRH3	21.27	33555.9	0.41	0.414
50)	TRH4	29.58	114145	1.41	1.411
51)	TRH5	35.23	35662.2	0.44	0.441
52)	TRH6	0.00	0	0.00	0.000
53)	GRO	0.00	0	0.00	0.000
54)	DRO	0.00	0	0.00	0.000
55)	RRO	0.00	0	0.00	0.000
6)	n-dodecane-d26	8.70	86033.6	1.20	90.2
23)	n-eicosane-d42	17.67	85214.8	1.28	95.5
34)	n-triacontane-d62	29.58	84809	1.30	98.2
1)	n-hexadecane-d34	12.99	230911	3.32	230911.000
16)	5a-androstane	18.28	288369	3.32	288369.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ARC1670.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 10:42:16
Operator : Meghan Dailey
Sample : SED-DA-014 (0-0.5)
Misc :
ALS Vial : 13 Sample Multiplier: 0.066357

Integration File: autoint1.e
Quant Time: Aug 22 09:09:26 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	12.992	230911	50.000	ug/mlm
16) I	5a-androstane	18.279	288369	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.698	86034	1.197	ug/mlm
23) S	n-eicosane-d42	17.669	85215	1.276	ug/mlm
34) S	n-triacontane-d62	29.582	84809	1.305	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/mld
3)	n-C9	0.000	0	N.D.	ug/mld
4)	n-C10	0.000	0	N.D.	ug/mld
5)	n-C11	0.000	0	N.D.	ug/mld
7)	n-C12	0.000	0	N.D.	ug/mld
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	0.000	0	N.D.	ug/mld
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	0.000	0	N.D.	ug/mld
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	0.000	0	N.D.	ug/mld
15)	n-C16	0.000	0	N.D.	ug/mld
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	0.000	0	N.D.	ug/mld
19)	Pristane	0.000	0	N.D.	ug/mld
20)	n-C18	0.000	0	N.D.	ug/mld
21)	Phytane	0.000	0	N.D.	ug/mld
22)	n-C19	0.000	0	N.D.	ug/mld
24)	n-C20	0.000	0	N.D.	ug/mld
25)	n-C21	0.000	0	N.D.	ug/mld
26)	n-C22	0.000	0	N.D.	ug/mld
27)	n-C23	0.000	0	N.D.	ug/mld
28)	n-C24	0.000	0	N.D.	ug/mld
29)	n-C25	0.000	0	N.D.	ug/mld
30)	n-C26	0.000	0	N.D.	ug/mld
31)	n-C27	0.000	0	N.D.	ug/mld
32)	n-C28	0.000	0	N.D.	ug/mld
33)	n-C29	0.000	0	N.D.	ug/mld
35)	n-C30	0.000	0	N.D.	ug/mld
36)	n-C31	0.000	0	N.D.	ug/mld
37)	n-C32	0.000	0	N.D.	ug/mld
38)	n-C33	0.000	0	N.D.	ug/mld
39)	n-C34	0.000	0	N.D.	ug/mld
40)	n-C35	0.000	0	N.D.	ug/mld

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ARC1670.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 10:42:16
Operator : Meghan Dailey
Sample : SED-DA-014 (0-0.5)
Misc :
ALS Vial : 13 Sample Multiplier: 0.066357

Integration File: autoint1.e
Quant Time: Aug 22 09:09:26 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	0.000	0	N.D.	ug/mld
42)	n-C37	0.000	0	N.D.	ug/mld
43)	n-C38	0.000	0	N.D.	ug/mld
44)	n-C39	0.000	0	N.D.	ug/mld
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	12.992f	6394300	79.015	ug/mlm
47)	TRH1	8.698	112807	1.394	ug/mlm
48)	TRH2	12.992f	681190	8.418	ug/mlm
49)	TRH3	21.269f	33556	0.414	ug/mlm
50)	TRH4	29.582	114145	1.411	ug/mlm
51)	TRH5	35.227	35662	0.441	ug/mlm
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

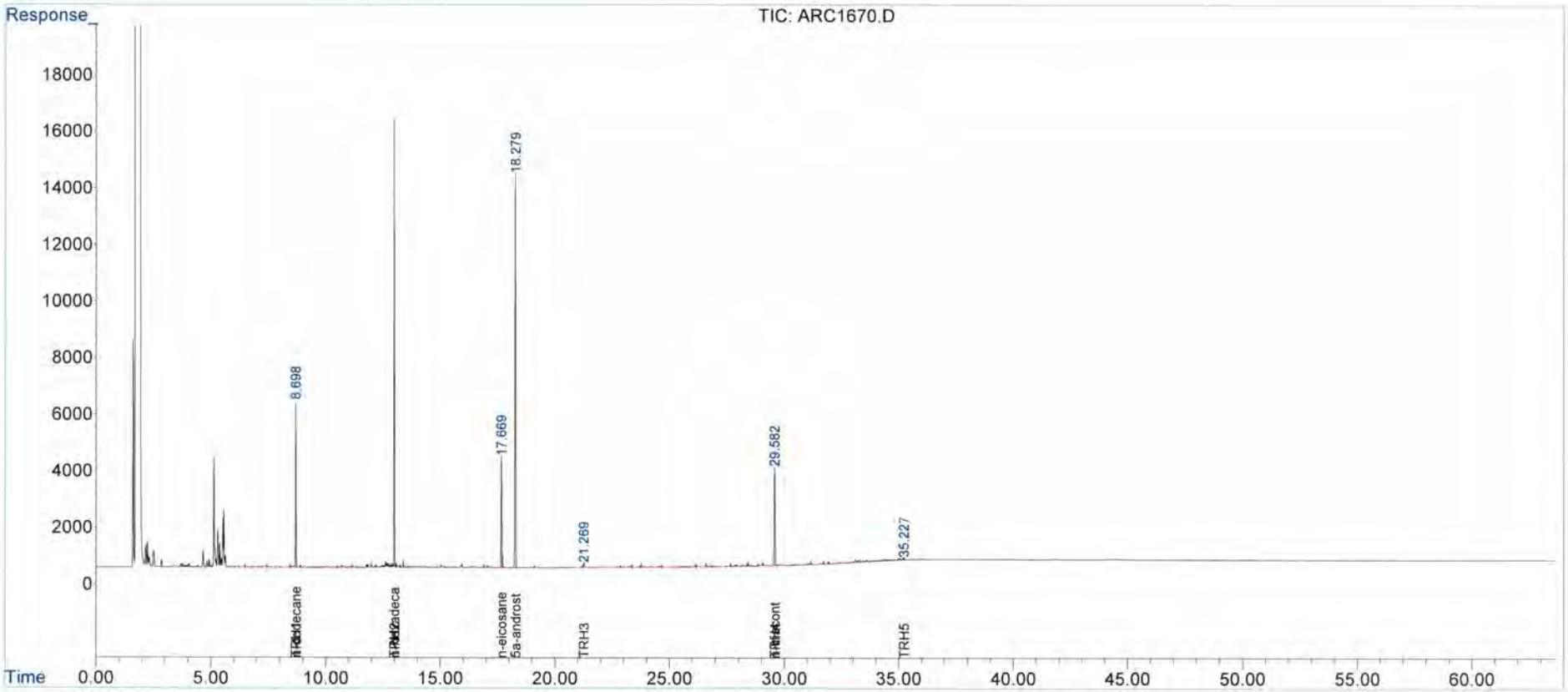
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ARC1670.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 10:42:16
Operator : Meghan Dailey
Sample : SED-DA-014 (0-0.5)
Misc :
ALS Vial : 13 Sample Multiplier: 0.066357

Integration File: autoint1.e
Quant Time: Aug 22 09:09:26 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	ARC1671.D		ARC1671.D
Sample Name	SED-DA-015 (0-0.5)		SED-DA-015 (0-0.5)
Misc Info	0		20-Aug-2013, 11:52:52
Data File Path	C:\msdchem\2\data\FID10080\		ALI2012.M
Operator	Meghan Dailey		
Date Acquired	20-Aug-2013, 11:52:52		0.0662691
Instrument Name	HP5890		
Acq. Method File	ALI2012.M	Vial #	14
Vial Number	14	IS Area 1	249126
Sample Multiplier	0.0662691	IS Area 2	318494

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	0.00	0	0.00	0.000
3)	n-C9	0.00	0	0.00	0.000
4)	n-C10	6.29	1459.26	0.02	0.018
5)	n-C11	7.65	4853.45	0.06	0.058
7)	n-C12	8.90	26732.1	0.31	0.307
8)	i-13	9.09	22731.1	0.26	0.262
9)	i-14	9.80	28815.8	0.32	0.323
10)	n-C13	10.08	54076.4	0.62	0.623
11)	i-15	10.96	70090.9	0.78	0.779
12)	n-C14	11.18	115180	1.29	1.293
13)	i-16	11.85	129049	1.43	1.430
14)	n-C15	12.21	104781	1.16	1.165
15)	n-C16	13.25	122778	1.36	1.361
17)	i-18	13.82	104990	1.13	1.126
18)	n-C17	14.37	146649	1.54	1.542
19)	Pristane	14.48	152178	1.61	1.608
20)	n-C18	15.55	117829	1.26	1.264
21)	Phytane	15.72	178101	1.88	1.876
22)	n-C19	16.80	115555	1.25	1.247
24)	n-C20	18.09	84359.5	0.91	0.909
25)	n-C21	19.40	93362.2	1.00	1.000
26)	n-C22	20.70	63726.6	0.68	0.683
27)	n-C23	21.99	47636	0.51	0.510
28)	n-C24	23.25	54360.1	0.58	0.583
29)	n-C25	24.49	69874.8	0.75	0.748
30)	n-C26	25.69	42137.9	0.45	0.451
31)	n-C27	26.86	93269	1.02	1.023
32)	n-C28	27.99	43715.7	0.47	0.473
33)	n-C29	29.09	304010	3.27	3.275
35)	n-C30	30.15	58163.4	0.63	0.632
36)	n-C31	31.18	307332	3.39	3.390
37)	n-C32	32.18	20084.2	0.22	0.223
38)	n-C33	33.17	149989	1.71	1.707
39)	n-C34	34.09	29347.5	0.33	0.330
40)	n-C35	35.09	120611	1.39	1.390
41)	n-C36	36.26	42307.3	0.45	0.452
42)	n-C37	37.64	58019	0.68	0.679
43)	n-C38	0.00	0	0.00	0.000
44)	n-C39	0.00	0	0.00	0.000
45)	n-C40	0.00	0	0.00	0.000
46)	TPH	19.64	164504000	1838.09	1838.086
47)	TRH1	8.07	399444	4.46	4.463
48)	TRH2	13.00	4818190	53.84	53.836
49)	TRH3	19.64	13209500	147.53	147.526
50)	TRH4	35.30	1617050	18.07	18.068
51)	TRH5	38.99	271889	3.04	3.038
52)	TRH6	44.18	202587	2.26	2.264
53)	GRO	0.00	0	0.00	0.000
54)	DRO	0.00	0	0.00	0.000
55)	RRO	0.00	0	0.00	0.000
6)	n-dodecane-d26	8.70	100186	1.29	97.4
23)	n-eicosane-d42	17.69	93855.1	1.27	95.3
34)	n-triacontane-d62	29.61	93321.3	1.30	97.8
1)	n-hexadecane-d34	13.00	249126	3.31	249126.000
16)	5a-androstane	18.31	318494	3.32	318494.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ARC1671.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 11:52:52
Operator : Meghan Dailey
Sample : SED-DA-015 (0-0.5)
Misc :
ALS Vial : 14 Sample Multiplier: 0.0662691

Integration File: autoint1.e
Quant Time: Aug 30 08:57:23 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
Internal Standards				
1) I	n-hexadecane-d34	13.000	249126	50.000 ug/mlm
16) I	5a-androstane	18.305	318494	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.699	100186	1.290 ug/mlm
23) S	n-eicosane-d42	17.689	93855	1.271 ug/mlm
34) S	n-triacontane-d62	29.612	93321	1.298 ug/mlm
Target Compounds				
2)	n-C8	0.000	0	N.D. ug/mld
3)	n-C9	0.000	0	N.D. ug/mld
4)	n-C10	6.294	1459	0.018 ug/mlm
5)	n-C11	7.645	4853	0.058 ug/mlm
7)	n-C12	8.904	26732	0.307 ug/mlm
8)	i-13	9.094	22731	0.262 ug/mlm
9)	i-14	9.796	28816	0.323 ug/mlm
10)	n-C13	10.078	54076	0.623 ug/mlm
11)	i-15	10.955	70091	0.779 ug/mlm
12)	n-C14	11.176	115180	1.293 ug/mlm
13)	i-16	11.850	129049	1.430 ug/mlm
14)	n-C15	12.210	104781	1.165 ug/mlm
15)	n-C16	13.255	122778	1.361 ug/mlm
17)	i-18	13.824	104990	1.126 ug/mlm
18)	n-C17	14.368	146649	1.542 ug/mlm
19)	Pristane	14.482	152178	1.608 ug/mlm
20)	n-C18	15.555	117829	1.264 ug/mlm
21)	Phytane	15.719	178101	1.876 ug/mlm
22)	n-C19	16.801	115555	1.247 ug/mlm
24)	n-C20	18.089	84359	0.909 ug/mlm
25)	n-C21	19.397	93362	1.000 ug/mlm
26)	n-C22	20.698	63727	0.683 ug/mlm
27)	n-C23	21.989	47636	0.510 ug/mlm
28)	n-C24	23.252	54360	0.583 ug/mlm
29)	n-C25	24.491	69875	0.748 ug/mlm
30)	n-C26	25.691	42138	0.451 ug/mlm
31)	n-C27	26.858	93269	1.023 ug/mlm
32)	n-C28	27.987	43716	0.473 ug/mlm
33)	n-C29	29.092	304010	3.275 ug/mlm
35)	n-C30	30.147	58163	0.632 ug/mlm
36)	n-C31	31.183	307332	3.390 ug/mlm
37)	n-C32	32.179	20084	0.223 ug/mlm
38)	n-C33	33.167	149989	1.707 ug/mlm
39)	n-C34	34.088	29348	0.330 ug/mlm
40)	n-C35	35.088	120611	1.390 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ARC1671.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 11:52:52
Operator : Meghan Dailey
Sample : SED-DA-015 (0-0.5)
Misc :
ALS Vial : 14 Sample Multiplier: 0.0662691

Integration File: autoint1.e
Quant Time: Aug 30 08:57:23 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.264	42307	0.452	ug/mlm
42)	n-C37	37.640	58019	0.679	ug/mlm
43)	n-C38	0.000	0	N.D.	ug/mld
44)	n-C39	0.000	0	N.D.	ug/mld
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	19.642	164504458	1838.083	ug/mlm
47)	TRH1	8.074	399444	4.463	ug/mlm
48)	TRH2	13.000f	4818194	53.836	ug/mlm
49)	TRH3	19.642f	13209523	147.526	ug/mlm
50)	TRH4	35.304f	1617051	18.068	ug/mlm
51)	TRH5	38.991f	271889	3.038	ug/mlm
52)	TRH6	44.180	202587	2.264	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

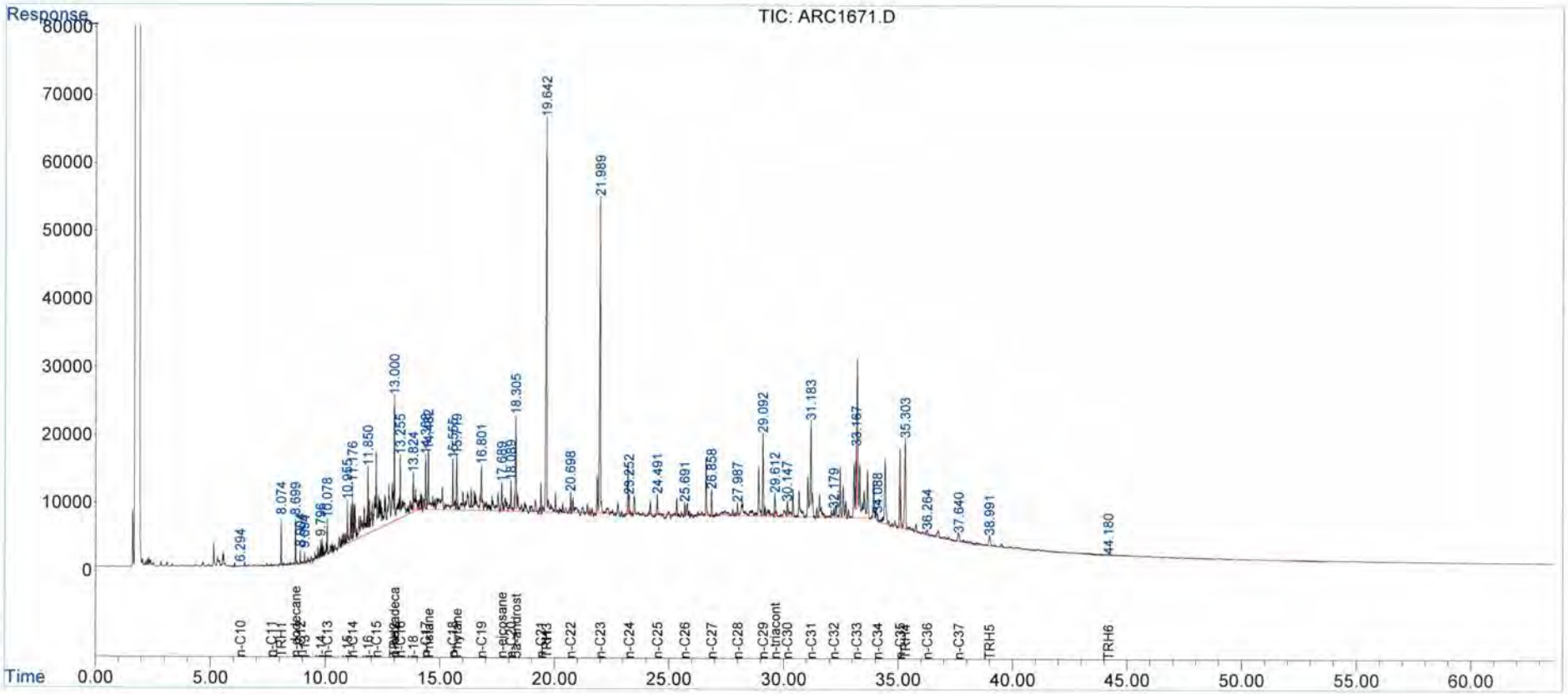
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ARC1671.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 11:52:52
Operator : Meghan Dailey
Sample : SED-DA-015 (0-0.5)
Misc :
ALS Vial : 14 Sample Multiplier: 0.0662691

Integration File: autoint1.e
Quant Time: Aug 30 08:57:23 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	ARC1672.D		ARC1672.D
Sample Name	SED-DA-016 (0-0.5)		SED-DA-016 (0-0.5)
Misc Info	0		20-Aug-2013, 13:03:29
Data File Path	C:\msdchem\2\data\FID10080\		ALI2012.M
Operator	Meghan Dailey		
Date Acquired	20-Aug-2013, 13:03:29		0.0664452
Instrument Name	HP5890		
Acq. Method File	ALI2012.M	Vial #	15
Vial Number	15	IS Area 1	243557
Sample Multiplier	0.0664452	IS Area 2	304297

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	0.00	0	0.00	0.000
3)	n-C9	0.00	0	0.00	0.000
4)	n-C10	0.00	0	0.00	0.000
5)	n-C11	7.65	449.688	0.01	0.006
7)	n-C12	8.89	3915.05	0.05	0.046
8)	i-13	0.00	0	0.00	0.000
9)	i-14	0.00	0	0.00	0.000
10)	n-C13	10.08	1741.58	0.02	0.021
11)	i-15	10.94	9748.57	0.11	0.111
12)	n-C14	11.18	3888.14	0.04	0.045
13)	i-16	11.87	11425.9	0.13	0.130
14)	n-C15	12.21	17846.4	0.20	0.203
15)	n-C16	13.25	10072.6	0.11	0.114
17)	i-18	13.81	13726.5	0.15	0.155
18)	n-C17	14.36	3678.96	0.04	0.041
19)	Pristane	14.53	1486.64	0.02	0.016
20)	n-C18	15.54	21487.1	0.24	0.242
21)	Phytane	15.71	10251	0.11	0.113
22)	n-C19	16.79	10821.9	0.12	0.123
24)	n-C20	18.07	2959.55	0.03	0.033
25)	n-C21	19.38	21085.1	0.24	0.237
26)	n-C22	20.69	9396.89	0.11	0.106
27)	n-C23	21.97	10330.7	0.12	0.116
28)	n-C24	23.23	10161	0.11	0.114
29)	n-C25	24.48	20431	0.23	0.229
30)	n-C26	25.67	4798.18	0.05	0.054
31)	n-C27	26.84	46839.1	0.54	0.539
32)	n-C28	27.97	33598.5	0.38	0.381
33)	n-C29	29.07	234965	2.66	2.656
35)	n-C30	30.13	20907.5	0.24	0.238
36)	n-C31	31.18	151044	1.75	1.748
37)	n-C32	32.21	13134.7	0.15	0.153
38)	n-C33	33.16	128909	1.54	1.539
39)	n-C34	34.09	14069	0.17	0.166
40)	n-C35	35.09	102025	1.23	1.234
41)	n-C36	36.39	7046.91	0.08	0.079
42)	n-C37	37.62	93841.9	1.15	1.153
43)	n-C38	0.00	0	0.00	0.000
44)	n-C39	0.00	0	0.00	0.000
45)	n-C40	0.00	0	0.00	0.000
46)	TPH	25.86	49343100	578.59	578.589
47)	TRH1	11.81	4945370	57.99	57.989
48)	TRH2	22.77	1688790	19.80	19.802
49)	TRH3	25.86	20733900	243.01	243.007
50)	TRH4	38.04	694982	8.15	8.149
51)	TRH5	44.16	102397	1.20	1.201
52)	TRH6	47.09	216134	2.53	2.534
53)	GRO	0.00	0	0.00	0.000
54)	DRO	0.00	0	0.00	0.000
55)	RRO	0.00	0	0.00	0.000
6)	n-dodecane-d26	8.70	98369	1.30	97.8
23)	n-eicosane-d42	17.67	88047.4	1.25	93.5
34)	n-triacontane-d62	29.59	83769.2	1.22	91.9
1)	n-hexadecane-d34	13.00	243557	3.32	243557.000
16)	5a-androstane	18.29	304297	3.33	304297.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ARC1672.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 13:03:29
Operator : Meghan Dailey
Sample : SED-DA-016 (0-0.5)
Misc :
ALS Vial : 15 Sample Multiplier: 0.0664452

Integration File: autoint1.e
Quant Time: Aug 30 09:06:09 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	12.996	243557	50.000	ug/mlm
16) I	5a-androstane	18.287	304297	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.700	98369	1.299	ug/mlm
23) S	n-eicosane-d42	17.674	88047	1.251	ug/mlm
34) S	n-triacontane-d62	29.594	83769	1.223	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/mld
3)	n-C9	0.000	0	N.D.	ug/mld
4)	n-C10	0.000	0	N.D.	ug/mld
5)	n-C11	7.647	450	0.006	ug/mlm
7)	n-C12	8.893	3915	0.046	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	10.079	1742	0.021	ug/mlm
11)	i-15	10.943	9749	0.111	ug/mlm
12)	n-C14	11.176	3888	0.045	ug/mlm
13)	i-16	11.870	11426	0.130	ug/mlm
14)	n-C15	12.210	17846	0.203	ug/mlm
15)	n-C16	13.250	10073	0.114	ug/mlm
17)	i-18	13.806	13726	0.155	ug/mlm
18)	n-C17	14.357	3679	0.041	ug/mlm
19)	Pristane	14.527f	1487	0.016	ug/mlm
20)	n-C18	15.536	21487	0.242	ug/mlm
21)	Phytane	15.713	10251	0.113	ug/mlm
22)	n-C19	16.792	10822	0.123	ug/mlm
24)	n-C20	18.072	2960	0.033	ug/mlm
25)	n-C21	19.378	21085	0.237	ug/mlm
26)	n-C22	20.686	9397	0.106	ug/mlm
27)	n-C23	21.972	10331	0.116	ug/mlm
28)	n-C24	23.231	10161	0.114	ug/mlm
29)	n-C25	24.483	20431	0.229	ug/mlm
30)	n-C26	25.673	4798	0.054	ug/mlm
31)	n-C27	26.840	46839	0.539	ug/mlm
32)	n-C28	27.973	33598	0.381	ug/mlm
33)	n-C29	29.072	234965	2.656	ug/mlm
35)	n-C30	30.131	20908	0.238	ug/mlm
36)	n-C31	31.175	151044	1.748	ug/mlm
37)	n-C32	32.210f	13135	0.153	ug/mlm
38)	n-C33	33.163	128909	1.539	ug/mlm
39)	n-C34	34.093	14069	0.166	ug/mlm
40)	n-C35	35.087	102025	1.234	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ARC1672.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 13:03:29
Operator : Meghan Dailey
Sample : SED-DA-016 (0-0.5)
Misc :
ALS Vial : 15 Sample Multiplier: 0.0664452

Integration File: autoint1.e
Quant Time: Aug 30 09:06:09 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.390f	7047	0.079	ug/mlm
42)	n-C37	37.621	93842	1.153	ug/mlm
43)	n-C38	0.000	0	N.D.	ug/mld
44)	n-C39	0.000	0	N.D.	ug/mld
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	25.857	49343057	578.589	ug/mlm
47)	TRH1	11.806f	4945366	57.989	ug/mlm
48)	TRH2	22.769f	1688790	19.802	ug/mlm
49)	TRH3	25.857f	20733920	243.008	ug/mlm
50)	TRH4	38.035f	694982	8.149	ug/mlm
51)	TRH5	44.157f	102397	1.201	ug/mlm
52)	TRH6	47.087	216134	2.534	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

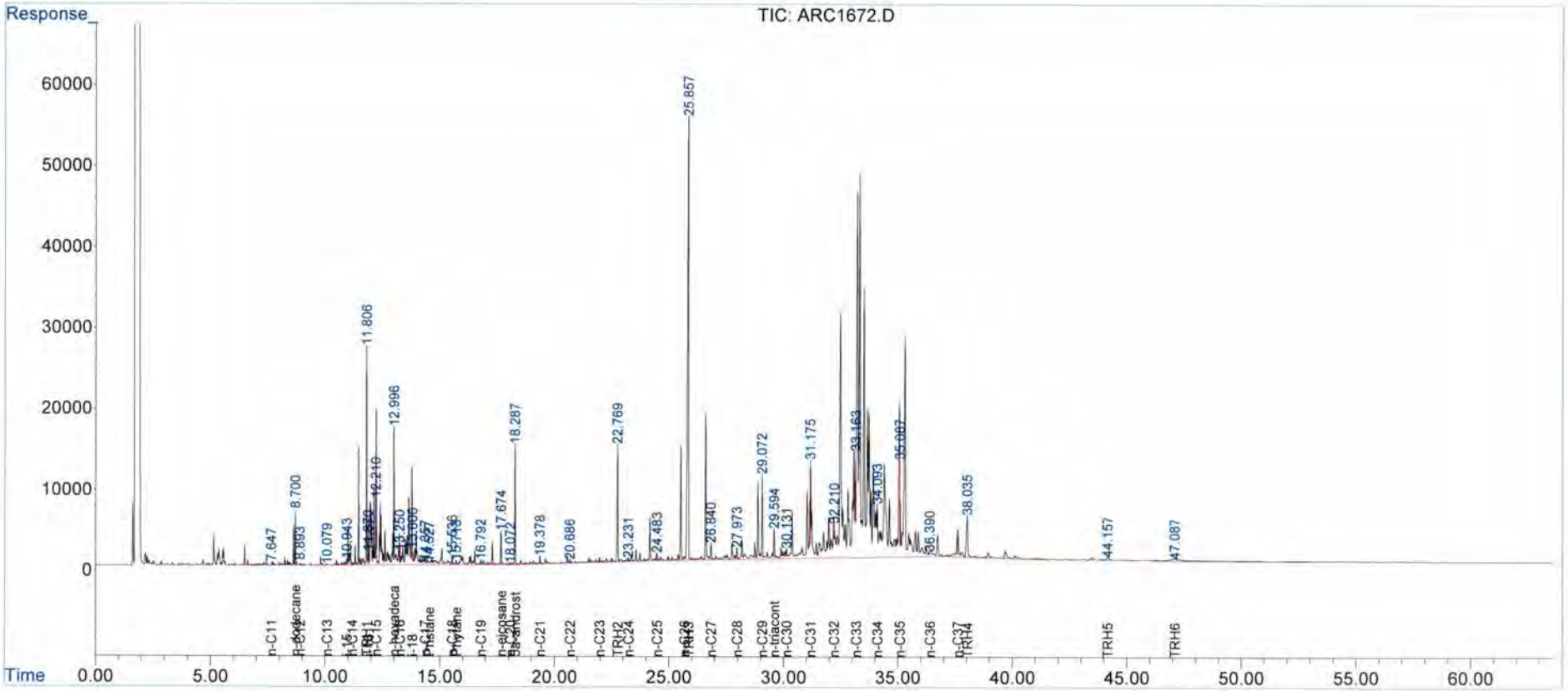
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ARC1672.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 13:03:29
Operator : Meghan Dailey
Sample : SED-DA-016 (0-0.5)
Misc :
ALS Vial : 15 Sample Multiplier: 0.0664452

Integration File: autoint1.e
Quant Time: Aug 30 09:06:09 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	ARC1673.D		ARC1673.D
Sample Name	SED-DA-017 (0-0.5)		SED-DA-017 (0-0.5)
Misc Info	0		20-Aug-2013, 14:14:09
Data File Path	C:\msdchem\2\data\FID10080\		ALI2012.M
Operator	Meghan Dailey		
Date Acquired	20-Aug-2013, 14:14:09		0.0665336
Instrument Name	HP5890		
Acq. Method File	ALI2012.M	Vial #	16
Vial Number	16	IS Area 1	234819
Sample Multiplier	0.0665336	IS Area 2	309728

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	0.00	0	0.00	0.000
3)	n-C9	0.00	0	0.00	0.000
4)	n-C10	6.29	1584.97	0.02	0.021
5)	n-C11	7.65	2204.36	0.03	0.028
7)	n-C12	8.91	8588.47	0.11	0.105
8)	i-13	9.10	3688.8	0.05	0.045
9)	i-14	9.80	7852.84	0.09	0.094
10)	n-C13	10.08	16651.7	0.20	0.204
11)	i-15	10.95	31150.7	0.37	0.369
12)	n-C14	11.18	49885.4	0.60	0.596
13)	i-16	11.85	68347.6	0.81	0.807
14)	n-C15	12.21	61015	0.72	0.723
15)	n-C16	13.25	79101.7	0.93	0.934
17)	i-18	13.82	68437.9	0.76	0.758
18)	n-C17	14.37	99138.5	1.08	1.076
19)	Pristane	14.48	102487	1.12	1.118
20)	n-C18	15.55	86758.4	0.96	0.961
21)	Phytane	15.72	125357	1.36	1.363
22)	n-C19	16.80	74646.5	0.83	0.832
24)	n-C20	18.09	60851.1	0.68	0.677
25)	n-C21	19.39	71432.7	0.79	0.790
26)	n-C22	20.70	45399	0.50	0.502
27)	n-C23	21.99	46289.5	0.51	0.512
28)	n-C24	23.25	44396.1	0.49	0.491
29)	n-C25	24.49	49527.8	0.55	0.547
30)	n-C26	25.69	30126.3	0.33	0.333
31)	n-C27	26.86	66277	0.75	0.750
32)	n-C28	27.99	39217.9	0.44	0.438
33)	n-C29	29.08	84054.9	0.93	0.935
35)	n-C30	30.15	47727.1	0.54	0.536
36)	n-C31	31.17	84580.6	0.96	0.963
37)	n-C32	32.17	26544.7	0.30	0.305
38)	n-C33	33.15	52323.9	0.61	0.615
39)	n-C34	34.08	19683.2	0.23	0.229
40)	n-C35	35.10	49671.5	0.59	0.591
41)	n-C36	36.27	20079.4	0.22	0.221
42)	n-C37	37.64	49519.1	0.60	0.598
43)	n-C38	0.00	0	0.00	0.000
44)	n-C39	0.00	0	0.00	0.000
45)	n-C40	0.00	0	0.00	0.000
46)	TPH	13.00	117180000	1351.74	1351.743
47)	TRH1	8.70	230311	2.66	2.657
48)	TRH2	13.00	4313910	49.76	49.763
49)	TRH3	18.30	5268270	60.74	60.744
50)	TRH4	33.18	3480730	40.15	40.152
51)	TRH5	37.84	98980.4	1.14	1.142
52)	TRH6	47.00	267922	3.09	3.091
53)	GRO	0.00	0	0.00	0.000
54)	DRO	0.00	0	0.00	0.000
55)	RRO	0.00	0	0.00	0.000
6)	n-dodecane-d26	8.70	94642.2	1.30	97.6
23)	n-eicosane-d42	17.69	83085.7	1.16	86.7
34)	n-triacontane-d62	29.61	77800.2	1.12	83.9
1)	n-hexadecane-d34	13.00	234819	3.33	234819.000
16)	5a-androstane	18.30	309728	3.33	309728.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ARC1673.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 14:14:09
Operator : Meghan Dailey
Sample : SED-DA-017 (0-0.5)
Misc :
ALS Vial : 16 Sample Multiplier: 0.0665336

Integration File: autoint1.e
Quant Time: Aug 30 09:08:32 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	13.000	234819	50.000	ug/mlm
16) I	5a-androstane	18.303	309728	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.700	94642	1.298	ug/mlm
23) S	n-eicosane-d42	17.689	83086	1.161	ug/mlm
34) S	n-triacontane-d62	29.612	77800	1.117	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/mld
3)	n-C9	0.000	0	N.D.	ug/mld
4)	n-C10	6.295	1585	0.021	ug/mlm
5)	n-C11	7.647	2204	0.028	ug/mlm
7)	n-C12	8.905	8588	0.105	ug/mlm
8)	i-13	9.096	3689	0.045	ug/mlm
9)	i-14	9.796	7853	0.094	ug/mlm
10)	n-C13	10.078	16652	0.204	ug/mlm
11)	i-15	10.954	31151	0.369	ug/mlm
12)	n-C14	11.175	49885	0.596	ug/mlm
13)	i-16	11.850	68348	0.807	ug/mlm
14)	n-C15	12.209	61015	0.723	ug/mlm
15)	n-C16	13.253	79102	0.934	ug/mlm
17)	i-18	13.822	68438	0.758	ug/mlm
18)	n-C17	14.367	99139	1.076	ug/mlm
19)	Pristane	14.481	102487	1.118	ug/mlm
20)	n-C18	15.552	86758	0.961	ug/mlm
21)	Phytane	15.716	125357	1.363	ug/mlm
22)	n-C19	16.800	74647	0.832	ug/mlm
24)	n-C20	18.086	60851	0.677	ug/mlm
25)	n-C21	19.392	71433	0.790	ug/mlm
26)	n-C22	20.698	45399	0.502	ug/mlm
27)	n-C23	21.987	46289	0.512	ug/mlm
28)	n-C24	23.253	44396	0.491	ug/mlm
29)	n-C25	24.489	49528	0.547	ug/mlm
30)	n-C26	25.691	30126	0.333	ug/mlm
31)	n-C27	26.857	66277	0.750	ug/mlm
32)	n-C28	27.986	39218	0.438	ug/mlm
33)	n-C29	29.080	84055	0.935	ug/mlm
35)	n-C30	30.147	47727	0.536	ug/mlm
36)	n-C31	31.170	84581	0.963	ug/mlm
37)	n-C32	32.170	26545	0.305	ug/mlm
38)	n-C33	33.150	52324	0.615	ug/mlm
39)	n-C34	34.078	19683	0.229	ug/mlm
40)	n-C35	35.095	49671	0.591	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ARC1673.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 14:14:09
Operator : Meghan Dailey
Sample : SED-DA-017 (0-0.5)
Misc :
ALS Vial : 16 Sample Multiplier: 0.0665336

Integration File: autoint1.e
Quant Time: Aug 30 09:08:32 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.265	20079	0.221	ug/mlm
42)	n-C37	37.638	49519	0.598	ug/mlm
43)	n-C38	0.000	0	N.D.	ug/mld
44)	n-C39	0.000	0	N.D.	ug/mld
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	13.000f	117180332	1351.742	ug/mlm
47)	TRH1	8.700	230311	2.657	ug/mlm
48)	TRH2	13.000f	4313913	49.763	ug/mlm
49)	TRH3	18.303f	5268271	60.744	ug/mlm
50)	TRH4	33.182f	3480734	40.152	ug/mlm
51)	TRH5	37.836f	98980	1.142	ug/mlm
52)	TRH6	47.004	267922	3.091	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

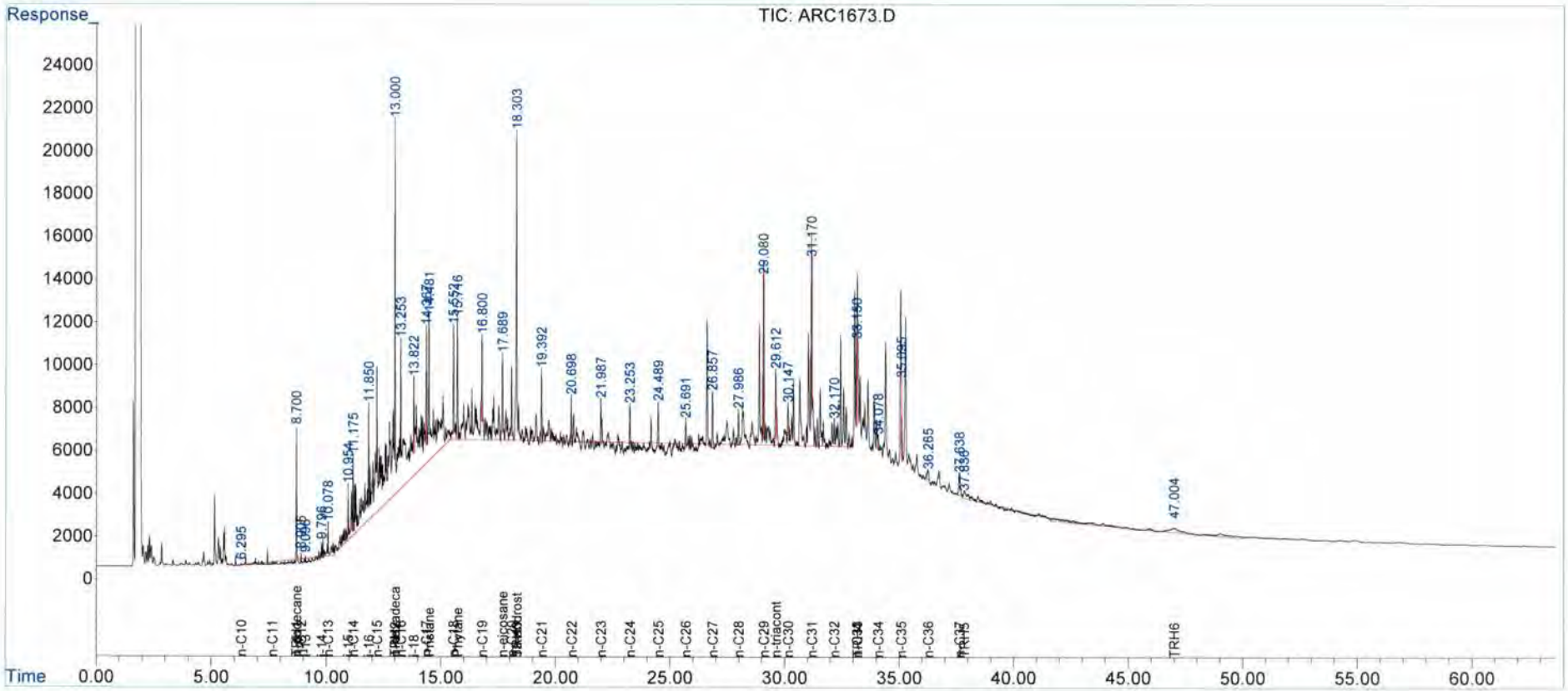
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10080\
Data File : ARC1673.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 14:14:09
Operator : Meghan Dailey
Sample : SED-DA-017 (0-0.5)
Misc :
ALS Vial : 16 Sample Multiplier: 0.0665336

Integration File: autoint1.e
Quant Time: Aug 30 09:08:32 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3082\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Polycyclic Aromatic Hydrocarbon Raw Data

B&B LABORATORIES PAHs QA FORM

Extraction Page: ENV 3082	Analyst: Y. Miao
Client: Arcadis Mayflower Project	Date: September 16, 2013
Job: #: J13034	Project Quality Manager: W Frank
SDG #: 13080601	Date: 09/17/13

Initial Calibration: No failures	ICV No failures

Surrogate Recoveries:	d12-Perylene was outside of the laboratory %recovery limits in 10 client samples samples and 2 internal QC samples that were submitted by the client. Recoveries are qualifed with an "L"
Procedural Blank:	No failures
Blank Spike:	NA
Blank Spike Duplicate:	NA
Laboratory Duplicate:	No failures
Matrix Spike:	Carbazole, Anthracene, Benzo(a)pyrene, and Benzo(g,h,i)perylene were detcted below the laboratory %recovery limits of 40-120% due to a matrix effect. These compounds are qualified with the "L" qualifier.
Matirx Spike Duplicate:	Carbazole, Anthracene, Benzo(a)pyrene, and Benzo(g,h,i)perylene were detcted below the laboratory %recovery limits of 40-120% due to a matrix effect. These compounds are qualified with the "L" qualifier.
SRM/LCS (Solution, Tissue, Sediment):	Solution no failures Sediment (1941b) anthracene was outside of the laboratory QC %RPD limit
CCC (from a second source):	No failures
SRM-2279 Reference Oil	2-MP was outside of the QC %recovery limits in MS70060K
Mass Discrimination Check (benzo(ghi)perylene/phenanthrene >0.7)	No failures

```
   Sequence Name: C:\msdchem\1\sequence\MS60142.S
         Comment: Arcadis-Mayflower AR-Sediments-PAH (08/17/13)
        Operator: YM
       Data Path: C:\MSDCHEM\1\DATA\MS60142\
Instrument Control  Pre-Seq Cmd:
Data Analysis       Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis      Post-Seq Cmd:

   Method Sections To Run     On A Barcode Mismatch
    (X) Full Method             (X) Inject Anyway
    ( ) Reprocessing Only       ( ) Don't Inject

   ----------------------------------------------------------------------
   Line                   Sample Name/Misc Info
 1)  Sample        1  MS60142A PAH-2012 Solvent rinse
 2)  Sample        2  MS60142B PAH-2012 AR-WKC1-020-030
 3)  Sample        3  MS60142C PAH-2012 AR-WKC2-100-030
 4)  Sample        4  MS60142D PAH-2012 AR-WKC3-250-030
 5)  Sample        5  MS60142E PAH-2012 AR-WKC4-500-030
 6)  Sample        6  MS60142F PAH-2012 AR-WKC5-1000-030
 7)  Sample        7  MS60142G PAH-2012 AR-WKC6-5000-030
 8)  Sample        8  MS60142H PAH-2012 AR-WKISSU-250-002
 9)  Sample        9  MS60142I PAH-2012 AR-WKICV-250-004
10)  Sample       10  MS60142J PAH-2012 AR-WKCC-250-038
11)  Sample       11  MS60142K PAH-2012 AR-SRM2779-WK-4.0-002
12)  Sample       12  ENV3082A PAH-2012
13)  Sample       13  ENV3082B PAH-2012
14)  Sample       14  ENV3082C PAH-2012
15)  Sample       15  ENV3082D PAH-2012
16)  Sample       16  ENV3082E PAH-2012
17)  Sample       17  ARC1648  PAH-2012
18)  Sample       18  ARC1649  PAH-2012
19)  Sample       19  ARC1650  PAH-2012
20)  Sample       20  MS60142L PAH-2012 AR-WKCC-250-038
```

Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60142\
Data File : MS60142J.D
Acq On : 17 Aug 2013 8:46 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 18 21:23:51 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorene-d10	1.000	1.000	0.0	94	0.00
2	S	Naphthalene-d8	1.808	1.677	7.2	92	0.00
3	T	cis/trans Decalin	0.320	0.314	1.9	94	0.00
4	un	C1-Decalins	0.320	0.000	100.0#	0#	-12.26#
5	un	C2-Decalins	0.320	0.000	100.0#	0#	-13.20#
6	un	C3-Decalins	0.320	0.000	100.0#	0#	-16.10#
7	un	C4-Decalins	0.320	0.000	100.0#	0#	-18.75#
8	T	Naphthalene	1.958	1.829	6.6	93	0.00
9	T	2-Methylnaphthalene	1.271	1.175	7.6	93	0.00
10	T	1-Methylnaphthalene	1.178	1.090	7.5	93	0.00
11	T	2,6-Dimethylnaphthalene	1.099	1.003	8.7	93	0.02
12	T	1,6,7-Trimethylnaphthalene	1.033	0.942	8.8	94	0.00
13	un	C2-Naphthalenes	1.958	0.000	100.0#	0#	-18.50#
14	un	C3-Naphthalenes	1.958	0.000	100.0#	0#	-20.28#
15	un	C4-Naphthalenes	1.958	0.000	100.0#	0#	-21.96#
16	T	Benzothiophene	1.558	1.454	6.7	93	0.00
17	un	C1-Benzothiophenes	1.558	0.000	100.0#	0#	-15.41#
18	un	C2-Benzothiophenes	1.558	0.000	100.0#	0#	-18.14#
19	un	C3-Benzothiophenes	1.558	0.000	100.0#	0#	-20.23#
20	un	C4-Benzothiophenes	1.558	0.000	100.0#	0#	-22.18#
21	S	Acenaphthene-d10	0.984	0.901	8.4	93	0.00
22	T	Biphenyl	1.590	1.455	8.5	93	0.02
23	T	Acenaphthylene	1.820	1.602	12.0	91	0.00
24	T	Acenaphthene	1.090	1.010	7.3	94	0.00
25	T	Dibenzofuran	1.699	1.574	7.4	94	0.00
26	T	Fluorene	1.364	1.219	10.6	91	0.00
27	T	1-Methylfluorene	0.718	0.673	6.3	98	0.00
28	un	C1-Fluorenes	1.364	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.364	0.000	100.0#	0#	-25.35#
30	un	C3-Fluorenes	1.364	0.000	100.0#	0#	-26.35#
31	I	Pyrene-d10	1.000	1.000	0.0	81	0.00
32	S	Phenanthrene-d10	0.931	1.015	-9.0	97	0.00
33	T	Carbazole	0.910	0.915	-0.5	91	0.00
34	T	Dibenzothiophene	1.107	1.160	-4.8	94	0.00
35	T	4-Methyldibenzothiophene	0.673	0.659	2.1	90	0.00
36	un	2/3-Methyldibenzothiophene	0.673	0.000	100.0#	0#	-26.14#
37	un	1-Methyldibenzothiophene	0.673	0.000	100.0#	0#	-26.49#
38	un	C2-Dibenzothiophenes	1.107	0.000	100.0#	0#	-27.25#
39	un	C3-Dibenzothiophenes	1.107	0.000	100.0#	0#	-28.77#
40	un	C4-Dibenzothiophenes	1.107	0.000	100.0#	0#	-30.68#
41	T	Phenanthrene	0.959	1.060	-10.5	98	0.00
42	T	Anthracene	0.904	0.946	-4.6	96	0.00
43	un	3-Methylphenanthrene	0.809	0.000	100.0#	0#	-26.90#
44	un	2-Methylphenanthrene	0.809	0.000	100.0#	0#	-26.90#
45	un	2-Methylanthracene	0.809	0.000	100.0#	0#	-26.90#
46	un	4/9-Methylphenanthrene	0.809	0.000	100.0#	0#	-26.90#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60142\
Data File : MS60142J.D
Acq On : 17 Aug 2013 8:46 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 18 21:23:51 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
47	T	1-Methylphenanthrene	0.809	0.778	3.8	88	0.00
48	T	3,6-Dimethylphenanthrene	0.737	0.773	-4.9	95	0.00
49	T	Retene	0.299	0.292	2.3	89	0.00
50	un	C2-Phenanthrenes/Anthracene	0.959	0.000	100.0#	0#	-28.53#
51	un	C3-Phenanthrenes/Anthracene	0.959	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	0.959	0.000	100.0#	0#	-32.03#
53	T	Naphthobenzothiophene	1.090	0.974	10.6	85	0.00
54	un	C1-Naphthobenzothiophenes	1.090	0.000	100.0#	0#	-34.23#
55	un	C2-Naphthobenzothiophenes	1.090	0.000	100.0#	0#	-35.82#
56	un	C3-Naphthobenzothiophenes	1.090	0.000	100.0#	0#	-37.14#
57	un	C4-Naphthobenzothiophenes	1.090	0.000	100.0#	0#	-37.53#
58	T	Fluoranthene	1.156	1.243	-7.5	95	0.00
59	T	Pyrene	1.188	1.126	5.2	87	0.00
60	T	2-Methylfluoranthene	0.722	0.680	5.8	88	0.00
61	T	Benzo(b)fluorene	0.673	0.692	-2.8	96	0.00
62	un	C1-Fluoranthenes/Pyrenes	1.156	0.000	100.0#	0#	-30.65#
63	un	C2-Fluoranthenes/Pyrenes	1.156	0.000	100.0#	0#	-32.13#
64	un	C3-Fluoranthenes/Pyrenes	1.156	0.000	100.0#	0#	-33.53#
65	un	C4-Fluoranthenes/Pyrenes	1.156	0.000	100.0#	0#	-35.66#
66	S	Chrysene-d12	1.098	0.999	9.0	85	0.00
67	T	Benz(a)anthracene	1.022	0.897	12.2	84	0.00
68	T	Chrysene/Triphenylene	1.290	1.246	3.4	87	0.00
69	un	C1-Chrysenes	1.290	0.000	100.0#	0#	-35.39#
70	un	C2-Chrysenes	1.290	0.000	100.0#	0#	-36.01#
71	un	C3-Chrysenes	1.290	0.000	100.0#	0#	-38.07#
72	un	C4-Chrysenes	1.290	0.000	100.0#	0#	-39.43#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	85	0.00
74	un	C29-Hopane	0.482	0.000	100.0#	0#	-41.00#
75	un	18a-Oleanane	0.482	0.000	100.0#	0#	-41.81#
76	T	C30-Hopane	0.482	0.469	2.7	89	0.00
77	T	Benzo(b)fluoranthene	1.492	1.418	5.0	87	0.00
78	T	Benzo(k,j)fluoranthene	1.389	1.382	0.5	87	0.00
79	un	Benzo(a)fluoranthene	1.389	0.000	100.0#	0#	-37.29#
80	T	Benzo(e)pyrene	1.447	1.418	2.0	88	0.00
81	T	Benzo(a)pyrene	1.357	1.255	7.5	85	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.400	1.276	8.9	86	0.00
83	T	Dibenzo(a,h)anthracene	1.110	1.018	8.3	86	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.110	0.000	100.0#	0#	-48.86#
85	un	C2-Dibenzo(a,h)anthracenes	1.110	0.000	100.0#	0#	-50.41#
86	un	C3-Dibenzo(a,h)anthracenes	1.110	0.000	100.0#	0#	-50.85#
87	T	Benzo(g,h,i)perylene	1.180	1.115	5.5	89	0.00
88	S	Perylene-d12	1.186	1.099	7.3	88	0.00
89	T	Perylene	1.390	1.329	4.4	88	0.00
90	S	5(b)H-Cholane	0.253	0.267	-5.5	95	0.00
91	un	C20-TAS	1.896	0.000	100.0#	0#	-33.26#
92	un	C21-TAS	1.896	0.000	100.0#	0#	-34.23#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60142\
Data File : MS60142J.D
Acq On : 17 Aug 2013 8:46 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 18 21:23:51 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
93	un	C26(20S)-TAS	1.896	0.000	100.0#	0#	-38.69#
94	T	C26(20R)/C27(20S)-TAS	1.896	1.778	6.2	85	0.00
95	un	C28(20S)-TAS	1.896	0.000	100.0#	0#	-39.82#
96	un	C27(20R)-TAS	1.896	0.000	100.0#	0#	-40.63#
97	un	C28(20R)-TAS	1.896	0.000	100.0#	0#	-41.56#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142J.D
Acq On : 17 Aug 2013 8:46 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 18 21:23:51 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.341	176	152963m	251.05	0.00
31) Pyrene-d10	29.606	212	246350m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	223011m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.706	136	255630m	232.07	0.00
21) Acenaphthene-d10	19.557	164	137380m	229.17	0.00
32) Phenanthrene-d10	24.687	188	249600m	272.77	0.00
66) Chrysene-d12	33.802	240	245649m	227.69	0.00
88) Perylene-d12	38.653	264	244885m	231.76	0.00
90) 5(b)H-Cholane	34.190	217	59559m	264.18	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.086	138	47273m	242.14	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.789	128	278597m	233.54	
9) 2-Methylnaphthalene	16.018	142	179103m	231.25	
10) 1-Methylnaphthalene	16.353	142	165806m	231.10	
11) 2,6-Dimethylnaphthalene	18.136	156	152714m	227.97	
12) 1,6,7-Trimethylnaphtha...	20.979	170	143443m	227.91	
13) C2-Naphthalenes	0.000		0	N.D.	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.956	134	220224m	232.03	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.607	154	219678m	226.70	
23) Acenaphthylene	19.084	152	242092m	218.28	
24) Acenaphthene	19.669	154	154105m	232.03	
25) Dibenzofuran	20.282	168	238566m	230.48	
26) Fluorene	21.452	166	186095m	223.86	
27) 1-Methylfluorene	23.440	180	103220m	236.02	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.519	167	222749m	249.03	
34) Dibenzothiophene	24.341	184	281166m	258.45	
35) 4-Methyldibenzothiophene	25.865	198	163403m	246.88	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.757	178	258123m	273.74	
42) Anthracene	24.930	178	233125m	262.36	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142J.D
Acq On : 17 Aug 2013 8:46 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 18 21:23:51 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43)	3-Methylphenanthrene	0.000		0	N.D. d	
44)	2-Methylphenanthrene	0.000		0	N.D. d	
45)	2-Methylanthracene	0.000		0	N.D. d	
46)	4/9-Methylphenanthrene	0.000		0	N.D. d	
47)	1-Methylphenanthrene	26.904	192	189200m	237.97	
48)	3,6-Dimethylphenanthrene	27.978	206	190220m	262.60	
49)	Retene	30.680	234	64027m	217.64	
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51)	C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52)	C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53)	Naphthobenzothiophene	32.949	234	240788m	224.66	
54)	C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55)	C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56)	C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57)	C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58)	Fluoranthene	28.879	202	305692m	269.09	
59)	Pyrene	29.675	202	276680m	236.88	
60)	2-Methylfluoranthene	30.437	216	168168m	236.90	
61)	Benzo(b)fluorene	31.026	216	171598m	259.33	
62)	C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63)	C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64)	C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65)	C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67)	Benz(a)anthracene	33.763	228	219897m	218.98	
68)	Chrysene/Triphenylene	33.880	228	304272m	239.91	
69)	C1-Chrysenes	0.000		0	N.D. d	
70)	C2-Chrysenes	0.000		0	N.D. d	
71)	C3-Chrysenes	0.000		0	N.D. d	
72)	C4-Chrysenes	0.000		0	N.D. d	
74)	C29-Hopane	0.000		0	N.D. d	
75)	18a-Oleanane	0.000		0	N.D. d	
76)	C30-Hopane	42.735	191	104462m	243.29	
77)	Benzo(b)fluoranthene	37.295	252	316556m	238.16	
78)	Benzo(k,j)fluoranthene	37.372	252	306497m	247.62	
79)	Benzo(a)fluoranthene	0.000		0	N.D. d	
80)	Benzo(e)pyrene	38.265	252	314466m	243.90	
81)	Benzo(a)pyrene	38.459	252	278871m	230.66	
82)	Indeno(1,2,3-c,d)pyrene	43.141	276	279351m	224.00	
83)	Dibenzo(a,h)anthracene	43.178	278	224587m	227.10	
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87)	Benzo(g,h,i)perylene	44.505	276	246136m	234.19	
89)	Perylene	38.769	252	296379m	239.36	
91)	C20-TAS	0.000		0	N.D. d	
92)	C21-TAS	0.000		0	N.D. d	
93)	C26(20S)-TAS	0.000		0	N.D. d	
94)	C26(20R)/C27(20S)-TAS	39.390	231	396035m	234.47	
95)	C28(20S)-TAS	0.000		0	N.D.	
96)	C27(20R)-TAS	0.000		0	N.D. d	
97)	C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142J.D
Acq On : 17 Aug 2013 8:46 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 18 21:23:51 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

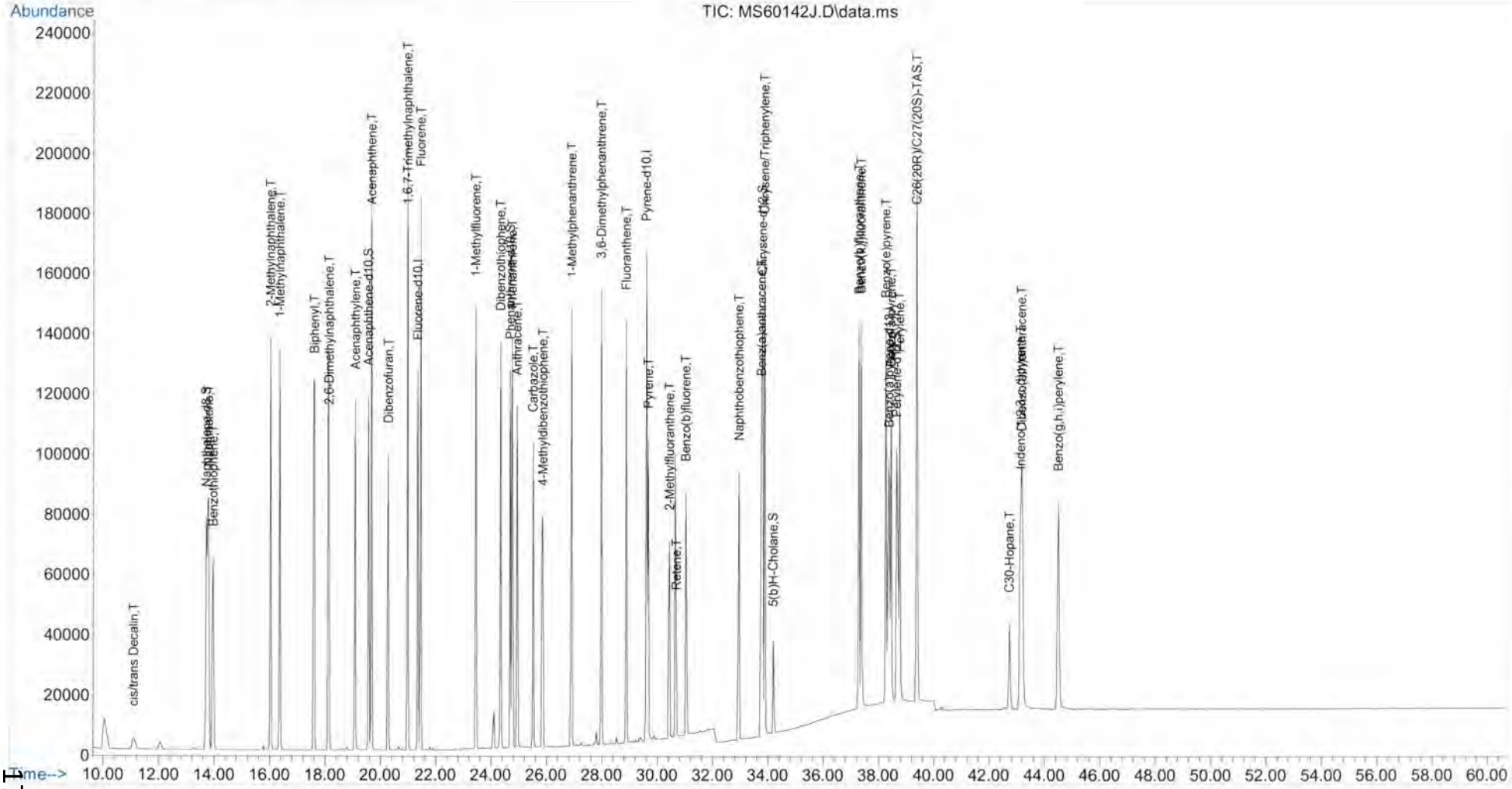
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142J.D
Acq On : 17 Aug 2013 8:46 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 18 21:23:51 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60142\
Data File : MS60142L.D
Acq On : 18 Aug 2013 8:17 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 31 17:30:27 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorene-d10	1.000	1.000	0.0	94	0.00
2	S	Naphthalene-d8	1.808	1.679	7.1	92	0.00
3	T	cis/trans Decalin	0.320	0.312	2.5	94	0.00
4	un	C1-Decalins	0.320	0.000	100.0#	0#	-12.26#
5	un	C2-Decalins	0.320	0.000	100.0#	0#	-13.20#
6	un	C3-Decalins	0.320	0.000	100.0#	0#	-16.10#
7	un	C4-Decalins	0.320	0.000	100.0#	0#	-18.75#
8	T	Naphthalene	1.958	1.804	7.9	92	0.00
9	T	2-Methylnaphthalene	1.271	1.165	8.3	93	0.00
10	T	1-Methylnaphthalene	1.178	1.079	8.4	93	0.00
11	T	2,6-Dimethylnaphthalene	1.099	1.009	8.2	93	0.02
12	T	1,6,7-Trimethylnaphthalene	1.033	0.984	4.7	98	0.00
13	un	C2-Naphthalenes	1.958	0.000	100.0#	0#	-18.50#
14	un	C3-Naphthalenes	1.958	0.000	100.0#	0#	-20.28#
15	un	C4-Naphthalenes	1.958	0.000	100.0#	0#	-21.96#
16	T	Benzothiophene	1.558	1.433	8.0	92	0.00
17	un	C1-Benzothiophenes	1.558	0.000	100.0#	0#	-15.41#
18	un	C2-Benzothiophenes	1.558	0.000	100.0#	0#	-18.14#
19	un	C3-Benzothiophenes	1.558	0.000	100.0#	0#	-20.23#
20	un	C4-Benzothiophenes	1.558	0.000	100.0#	0#	-22.18#
21	S	Acenaphthene-d10	0.984	0.918	6.7	94	0.00
22	T	Biphenyl	1.590	1.462	8.1	93	0.00
23	T	Acenaphthylene	1.820	1.690	7.1	96	0.00
24	T	Acenaphthene	1.090	1.021	6.3	95	0.00
25	T	Dibenzofuran	1.699	1.537	9.5	92	0.00
26	T	Fluorene	1.364	1.228	10.0	92	0.00
27	T	1-Methylfluorene	0.718	0.753	-4.9	110	0.00
28	un	C1-Fluorenes	1.364	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.364	0.000	100.0#	0#	-25.35#
30	un	C3-Fluorenes	1.364	0.000	100.0#	0#	-26.35#
31	I	Pyrene-d10	1.000	1.000	0.0	107	0.00
32	S	Phenanthrene-d10	0.931	0.826	11.3	105	0.00
33	T	Carbazole	0.910	0.765	15.9	101	0.00
34	T	Dibenzothiophene	1.107	0.900	18.7	97	0.00
35	T	4-Methyldibenzothiophene	0.673	0.538	20.1	97	0.00
36	un	2/3-Methyldibenzothiophene	0.673	-0.011#	101.6#	-2#	-26.14#
37	un	1-Methyldibenzothiophene	0.673	-0.011#	101.6#	-2#	-26.49#
38	un	C2-Dibenzothiophenes	1.107	-0.012#	101.1#	-1#	-27.25#
39	un	C3-Dibenzothiophenes	1.107	-0.012#	101.1#	-1#	-28.77#
40	un	C4-Dibenzothiophenes	1.107	-0.012#	101.1#	-1#	-30.68#
41	T	Phenanthrene	0.959	0.861	10.2	105	0.00
42	T	Anthracene	0.904	0.821	9.2	110	0.00
43	un	3-Methylphenanthrene	0.809	-0.011#	101.4#	-2#	-26.90#
44	un	2-Methylphenanthrene	0.809	-0.011#	101.4#	-2#	-26.90#
45	un	2-Methylanthracene	0.809	-0.011#	101.4#	-2#	-26.90#
46	un	4/9-Methylphenanthrene	0.809	-0.011#	101.4#	-2#	-26.90#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60142\
Data File : MS60142L.D
Acq On : 18 Aug 2013 8:17 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 31 17:30:27 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
47	T	1-Methylphenanthrene	0.809	0.637	21.3	96	0.00
48	T	3,6-Dimethylphenanthrene	0.737	0.715	3.0	116	0.00
49	T	Retene	0.299	0.273	8.7	111	-0.03
50	un	C2-Phenanthrenes/Anthracene	0.959	-0.011#	101.1#	-1#	-28.53#
51	un	C3-Phenanthrenes/Anthracene	0.959	-0.011#	101.1#	-1#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	0.959	-0.011#	101.1#	-1#	-32.03#
53	T	Naphthobenzothiophene	1.090	0.877	19.5	101	0.00
54	un	C1-Naphthobenzothiophenes	1.090	-0.011#	101.0#	-1#	-34.23#
55	un	C2-Naphthobenzothiophenes	1.090	-0.011#	101.0#	-1#	-35.82#
56	un	C3-Naphthobenzothiophenes	1.090	-0.011#	101.0#	-1#	-37.14#
57	un	C4-Naphthobenzothiophenes	1.090	-0.011#	101.0#	-1#	-37.53#
58	T	Fluoranthene	1.156	1.114	3.6	113	0.00
59	T	Pyrene	1.188	0.978	17.7	100	0.00
60	T	2-Methylfluoranthene	0.722	0.627	13.2	108	0.00
61	T	Benzo(b)fluorene	0.673	0.699	-3.9	128	0.00
62	un	C1-Fluoranthenes/Pyrenes	1.156	-0.011#	101.0#	-1#	-30.65#
63	un	C2-Fluoranthenes/Pyrenes	1.156	-0.011#	101.0#	-1#	-32.13#
64	un	C3-Fluoranthenes/Pyrenes	1.156	-0.011#	101.0#	-1#	-33.53#
65	un	C4-Fluoranthenes/Pyrenes	1.156	-0.011#	101.0#	-1#	-35.66#
66	S	Chrysene-d12	1.098	0.910	17.1	102	0.00
67	T	Benz(a)anthracene	1.022	0.858	16.0	107	0.00
68	T	Chrysene/Triphenylene	1.290	1.125	12.8	104	0.00
69	un	C1-Chrysenes	1.290	-0.011#	100.9#	-1#	-35.39#
70	un	C2-Chrysenes	1.290	-0.011#	100.9#	-1#	-36.01#
71	un	C3-Chrysenes	1.290	-0.011#	100.9#	-1#	-38.07#
72	un	C4-Chrysenes	1.290	-0.011#	100.9#	-1#	-39.43#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	101	0.00
74	un	C29-Hopane	0.482	0.000	100.0#	0#	-41.00#
75	un	18a-Oleanane	0.482	0.000	100.0#	0#	-41.81#
76	T	C30-Hopane	0.482	0.477	1.0	108	0.00
77	T	Benzo(b)fluoranthene	1.492	1.466	1.7	107	0.00
78	T	Benzo(k,j)fluoranthene	1.389	1.522	-9.6	115	0.00
79	un	Benzo(a)fluoranthene	1.389	0.000	100.0#	0#	-37.29#
80	T	Benzo(e)pyrene	1.447	1.476	-2.0	109	0.00
81	T	Benzo(a)pyrene	1.357	1.254	7.6	102	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.400	1.055	24.6	84	-0.04
83	T	Dibenzo(a,h)anthracene	1.110	0.870	21.6	88	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.110	0.000	100.0#	0#	-48.86#
85	un	C2-Dibenzo(a,h)anthracenes	1.110	0.000	100.0#	0#	-50.41#
86	un	C3-Dibenzo(a,h)anthracenes	1.110	0.000	100.0#	0#	-50.85#
87	T	Benzo(g,h,i)perylene	1.180	0.816	30.8#	77	0.00
88	S	Perylene-d12	1.186	1.133	4.5	108	0.00
89	T	Perylene	1.390	1.297	6.7	103	0.00
90	S	5(b)H-Cholane	0.253	0.319	-26.1#	135	0.00
91	un	C20-TAS	1.896	0.000	100.0#	0#	-33.26#
92	un	C21-TAS	1.896	0.000	100.0#	0#	-34.23#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60142\
Data File : MS60142L.D
Acq On : 18 Aug 2013 8:17 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 31 17:30:27 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
93	un	C26(20S)-TAS	1.896	0.000	100.0#	0#	-38.69#
94	T	C26(20R)/C27(20S)-TAS	1.896	1.978	-4.3	113	0.00
95	un	C28(20S)-TAS	1.896	0.000	100.0#	0#	-39.82#
96	un	C27(20R)-TAS	1.896	0.000	100.0#	0#	-40.63#
97	un	C28(20R)-TAS	1.896	0.000	100.0#	0#	-41.56#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142L.D
Acq On : 18 Aug 2013 8:17 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 31 17:30:27 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.341	176	153063m	251.05	0.00
31) Pyrene-d10	29.606	212	325915m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	265949m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.706	136	255990m	232.25	0.00
21) Acenaphthene-d10	19.558	164	140028m	233.44	0.00
32) Phenanthrene-d10	24.687	188	268748m	222.00	0.00
66) Chrysene-d12	33.802	240	296043m	207.41	0.00
88) Perylene-d12	38.653	264	301037m	238.90	0.00
90) 5(b)H-Cholane	34.190	217	84602m	314.67	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.086	138	47091m	241.05	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.789	128	274945m	230.32	
9) 2-Methylnaphthalene	16.019	142	177742m	229.35	
10) 1-Methylnaphthalene	16.353	142	164297m	228.85	
11) 2,6-Dimethylnaphthalene	18.136	156	153721m	229.32	
12) 1,6,7-Trimethylnaphtha...	20.979	170	149915m	238.04	
13) C2-Naphthalenes	0.000		0	N.D.	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.957	134	217036m	228.52	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.579	154	220811m	227.72	
23) Acenaphthylene	19.084	152	255495m	230.22	
24) Acenaphthene	19.669	154	155999m	234.72	
25) Dibenzofuran	20.282	168	233155m	225.11	
26) Fluorene	21.453	166	187535m	225.44	
27) 1-Methylfluorene	23.440	180	115668m	264.31	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.519	167	246607m	208.40	
34) Dibenzothiophene	24.341	184	288352m	200.35	
35) 4-Methyldibenzothiophene	25.865	198	176195m	201.22	
36) 2/3-Methyldibenzothiop...	0.000	198	-3696	N.D.	
37) 1-Methyldibenzothiophene	0.000	198	-3696	N.D.	
38) C2-Dibenzothiophenes	0.000	212	-3696	N.D.	
39) C3-Dibenzothiophenes	0.000	226	-3696	N.D.	
40) C4-Dibenzothiophenes	0.000	240	-3696	N.D.	
41) Phenanthrene	24.756	178	277414m	222.38	
42) Anthracene	24.930	178	267774m	227.78	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142L.D
Acq On : 18 Aug 2013 8:17 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 31 17:30:27 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) 3-Methylphenanthrene	0.000	192	-3696	N.D.	
44) 2-Methylphenanthrene	0.000	192	-3696	N.D.	
45) 2-Methylanthracene	0.000	192	-3696	N.D.	
46) 4/9-Methylphenanthrene	0.000	192	-3696	N.D.	
47) 1-Methylphenanthrene	26.904	192	204786m	194.69	
48) 3,6-Dimethylphenanthrene	27.978	206	232648m	242.76	
49) Retene	30.645	234	79388m	203.98	
50) C2-Phenanthrenes/Anthr...	0.000	206	-3696	N.D.	
51) C3-Phenanthrenes/Anthr...	0.000	220	-3696	N.D.	
52) C4-Phenanthrenes/Anthr...	0.000	234	-3696	N.D.	
53) Naphthobenzothiophene	32.948	234	286832m	202.29	
54) C1-Naphthobenzothiophenes	0.000	248	-3696	N.D.	
55) C2-Naphthobenzothiophenes	0.000	262	-3696	N.D.	
56) C3-Naphthobenzothiophenes	0.000	276	-3696	N.D.	
57) C4-Naphthobenzothiophenes	0.000	290	-3696	N.D.	
58) Fluoranthene	28.879	202	362509m	241.20	
59) Pyrene	29.675	202	318081m	205.85	
60) 2-Methylfluoranthene	30.437	216	205263m	218.56	
61) Benzo(b)fluorene	31.026	216	229219m	261.84	
62) C1-Fluoranthenes/Pyrenes	0.000	216	-3696	N.D.	
63) C2-Fluoranthenes/Pyrenes	0.000	230	-3696	N.D.	
64) C3-Fluoranthenes/Pyrenes	0.000	244	-3696	N.D.	
65) C4-Fluoranthenes/Pyrenes	0.000	258	-3696	N.D.	
67) Benz(a)anthracene	33.763	228	278413m	209.57	
68) Chrysene/Triphenylene	33.880	228	363519m	216.65	
69) C1-Chrysenes	0.000	242	-3696	N.D.	
70) C2-Chrysenes	0.000	256	-3696	N.D.	
71) C3-Chrysenes	0.000	270	-3696	N.D.	
72) C4-Chrysenes	0.000	284	-3696	N.D.	
74) C29-Hopane	0.000		0	N.D.	d
75) 18a-Oleanane	0.000		0	N.D.	d
76) C30-Hopane	42.736	191	126570m	247.19	
77) Benzo(b)fluoranthene	37.295	252	390247m	246.20	
78) Benzo(k,j)fluoranthene	37.372	252	402692m	272.81	
79) Benzo(a)fluoranthene	0.000		0	N.D.	d
80) Benzo(e)pyrene	38.265	252	390396m	253.90	
81) Benzo(a)pyrene	38.459	252	332313m	230.49	
82) Indeno(1,2,3-c,d)pyrene	43.104	276	275341m	185.14	
83) Dibenzo(a,h)anthracene	43.178	278	228920m	194.11	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d
87) Benzo(g,h,i)perylene	44.506	276	214892m	171.45	
89) Perylene	38.769	252	344758m	233.48	
91) C20-TAS	0.000		0	N.D.	d
92) C21-TAS	0.000		0	N.D.	d
93) C26(20S)-TAS	0.000		0	N.D.	d
94) C26(20R)/C27(20S)-TAS	39.390	231	525470m	260.88	
95) C28(20S)-TAS	0.000		0	N.D.	
96) C27(20R)-TAS	0.000		0	N.D.	d
97) C28(20R)-TAS	0.000		0	N.D.	d

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142L.D
Acq On : 18 Aug 2013 8:17 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 31 17:30:27 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

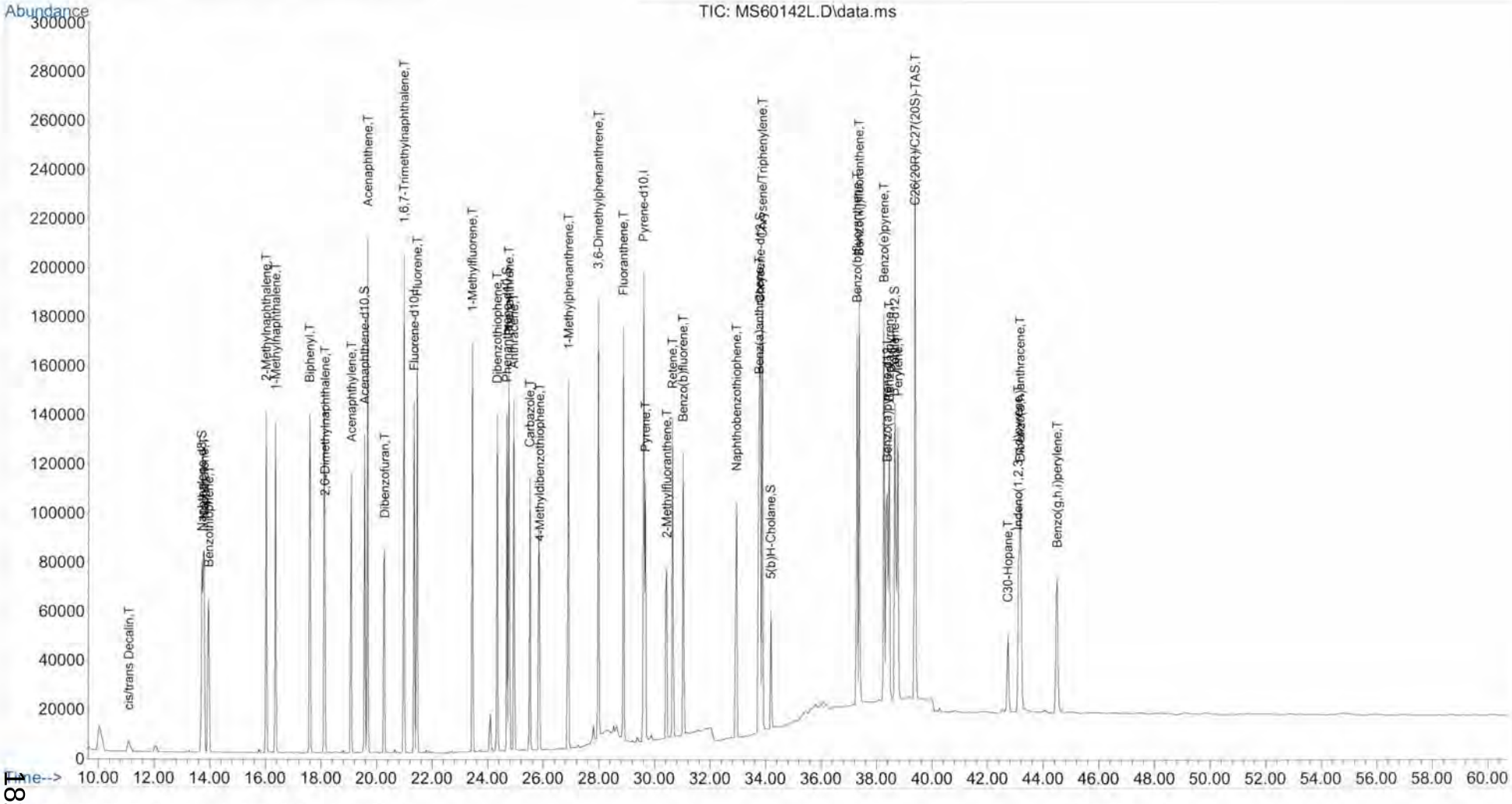
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142L.D
Acq On : 18 Aug 2013 8:17 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 31 17:30:27 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration



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Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name MS60142H.D
Data File Path C:\GCMS6\MS60142\
Operator YM
Date Acquired 8/17/2013 18:27
Acq. Method File PAH-2012.M
Sample Name AR-WKISSU-250-002
Misc Info 0
Instrument Name GCMS6
Vial Number 8
Sample Multiplier 1
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

MS60142H.D
AR-WKISSU-250-002
8/17/2013
PAH-2012.M
1

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	0.00	0	0.0000	0.0000
9)+10)	C1-Naphthalenes	0.00	0	0.0000	0.0000
13)	C2-Naphthalenes	0.00	0	0.0000	0.0000
14)	C3-Naphthalenes	0.00	0	0.0000	0.0000
15)	C4-Naphthalenes	0.00	0	0.0000	0.0000
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	0.00	0	0.0000	0.0000
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	0.00	0	0.0000	0.0000
28)	C1-Fluorenes	0.00	0	0.0000	0.0000
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	0.00	0	0.0000	0.0000
41)	Phenanthrene	0.00	0	0.0000	0.0000
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	0.00	0	0.0000	0.0000
35)+36)+37)	C1-Dibenzothiophenes	0.00	0	0.0000	0.0000
38)	C2-Dibenzothiophenes	0.00	0	0.0000	0.0000
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	0.00	0	0.0000	0.0000
59)	Pyrene	0.00	0	0.0000	0.0000
62)	C1-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	0.00	0	0.0000	0.0000
68)	Chrysene/Triphenylene	0.00	0	0.0000	0.0000
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	0.00	0	0.0000	0.0000
78)	Benzo(k,j)fluoranthene	0.00	0	0.0000	0.0000
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	0.00	0	0.0000	0.0000
81)	Benzo(a)pyrene	0.00	0	0.0000	0.0000
89)	Perylene	0.00	0	0.0000	0.0000
82)	Indeno(1,2,3-c,d)pyrene	0.00	0	0.0000	0.0000
83)	Dibenzo(a,h)anthracene	0.00	0	0.0000	0.0000
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	0.00	0	0.0000	0.0000

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	0.00	0	0.0000	0.0000
10)	1-Methylnaphthalene	0.00	0	0.0000	0.0000
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	0.00	0	0.0000	0.0000
36)	2/3-Methyldibenzothiophene	0.00	0	0.0000	0.0000
37)	1-Methyldibenzothiophene	0.00	0	0.0000	0.0000
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	0.00	0	0.0000	0.0000
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.71	261989	231.80	92.67
21)	Acenaphthene-d10	19.56	139418	226.66	90.60
32)	Phenanthrene-d10	24.69	247903	248.25	99.22
66)	Chrysene-d12	33.80	253788	215.55	86.21
88)	Perylene-d12	38.69	234624	225.25	90.09
90)	5(b)H-Cholane	34.19	56391	253.74	101.49
	Internal Standards				
1)	Fluorene-d10	21.34	156952	251.05	
31)	Pyrene-d10	29.61	268847	250.63	
73)	Benzo(a)pyrene-d12	38.38	219841	250.33	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : MS60142H.D
Acq On : 17 Aug 2013 6:27 pm
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 18 21:11:26 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.344	176	156952m	251.05	0.00
31) Pyrene-d10	29.607	212	268847m	250.63	0.00
73) Benzo(a)pyrene-d12	38.380	264	219841m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.709	136	261989m	231.80	0.00
21) Acenaphthene-d10	19.561	164	139418m	226.66	0.00
32) Phenanthrene-d10	24.688	188	247903m	248.25	0.00
66) Chrysene-d12	33.801	240	253788m	215.55	0.00
88) Perylene-d12	38.691	264	234624m	225.25	0.04
90) 5(b)H-Cholane	34.189	217	56391m	253.73	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	0.000		0	N.D. d	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	0.000		0	N.D. d	
9) 2-Methylnaphthalene	0.000		0	N.D. d	
10) 1-Methylnaphthalene	0.000		0	N.D. d	
11) 2,6-Dimethylnaphthalene	0.000		0	N.D. d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D. d	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D. d	
16) Benzothiophene	0.000		0	N.D. d	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	0.000		0	N.D. d	
23) Acenaphthylene	0.000		0	N.D. d	
24) Acenaphthene	0.000		0	N.D. d	
25) Dibenzofuran	0.000		0	N.D. d	
26) Fluorene	0.000		0	N.D. d	
27) 1-Methylfluorene	0.000		0	N.D. d	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	0.000		0	N.D. d	
34) Dibenzothiophene	0.000		0	N.D. d	
35) 4-Methyldibenzothiophene	0.000		0	N.D. d	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	0.000		0	N.D. d	
42) Anthracene	0.000		0	N.D. d	
43) 3-Methylphenanthrene	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : MS60142H.D
Acq On : 17 Aug 2013 6:27 pm
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 18 21:11:26 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	0.000		0	N.D.	d	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	0.000		0	N.D.	d	
59) Pyrene	0.000		0	N.D.	d	
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	0.000		0	N.D.	d	
68) Chrysene/Triphenylene	0.000		0	N.D.	d	
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	0.000		0	N.D.	d	
78) Benzo(k,j)fluoranthene	0.000		0	N.D.	d	
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	0.000		0	N.D.	d	
81) Benzo(a)pyrene	0.000		0	N.D.	d	
82) Indeno(1,2,3-c,d)pyrene	0.000		0	N.D.	d	
83) Dibenzo(a,h)anthracene	0.000		0	N.D.	d	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	0.000		0	N.D.	d	
89) Perylene	0.000		0	N.D.	d	
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : MS60142H.D
Acq On : 17 Aug 2013 6:27 pm
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 18 21:11:26 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

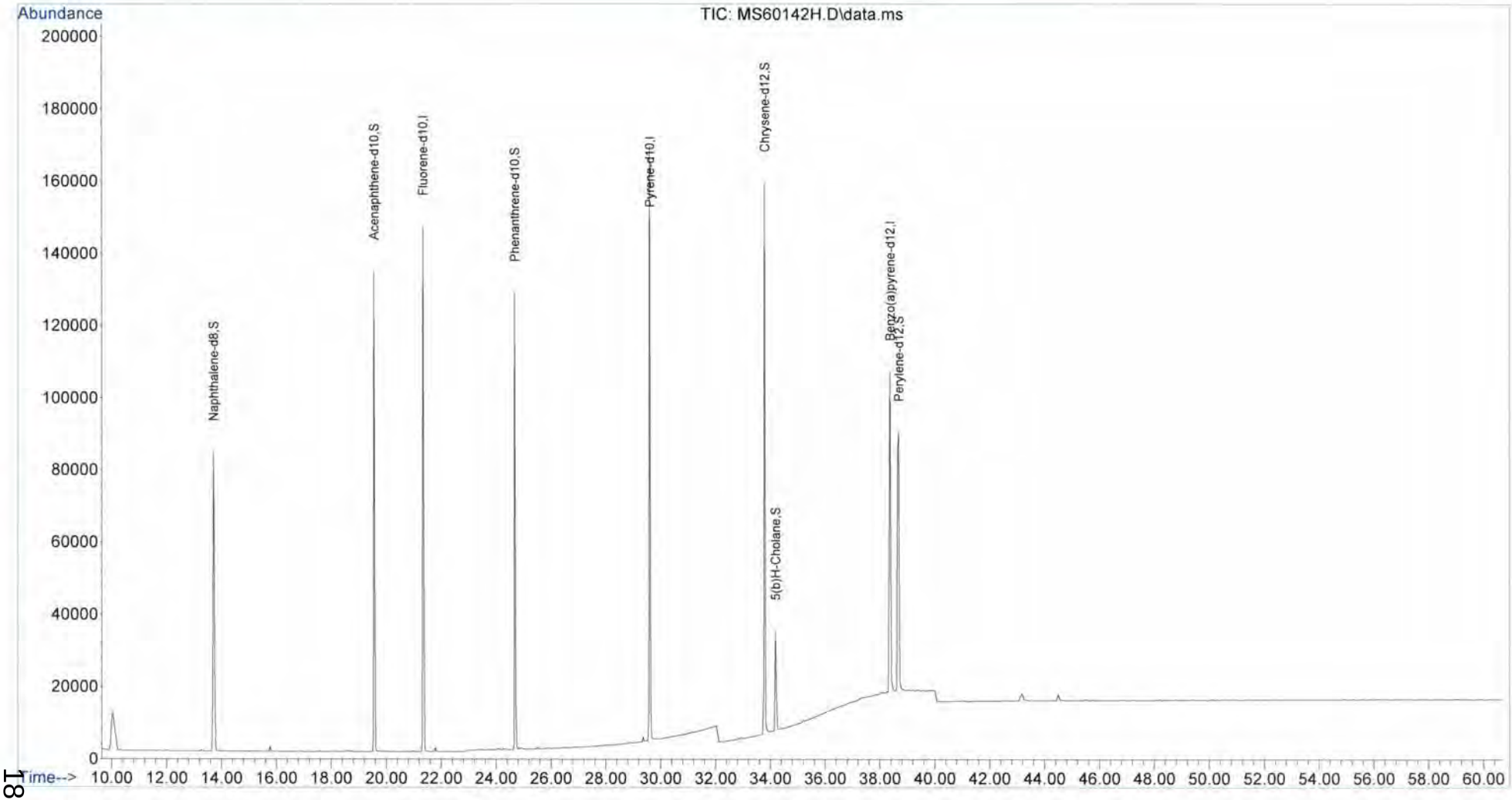
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : MS60142H.D
Acq On : 17 Aug 2013 6:27 pm
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 18 21:11:26 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration



Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name MS60142K.D
Data File Path C:\msdchem\2\data\MS60142\
Operator YM
Date Acquired 8/17/2013 21:55
Acq. Method File PAH-2012.M
Sample Name AR-SRM2779-WK-4.0-002
Misc Info 0
Instrument Name GCMS6
Vial Number 11
Sample Multiplier 0.24461
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

MS60142K.D
AR-SRM2779-WK-4.0-002
8/17/2013
PAH-2012.M
4.088140305

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.09	849781	723.2433	879.3341
4)	C1-Decalins	12.26	1023280	870.9094	1058.8697
5)	C2-Decalins	14.63	824574	701.7910	853.2520
6)	C3-Decalins	16.60	815371	693.9586	843.7291
7)	C4-Decalins	17.64	483129	411.1894	499.9326
8)	Naphthalene	13.79	4442900	618.8339	752.3911
9)+10)	C1-Naphthalenes	16.19	9252910	1288.8012	1566.9511
13)	C2-Naphthalenes	18.50	11012800	1533.9322	1864.9864
14)	C3-Naphthalenes	20.28	6963990	969.9838	1179.3263
15)	C4-Naphthalenes	22.74	3925250	546.7303	664.7259
16)	Benzothiophene	13.99	41628	7.2877	8.8605
17)	C1-Benzothiophenes	15.55	149844	26.2327	31.8943
18)	C2-Benzothiophenes	18.28	97644	17.0942	20.7835
19)	C3-Benzothiophenes	20.23	174037	30.4681	37.0438
20)	C4-Benzothiophenes	22.01	116608	20.4141	24.8199
22)	Biphenyl	17.61	797404	136.7331	166.2429
23)	Acenaphthylene	19.08	52202	7.8209	9.5088
24)	Acenaphthene	19.67	41285	10.3286	12.5577
25)	Dibenzofuran	20.28	165829	26.6209	32.3662
26)	Fluorene	21.45	499756	99.8919	121.4506
28)	C1-Fluorenes	23.44	994339	198.7498	241.6441
29)	C2-Fluorenes	25.10	1379110	275.6583	335.1511
30)	C3-Fluorenes	26.84	1031430	206.1634	250.6577
33)	Carbazole	25.52	25667	3.8164	4.6401
42)	Anthracene	24.90	23328	3.4916	4.2451
41)	Phenanthrene	24.76	1284900	181.2252	220.3373
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.68	3252335	458.7167	557.7172
50)	C2-Phenanthrenes/Anthracenes	28.36	3734160	526.6747	640.3419
51)	C3-Phenanthrenes/Anthracenes	29.92	2621800	369.7867	449.5943
52)	C4-Phenanthrenes/Anthracenes	31.75	1532300	216.1195	262.7626
34)	Dibenzothiophene	24.34	274498	33.5583	40.8009
35)+36)+37)	C1-Dibenzothiophenes	26.17	651796	79.6842	96.8817
38)	C2-Dibenzothiophenes	27.25	935274	114.3405	139.0175
39)	C3-Dibenzothiophenes	28.78	953581	116.5784	141.7385
40)	C4-Dibenzothiophenes	30.20	324781	39.7056	48.2749
58)	Fluoranthene	28.91	27660	3.2382	3.9370
59)	Pyrene	29.68	88464	10.0731	12.2470
62)	C1-Fluoranthenes/Pyrenes	30.82	571571	66.9138	81.3552
63)	C2-Fluoranthenes/Pyrenes	32.21	886174	103.7445	126.1347
64)	C3-Fluoranthenes/Pyrenes	34.00	906650	106.1417	129.0492
65)	C4-Fluoranthenes/Pyrenes	35.12	628403	73.5672	89.4445
53)	Naphthobenzothiophene	32.95	182513	22.6478	27.5357
54)	C1-Naphthobenzothiophenes	34.11	406876	50.4887	61.3852
55)	C2-Naphthobenzothiophenes	35.78	530665	65.8495	80.0612
56)	C3-Naphthobenzothiophenes	37.18	453998	56.3361	68.4946
57)	C4-Naphthobenzothiophenes	38.15	188242	23.3587	28.4000
67)	Benz(a)anthracene	33.76	42439	5.6207	6.8338
68)	Chrysene/Triphenylene	33.84	352409	36.9554	44.9312
69)	C1-Chrysenes	35.12	671322	70.3983	85.5917
70)	C2-Chrysenes	36.28	975278	102.2727	124.3452
71)	C3-Chrysenes	37.99	782968	82.1060	99.8262
72)	C4-Chrysenes	39.43	477792	50.1037	60.9171
77)	Benzo(b)fluoranthene	37.29	48826	4.1323	5.0241
78)	Benzo(k,j)fluoranthene	37.33	9148	0.8314	1.0108
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.26	81335	7.0963	8.6278
81)	Benzo(a)pyrene	38.46	14196	1.3209	1.6060
89)	Perylene	38.77	7064	0.6418	0.7803
82)	Indeno(1,2,3-c,d)pyrene	43.18	6475	0.5841	0.7101
83)	Dibenzo(a,h)anthracene	43.18	4825	0.5488	0.6673
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.51	12591	1.3476	1.6385

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	5701180	1223.1478	1487.1284
10)	1-Methylnaphthalene	16.35	3551730	822.5623	1000.0882
11)	2,6-Dimethylnaphthalene	18.17	3105880	770.4016	936.6702
12)	1,6,7-Trimethylnaphthalene	20.98	765646	202.1393	245.7652
27)	1-Methylfluorene	23.44	505861	192.1945	233.6740
35)	4-Methyldibenzothiophene	25.87	361424	72.6250	88.2989
36)	2/3-Methyldibenzothiophene	26.14	173018	34.7664	42.2697
37)	1-Methyldibenzothiophene	26.49	117354	23.5813	28.6706
43)	3-Methylphenanthrene	26.45	693274	115.9706	140.9994
44)	2-Methylphenanthrene	26.52	851061	142.3652	173.0906
45)	2-Methylanthracene	26.70	58666	9.8136	11.9316
46)	4/9-Methylphenanthrene	26.80	930432	155.6422	189.2330
47)	1-Methylphenanthrene	26.91	718902	120.2576	146.2117
48)	3,6-Dimethylphenanthrene	27.98	192876	35.4122	43.0549
49)	Retene	30.68	42270	19.1097	23.2339
60)	2-Methylfluoranthene	30.44	23271	4.3599	5.3008
61)	Benzo(b)fluorene	31.06	72251	14.5218	17.6559
74)	C29-Hopane	40.71	71361	18.6963	22.7313
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	42.03	141076	36.9613	44.9383
91)	C20-TAS	33.34	72270	4.8132	5.8520
92)	C21-TAS	34.42	83946	5.5909	6.7975
93)	C26(20S)-TAS	38.54	46928	3.1255	3.8000
94)	C26(20R)/C27(20S)-TAS	39.47	138379	9.2161	11.2052
95)	C28(20S)-TAS	40.19	94825	6.3154	7.6784
96)	C27(20R)-TAS	40.63	85516	5.6954	6.9246
97)	C28(20R)-TAS	41.78	91611	6.1014	7.4182
	Surrogate Standards				
2)	Naphthalene-d8	13.71	369208	55.69	91.03
21)	Acenaphthene-d10	19.56	208736	57.86	94.55
32)	Phenanthrene-d10	24.69	346325	50.34	82.25
66)	Chrysene-d12	33.80	481248	59.32	97.00
88)	Perylene-d12	38.69	498478	53.07	86.77
90)	5(b)H-Cholane	34.19	117695	58.73	96.03
	Internal Standards				
1)	Fluorene-d10	21.34	225180	61.41	
31)	Pyrene-d10	29.61	453093	61.31	
73)	Benzo(a)pyrene-d12	38.38	484929	61.23	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : MS60142K.D
Acq On : 17 Aug 2013 9:55 pm
Operator : YM
Sample : AR-SRM2779-WK-4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Aug 31 18:01:06 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.342	176	225180m	251.05	0.00
31) Pyrene-d10	29.607	212	453093m	250.63	0.00
73) Benzo(a)pyrene-d12	38.380	264	484929m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.707	136	369208m	55.69	0.00
21) Acenaphthene-d10	19.558	164	208736m	57.86	0.00
32) Phenanthrene-d10	24.688	188	346325m	50.34	0.00
66) Chrysene-d12	33.801	240	481248m	59.32	0.00
88) Perylene-d12	38.691	264	498478m	53.07	0.04
90) 5(b)H-Cholane	34.189	217	117695m	58.73	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.087	138	849781m	723.24	
4) C1-Decalins	12.258	152	1023282m	870.91	
5) C2-Decalins	14.626	166	824574m	701.79	
6) C3-Decalins	16.605	180	815371m	693.96	
7) C4-Decalins	17.636	194	483129m	411.19	
8) Naphthalene	13.790	128	4442902m	618.83	
9) 2-Methylnaphthalene	16.020	142	5701181m	1223.15	
10) 1-Methylnaphthalene	16.354	142	3551729m	822.56	
11) 2,6-Dimethylnaphthalene	18.165	156	3105879m	770.40	
12) 1,6,7-Trimethylnaphtha...	20.980	170	765646m	202.14	
13) C2-Naphthalenes	18.500	156	11012843m	1533.93	
14) C3-Naphthalenes	20.283	170	6963990m	969.98	
15) C4-Naphthalenes	22.735	184	3925245m	546.73	
16) Benzothiophene	13.985	134	41628m	7.29	
17) C1-Benzothiophenes	15.546	148	149844m	26.23	
18) C2-Benzothiophenes	18.277	162	97644m	17.09	
19) C3-Benzothiophenes	20.227	176	174037m	30.47	
20) C4-Benzothiophenes	22.011	190	116608m	20.41	
22) Biphenyl	17.608	154	797404m	136.73	
23) Acenaphthylene	19.085	152	52202m	7.82	
24) Acenaphthene	19.670	154	41285m	10.33	
25) Dibenzofuran	20.283	168	165829m	26.62	
26) Fluorene	21.453	166	499756m	99.89	
27) 1-Methylfluorene	23.441	180	505861m	192.19	
28) C1-Fluorenes	23.441	180	994339m	198.75	
29) C2-Fluorenes	25.104	194	1379105m	275.66	
30) C3-Fluorenes	26.836	208	1031430m	206.16	
33) Carbazole	25.519	167	25667m	3.82	
34) Dibenzothiophene	24.342	184	274498m	33.56	
35) 4-Methyldibenzothiophene	25.866	198	361424m	72.63	
36) 2/3-Methyldibenzothiop...	26.143	198	173018m	34.77	
37) 1-Methyldibenzothiophene	26.489	198	117354m	23.58	
38) C2-Dibenzothiophenes	27.251	212	935274m	114.34	
39) C3-Dibenzothiophenes	28.776	226	953581m	116.58	
40) C4-Dibenzothiophenes	30.196	240	324781m	39.71	
41) Phenanthrene	24.757	178	1284898m	181.23	
42) Anthracene	24.896	178	23328m	3.49	
43) 3-Methylphenanthrene	26.455	192	693274m	115.97	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : MS60142K.D
Acq On : 17 Aug 2013 9:55 pm
Operator : YM
Sample : AR-SRM2779-WK-4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Aug 31 18:01:06 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Methylphenanthrene	26.524	192	851061m	142.37	
45) 2-Methylanthracene	26.697	192	58666m	9.81	
46) 4/9-Methylphenanthrene	26.801	192	930432m	155.64	
47) 1-Methylphenanthrene	26.905	192	718902m	120.26	
48) 3,6-Dimethylphenanthrene	27.979	206	192876m	35.41	
49) Retene	30.681	234	42270m	19.11	
50) C2-Phenanthrenes/Anthr...	28.360	206	3734163m	526.68	
51) C3-Phenanthrenes/Anthr...	29.919	220	2621802m	369.79	
52) C4-Phenanthrenes/Anthr...	31.754	234	1532300m	216.12	
53) Naphthobenzothiophene	32.947	234	182513m	22.65	
54) C1-Naphthobenzothiophenes	34.112	248	406876m	50.49	
55) C2-Naphthobenzothiophenes	35.780	262	530665m	65.85	
56) C3-Naphthobenzothiophenes	37.177	276	453998m	56.34	
57) C4-Naphthobenzothiophenes	38.147	290	188242m	23.36	
58) Fluoranthene	28.914	202	27660m	3.24	
59) Pyrene	29.676	202	88464m	10.07	
60) 2-Methylfluoranthene	30.438	216	23271m	4.36	
61) Benzo(b)fluorene	31.062	216	72251m	14.52	
62) C1-Fluoranthenes/Pyrenes	30.819	216	571571m	66.91	
63) C2-Fluoranthenes/Pyrenes	32.210	230	886174m	103.74	
64) C3-Fluoranthenes/Pyrenes	33.995	244	906650m	106.14	
65) C4-Fluoranthenes/Pyrenes	35.121	258	628403m	73.57	
67) Benz(a)anthracene	33.762	228	42439m	5.62	
68) Chrysene/Triphenylene	33.840	228	352409m	36.96	
69) C1-Chrysenes	35.121	242	671322m	70.40	
70) C2-Chrysenes	36.285	256	975278m	102.27	
71) C3-Chrysenes	37.992	270	782968m	82.11	
72) C4-Chrysenes	39.428	284	477792m	50.10	
74) C29-Hopane	40.706	191	71361m	18.70	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	42.034	191	141076m	36.96	
77) Benzo(b)fluoranthene	37.294	252	48826m	4.13	
78) Benzo(k,j)fluoranthene	37.332	252	9148m	0.83	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.264	252	81335m	7.10	
81) Benzo(a)pyrene	38.458	252	14196m	1.32	
82) Indeno(1,2,3-c,d)pyrene	43.177	276	6475m	0.58	
83) Dibenzo(a,h)anthracene	43.177	278	4825m	0.55	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.505	276	12591m	1.35	
89) Perylene	38.768	252	7064m	0.64	
91) C20-TAS	33.335	231	72270m	4.81	
92) C21-TAS	34.422	231	83946m	5.59	
93) C26(20S)-TAS	38.535	231	46928m	3.13	
94) C26(20R)/C27(20S)-TAS	39.467	231	138379m	9.22	
95) C28(20S)-TAS	40.190	231	94825m	6.32	
96) C27(20R)-TAS	40.633	231	85516m	5.70	
97) C28(20R)-TAS	41.776	231	91611m	6.10	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : MS60142K.D
Acq On : 17 Aug 2013 9:55 pm
Operator : YM
Sample : AR-SRM2779-WK-4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Aug 31 18:01:06 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

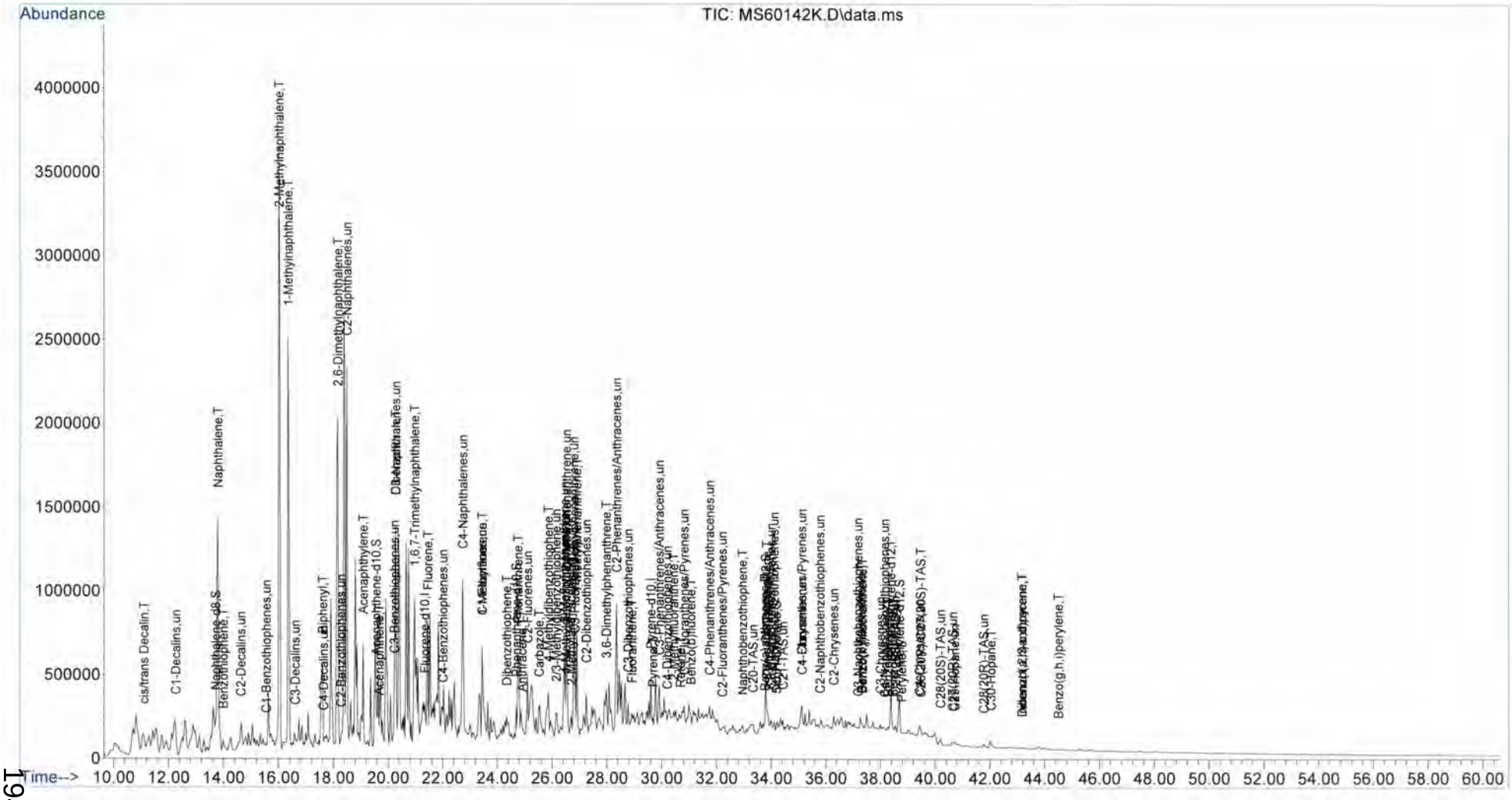
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : MS60142K.D
Acq On : 17 Aug 2013 9:55 pm
Operator : YM
Sample : AR-SRM2779-WK-4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Aug 31 18:01:06 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration



Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name ENV3082A.D
Data File Path C:\GCMS6\MS60142\
Operator YM
Date Acquired 8/17/2013 23:04
Acq. Method File PAH-2012.M
Sample Name Procedural Blank
Misc Info 0
Instrument Name GCMS6
Vial Number 12
Sample Multiplier 0.06667
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

ENV3082A.D
Procedural Blank
8/17/2013
PAH-2012.M
14.99925004

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	2518	0.1312	0.1400
9)+10)	C1-Naphthalenes	16.19	679	0.0354	0.0377
13)	C2-Naphthalenes	0.00	0	0.0000	0.0000
14)	C3-Naphthalenes	0.00	0	0.0000	0.0000
15)	C4-Naphthalenes	0.00	0	0.0000	0.0000
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.58	1770	0.1135	0.1211
23)	Acenaphthylene	0.00	0	0.0000	0.0000
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	20.28	1307	0.0785	0.0837
26)	Fluorene	21.45	182	0.0136	0.0145
28)	C1-Fluorenes	0.00	0	0.0000	0.0000
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	0.00	0	0.0000	0.0000
41)	Phenanthrene	0.00	0	0.0000	0.0000
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	0.00	0	0.0000	0.0000
35)+36)+37)	C1-Dibenzothiophenes	0.00	0	0.0000	0.0000
38)	C2-Dibenzothiophenes	0.00	0	0.0000	0.0000
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	0.00	0	0.0000	0.0000
59)	Pyrene	0.00	0	0.0000	0.0000
62)	C1-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	0.00	0	0.0000	0.0000
68)	Chrysene/Triphenylene	0.00	0	0.0000	0.0000
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	0.00	0	0.0000	0.0000
78)	Benzo(k,j)fluoranthene	0.00	0	0.0000	0.0000
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	0.00	0	0.0000	0.0000
81)	Benzo(a)pyrene	0.00	0	0.0000	0.0000
89)	Perylene	38.77	2300	0.1059	0.1130
82)	Indeno(1,2,3-c,d)pyrene	0.00	0	0.0000	0.0000
83)	Dibenzo(a,h)anthracene	0.00	0	0.0000	0.0000
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	0.00	0	0.0000	0.0000

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	463	0.0372	0.0396
10)	1-Methylnaphthalene	16.35	216	0.0187	0.0200
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	0.00	0	0.0000	0.0000
36)	2/3-Methyldibenzothiophene	0.00	0	0.0000	0.0000
37)	1-Methyldibenzothiophene	0.00	0	0.0000	0.0000
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	0.00	0	0.0000	0.0000
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.71	264592	14.93	89.54
21)	Acenaphthene-d10	19.56	146375	15.18	91.00
32)	Phenanthrene-d10	24.69	275152	15.63	93.72
66)	Chrysene-d12	33.80	270732	13.05	78.26
88)	Perylene-d12	38.65	284394	15.35	92.10
90)	5(b)H-Cholane	34.19	74020	18.73	112.36
	Internal Standards				
1)	Fluorene-d10	21.34	164067	16.74	
31)	Pyrene-d10	29.61	315919	16.71	
73)	Benzo(a)pyrene-d12	38.38	260669	16.69	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ENV3082A.D
Acq On : 17 Aug 2013 11:04 pm
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 0.06667

Quant Time: Aug 31 18:06:36 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.342	176	164067m	251.05	0.00
31) Pyrene-d10	29.606	212	315919m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	260669m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.707	136	264592m	14.93	0.00
21) Acenaphthene-d10	19.559	164	146375m	15.18	0.00
32) Phenanthrene-d10	24.687	188	275152m	15.63	0.00
66) Chrysene-d12	33.802	240	270732m	13.05	0.00
88) Perylene-d12	38.653	264	284394m	15.35	0.00
90) 5(b)H-Cholane	34.190	217	74020m	18.73	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	0.000		0	N.D. d	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.791	128	2518m	0.13	
9) 2-Methylnaphthalene	16.020	142	463m	0.04	
10) 1-Methylnaphthalene	16.354	142	216m	0.02	
11) 2,6-Dimethylnaphthalene	0.000		0	N.D. d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D. d	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D. d	
16) Benzothiophene	0.000		0	N.D. d	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.580	154	1770m	0.11	
23) Acenaphthylene	0.000		0	N.D. d	
24) Acenaphthene	0.000		0	N.D. d	
25) Dibenzofuran	20.283	168	1307m	0.08	
26) Fluorene	21.454	166	182m	0.01	
27) 1-Methylfluorene	0.000		0	N.D. d	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	0.000		0	N.D. d	
34) Dibenzothiophene	0.000		0	N.D. d	
35) 4-Methyldibenzothiophene	0.000		0	N.D. d	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	0.000		0	N.D. d	
42) Anthracene	0.000		0	N.D. d	
43) 3-Methylphenanthrene	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ENV3082A.D
Acq On : 17 Aug 2013 11:04 pm
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 0.06667

Quant Time: Aug 31 18:06:36 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	0.000		0	N.D. d	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D. d	
49) Retene	0.000		0	N.D. d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53) Naphthobenzothiophene	0.000		0	N.D. d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	0.000		0	N.D. d	
59) Pyrene	0.000		0	N.D. d	
60) 2-Methylfluoranthene	0.000		0	N.D. d	
61) Benzo(b)fluorene	0.000		0	N.D. d	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	0.000		0	N.D. d	
68) Chrysene/Triphenylene	0.000		0	N.D. d	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	0.000		0	N.D. d	
77) Benzo(b)fluoranthene	0.000		0	N.D. d	
78) Benzo(k,j)fluoranthene	0.000		0	N.D. d	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	0.000		0	N.D. d	
81) Benzo(a)pyrene	0.000		0	N.D. d	
82) Indeno(1,2,3-c,d)pyrene	0.000		0	N.D. d	
83) Dibenzo(a,h)anthracene	0.000		0	N.D. d	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	0.000		0	N.D. d	
89) Perylene	38.769	252	2300m	0.11	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D. d	
95) C28(20S)-TAS	0.000		0	N.D. d	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ENV3082A.D
Acq On : 17 Aug 2013 11:04 pm
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 0.06667

Quant Time: Aug 31 18:06:36 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

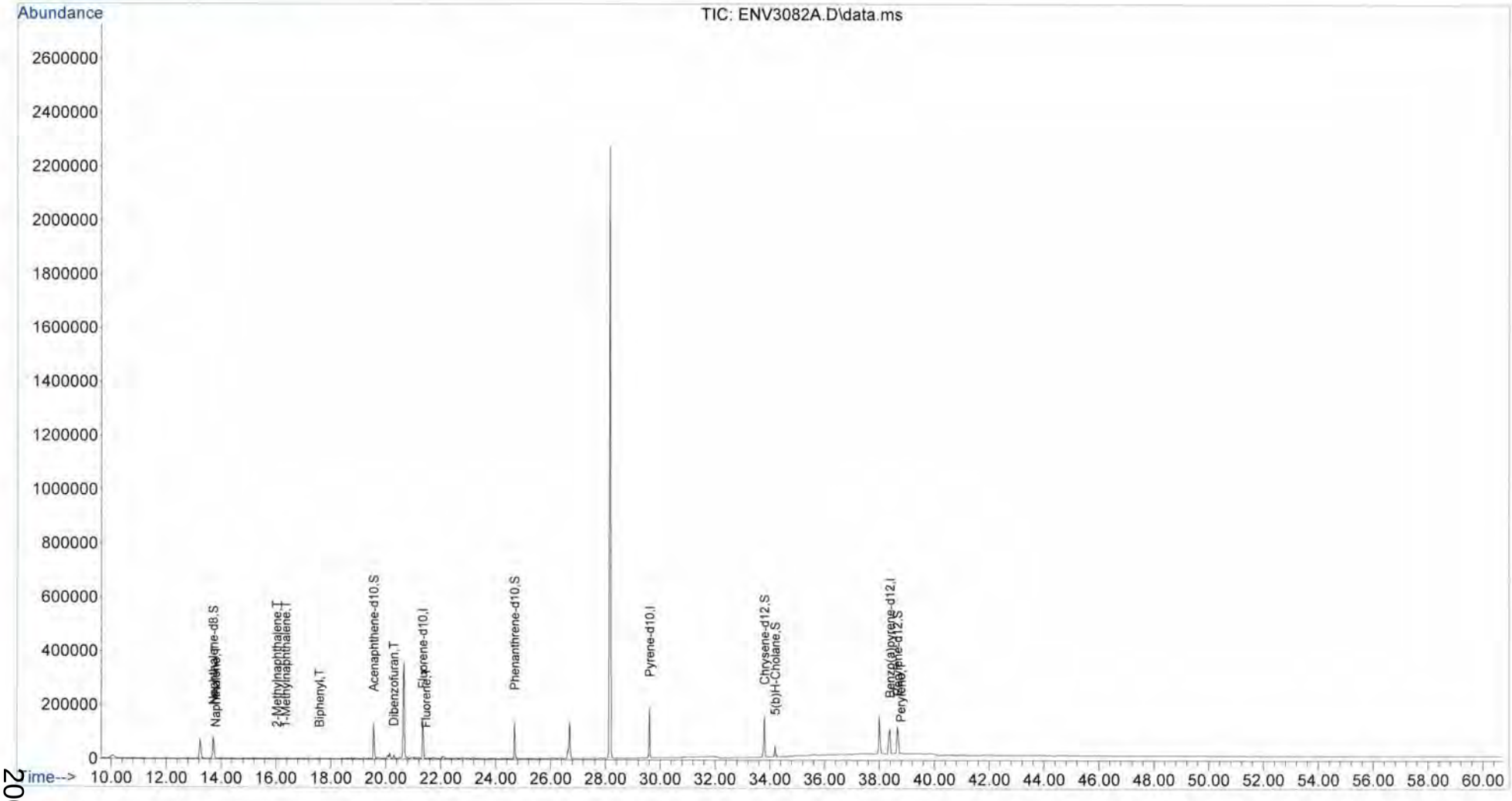
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ENV3082A.D
Acq On : 17 Aug 2013 11:04 pm
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 0.06667

Quant Time: Aug 31 18:06:36 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration



Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name ENV3082B.D
Data File Path C:\msdchem\2\data\MS60142\
Operator YM
Date Acquired 8/18/2013 0:13
Acq. Method File PAH-2012.M
Sample Name SRM 1941b
Misc Info 0
Instrument Name GCMS6
Vial Number 13
Sample Multiplier 0.24814
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

ENV3082B.D
SRM 1941b
8/18/2013
PAH-2012.M
4.029983074

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.31	33671	43.9218	48.7607
4)	C1-Decalins	12.23	5313	6.9305	7.6941
5)	C2-Decalins	14.63	8171	10.6586	11.8329
6)	C3-Decalins	17.22	21582	28.1525	31.2541
7)	C4-Decalins	17.50	25756	33.5972	37.2986
8)	Naphthalene	13.79	3079220	657.3452	729.7665
9)+10)	C1-Naphthalenes	16.19	897768	191.6536	212.7685
13)	C2-Naphthalenes	18.39	770591	164.5044	182.6283
14)	C3-Naphthalenes	20.76	616670	131.6455	146.1492
15)	C4-Naphthalenes	22.74	328858	70.2040	77.9386
16)	Benzothiophene	13.96	97809	26.2440	29.1354
17)	C1-Benzothiophenes	16.19	37673	10.1084	11.2220
18)	C2-Benzothiophenes	18.14	46015	12.3467	13.7069
19)	C3-Benzothiophenes	20.23	54119	14.5211	16.1209
20)	C4-Benzothiophenes	21.54	54479	14.6177	16.2282
22)	Biphenyl	17.58	221824	58.2975	64.7203
23)	Acenaphthylene	19.09	263120	60.4186	67.0751
24)	Acenaphthene	19.67	61625	23.6294	26.2327
25)	Dibenzofuran	20.26	285272	70.1886	77.9215
26)	Fluorene	21.46	155108	47.5173	52.7524
28)	C1-Fluorenes	23.44	150533	46.1158	51.1965
29)	C2-Fluorenes	25.87	356787	109.3019	121.3440
30)	C3-Fluorenes	27.53	506623	155.2044	172.3036
33)	Carbazole	25.52	71515	15.9071	17.6596
42)	Anthracene	24.93	701643	157.0987	174.4066
41)	Phenanthrene	24.76	1644230	346.9171	385.1378
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.68	1298126	273.8924	304.0678
50)	C2-Phenanthrenes/Anthracenes	28.36	1175190	247.9529	275.2705
51)	C3-Phenanthrenes/Anthracenes	29.78	928833	195.9740	217.5650
52)	C4-Phenanthrenes/Anthracenes	31.75	705690	148.8932	165.2971
34)	Dibenzothiophene	24.34	223377	40.8518	45.3525
35)+36)+37)	C1-Dibenzothiophenes	26.17	226868	41.4902	46.0613
38)	C2-Dibenzothiophenes	27.25	429053	78.4663	87.1112
39)	C3-Dibenzothiophenes	28.78	461889	84.4713	93.7777
40)	C4-Dibenzothiophenes	30.20	290848	53.1910	59.0512
58)	Fluoranthene	28.88	3391000	593.8611	659.2881
59)	Pyrene	29.68	2683260	457.0540	507.4088
62)	C1-Fluoranthenes/Pyrenes	30.82	1804480	316.0162	350.8325
63)	C2-Fluoranthenes/Pyrenes	33.26	1917840	335.8699	372.8735
64)	C3-Fluoranthenes/Pyrenes	33.96	922541	161.5632	179.3630
65)	C4-Fluoranthenes/Pyrenes	35.28	618160	108.2575	120.1845
53)	Naphthobenzothiophene	32.95	679958	126.2194	140.1253
54)	C1-Naphthobenzothiophenes	34.11	624553	115.9345	128.7073
55)	C2-Naphthobenzothiophenes	35.78	702256	130.3584	144.7203
56)	C3-Naphthobenzothiophenes	37.18	463855	86.1046	95.5909
57)	C4-Naphthobenzothiophenes	38.03	228152	42.3515	47.0175
67)	Benz(a)anthracene	33.76	1623830	321.7185	357.1630
68)	Chrysene/Triphenylene	33.88	2593110	406.7833	451.5996
69)	C1-Chrysenes	35.12	1572580	246.6919	273.8705
70)	C2-Chrysenes	36.56	892274	139.9718	155.3928
71)	C3-Chrysenes	37.99	571690	89.6815	99.5619
72)	C4-Chrysenes	39.39	250703	39.3280	43.6608
77)	Benzo(b)fluoranthene	37.30	2762060	329.4158	365.7083
78)	Benzo(k,j)fluoranthene	37.30	3020260	386.8081	429.4236
79)	Benzo(a)fluoranthene	37.64	440819	56.4563	62.6762
80)	Benzo(e)pyrene	38.27	2018870	248.2194	275.5663
81)	Benzo(a)pyrene	38.46	1643240	215.4622	239.2002
89)	Perylene	38.77	2053720	262.9267	291.8939
82)	Indeno(1,2,3-c,d)pyrene	43.14	1750800	222.5518	247.0709
83)	Dibenzo(a,h)anthracene	43.18	215980	34.6212	38.4355
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.51	1324150	199.7227	221.7266

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	624020	205.1914	227.7979
10)	1-Methylnaphthalene	16.36	273748	97.1686	107.8739
11)	2,6-Dimethylnaphthalene	18.17	239017	90.8674	100.8785
12)	1,6,7-Trimethylnaphthalene	20.98	44487	18.0012	19.9845
27)	1-Methylfluorene	23.44	52734	30.7076	34.0907
35)	4-Methyldibenzothiophene	25.87	112652	33.8624	37.5931
36)	2/3-Methyldibenzothiophene	26.14	79736	23.9682	26.6088
37)	1-Methyldibenzothiophene	26.49	34480	10.3645	11.5064
43)	3-Methylphenanthrene	26.45	252516	63.1891	70.1508
44)	2-Methylphenanthrene	26.52	364292	91.1599	101.2032
45)	2-Methylanthracene	26.70	197161	49.3372	54.7728
46)	4/9-Methylphenanthrene	26.80	293095	73.3435	81.4239
47)	1-Methylphenanthrene	26.90	191062	47.8111	53.0786
48)	3,6-Dimethylphenanthrene	27.98	79419	21.8127	24.2159
49)	Retene	30.68	47186	31.9113	35.4270
60)	2-Methylfluoranthene	30.44	226251	63.4102	70.3962
61)	Benzo(b)fluorene	31.03	249903	75.1380	83.4162
74)	C29-Hopane	40.71	544227	200.9314	223.0685
75)	18a-Oleanane	41.81	86188	31.8210	35.3268
76)	C30-Hopane	42.04	677385	250.0929	277.6462
91)	C20-TAS	33.34	20214	1.8972	2.1062
92)	C21-TAS	34.42	29819	2.7986	3.1070
93)	C26(20S)-TAS	38.54	17933	1.6831	1.8685
94)	C26(20R)/C27(20S)-TAS	39.47	70136	6.5825	7.3077
95)	C28(20S)-TAS	40.19	47899	4.4955	4.9908
96)	C27(20R)-TAS	40.63	59729	5.6058	6.2234
97)	C28(20R)-TAS	41.78	46983	4.4095	4.8954
	Surrogate Standards				
2)	Naphthalene-d8	13.71	217271	50.23	80.94
21)	Acenaphthene-d10	19.56	133964	56.91	91.68
32)	Phenanthrene-d10	24.69	257202	55.92	90.08
66)	Chrysene-d12	33.80	322893	59.54	95.97
88)	Perylene-d12	38.69	317666	47.66	76.82
90)	5(b)H-Cholane	34.19	72774	51.17	82.49
	Internal Standards				
1)	Fluorene-d10	21.34	149041	62.30	
31)	Pyrene-d10	29.61	307255	62.19	
73)	Benzo(a)pyrene-d12	38.38	349082	62.12	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ENV3082B.D
Acq On : 18 Aug 2013 12:13 am
Operator : YM
Sample : SRM 1941b
Misc :
ALS Vial : 13 Sample Multiplier: 0.24814

Quant Time: Aug 31 18:32:16 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.344	176	149041m	251.05	0.00
31) Pyrene-d10	29.607	212	307255m	250.63	0.00
73) Benzo(a)pyrene-d12	38.382	264	349082m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.709	136	217271m	50.23	0.00
21) Acenaphthene-d10	19.561	164	133964m	56.91	0.00
32) Phenanthrene-d10	24.688	188	257202m	55.92	0.00
66) Chrysene-d12	33.803	240	322893m	59.54	0.00
88) Perylene-d12	38.692	264	317666m	47.66	0.04
90) 5(b)H-Cholane	34.191	217	72774m	51.17	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.313	138	33671m	43.92	
4) C1-Decalins	12.232	152	5313m	6.93	
5) C2-Decalins	14.629	166	8171m	10.66	
6) C3-Decalins	17.220	180	21582m	28.15	
7) C4-Decalins	17.499	194	25756m	33.60	
8) Naphthalene	13.793	128	3079215m	657.35	
9) 2-Methylnaphthalene	16.022	142	624020m	205.19	
10) 1-Methylnaphthalene	16.356	142	273748m	97.17	
11) 2,6-Dimethylnaphthalene	18.168	156	239017m	90.87	
12) 1,6,7-Trimethylnaphtha...	20.982	170	44487m	18.00	
13) C2-Naphthalenes	18.391	156	770591m	164.50	
14) C3-Naphthalenes	20.759	170	616670m	131.65	
15) C4-Naphthalenes	22.738	184	328858m	70.20	
16) Benzothiophene	13.960	134	97809m	26.24	
17) C1-Benzothiophenes	16.189	148	37673m	10.11	
18) C2-Benzothiophenes	18.140	162	46015m	12.35	
19) C3-Benzothiophenes	20.230	176	54119m	14.52	
20) C4-Benzothiophenes	21.540	190	54479m	14.62	
22) Biphenyl	17.583	154	221824m	58.30	
23) Acenaphthylene	19.087	152	263120m	60.42	
24) Acenaphthene	19.672	154	61625m	23.63	
25) Dibenzofuran	20.258	168	285272m	70.19	
26) Fluorene	21.456	166	155108m	47.52	
27) 1-Methylfluorene	23.441	180	52734m	30.71	
28) C1-Fluorenes	23.441	180	150533m	46.12	
29) C2-Fluorenes	25.866	194	356787m	109.30	
30) C3-Fluorenes	27.528	208	506623m	155.20	
33) Carbazole	25.519	167	71515m	15.91	
34) Dibenzothiophene	24.342	184	223377m	40.85	
35) 4-Methyldibenzothiophene	25.866	198	112652m	33.86	
36) 2/3-Methyldibenzothiop...	26.143	198	79736m	23.97	
37) 1-Methyldibenzothiophene	26.489	198	34480m	10.36	
38) C2-Dibenzothiophenes	27.251	212	429053m	78.47	
39) C3-Dibenzothiophenes	28.775	226	461889m	84.47	
40) C4-Dibenzothiophenes	30.196	240	290848m	53.19	
41) Phenanthrene	24.757	178	1644234m	346.92	
42) Anthracene	24.930	178	701643m	157.10	
43) 3-Methylphenanthrene	26.455	192	252516m	63.19	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ENV3082B.D
Acq On : 18 Aug 2013 12:13 am
Operator : YM
Sample : SRM 1941b
Misc :
ALS Vial : 13 Sample Multiplier: 0.24814

Quant Time: Aug 31 18:32:16 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Methylphenanthrene	26.524	192	364292m	91.16	
45) 2-Methylanthracene	26.697	192	197161m	49.34	
46) 4/9-Methylphenanthrene	26.801	192	293095m	73.34	
47) 1-Methylphenanthrene	26.905	192	191062m	47.81	
48) 3,6-Dimethylphenanthrene	27.979	206	79419m	21.81	
49) Retene	30.681	234	47186m	31.91	
50) C2-Phenanthrenes/Anthr...	28.360	206	1175190m	247.95	
51) C3-Phenanthrenes/Anthr...	29.780	220	928833m	195.97	
52) C4-Phenanthrenes/Anthr...	31.754	234	705690m	148.89	
53) Naphthobenzothiophene	32.949	234	679958m	126.22	
54) C1-Naphthobenzothiophenes	34.113	248	624553m	115.93	
55) C2-Naphthobenzothiophenes	35.782	262	702256m	130.36	
56) C3-Naphthobenzothiophenes	37.179	276	463855m	86.10	
57) C4-Naphthobenzothiophenes	38.032	290	228152m	42.35	
58) Fluoranthene	28.879	202	3391000m	593.86	
59) Pyrene	29.676	202	2683259m	457.06	
60) 2-Methylfluoranthene	30.438	216	226251m	63.41	
61) Benzo(b)fluorene	31.027	216	249903m	75.14	
62) C1-Fluoranthenes/Pyrenes	30.819	216	1804483m	316.02	
63) C2-Fluoranthenes/Pyrenes	33.259	230	1917841m	335.87	
64) C3-Fluoranthenes/Pyrenes	33.958	244	922541m	161.56	
65) C4-Fluoranthenes/Pyrenes	35.277	258	618160m	108.26	
67) Benz(a)anthracene	33.764	228	1623830m	321.72	
68) Chrysene/Triphenylene	33.880	228	2593114m	406.78	
69) C1-Chrysenes	35.122	242	1572579m	246.69	
70) C2-Chrysenes	36.558	256	892274m	139.97	
71) C3-Chrysenes	37.994	270	571690m	89.68	
72) C4-Chrysenes	39.391	284	250703m	39.33	
74) C29-Hopane	40.708	191	544227m	200.93	
75) 18a-Oleanane	41.814	191	86188m	31.82	
76) C30-Hopane	42.036	191	677385m	250.09	
77) Benzo(b)fluoranthene	37.295	252	2762060m	329.41	
78) Benzo(k,j)fluoranthene	37.295	252	3020258m	386.81	
79) Benzo(a)fluoranthene	37.644	252	440819m	56.46	
80) Benzo(e)pyrene	38.265	252	2018868m	248.22	
81) Benzo(a)pyrene	38.459	252	1643235m	215.46	
82) Indeno(1,2,3-c,d)pyrene	43.142	276	1750796m	222.55	
83) Dibenzo(a,h)anthracene	43.179	278	215980m	34.62	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d
87) Benzo(g,h,i)perylene	44.507	276	1324153m	199.72	
89) Perylene	38.770	252	2053721m	262.93	
91) C20-TAS	33.337	231	20214m	1.90	
92) C21-TAS	34.424	231	29819m	2.80	
93) C26(20S)-TAS	38.537	231	17933m	1.68	
94) C26(20R)/C27(20S)-TAS	39.468	231	70136m	6.58	
95) C28(20S)-TAS	40.192	231	47899m	4.50	
96) C27(20R)-TAS	40.634	231	59729m	5.61	
97) C28(20R)-TAS	41.778	231	46983m	4.41	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ENV3082B.D
Acq On : 18 Aug 2013 12:13 am
Operator : YM
Sample : SRM 1941b
Misc :
ALS Vial : 13 Sample Multiplier: 0.24814

Quant Time: Aug 31 18:32:16 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

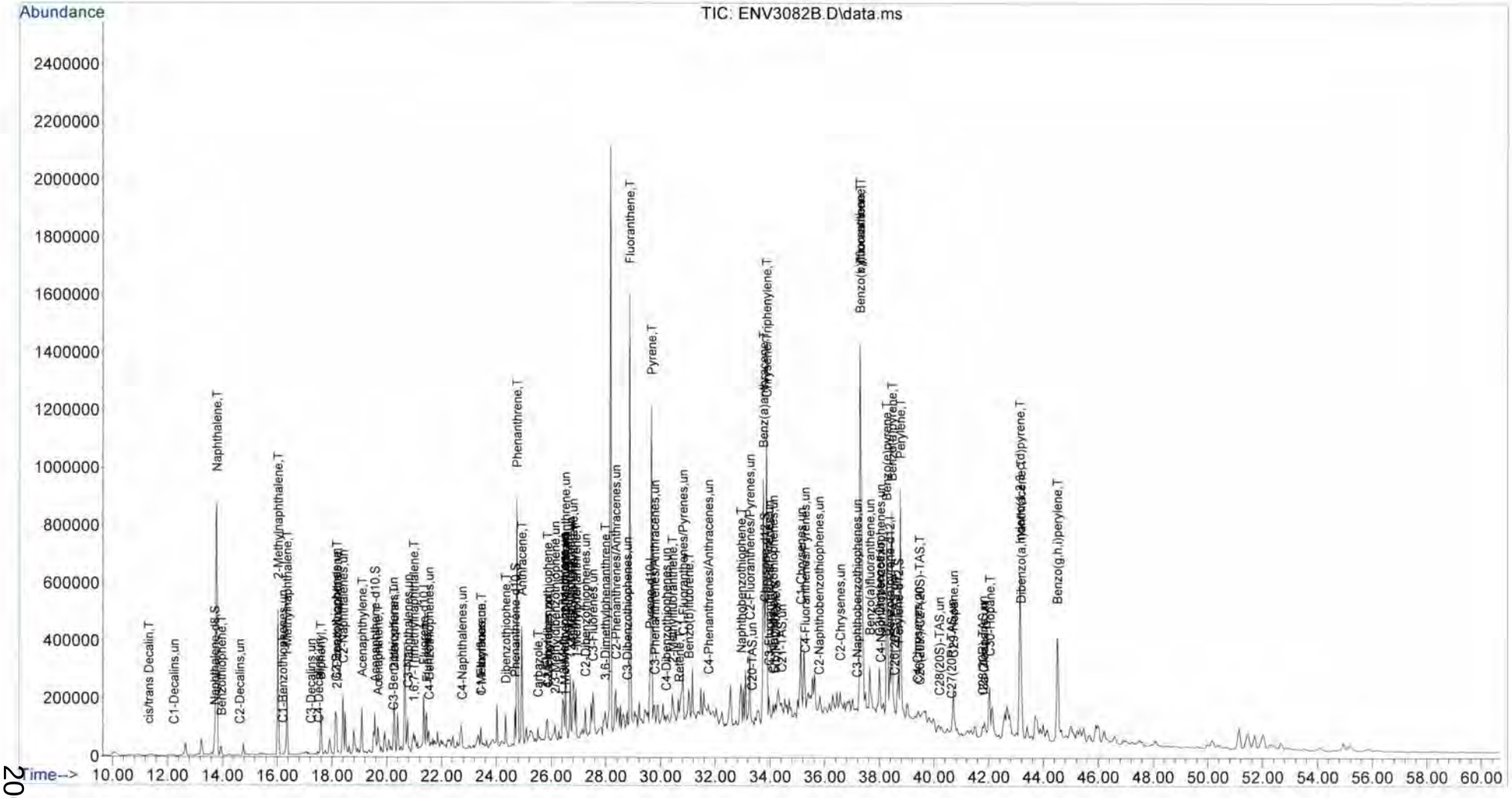
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ENV3082B.D
Acq On : 18 Aug 2013 12:13 am
Operator : YM
Sample : SRM 1941b
Misc :
ALS Vial : 13 Sample Multiplier: 0.24814

Quant Time: Aug 31 18:32:16 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration



Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name ENV3082C.D
Data File Path C:\msdchem\1\DATA\MS60142\
Operator YM
Date Acquired 8/18/2013 1:22
Acq. Method File PAH-2012.M
Sample Name MS (SED-DA-012 (0-0.5) MS/MSD)
Misc Info 0
Instrument Name GCMS6
Vial Number 14
Sample Multiplier 0.06645
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

ENV3082C.D
(SED-DA-012 (0-0.5) MS/MSD)
8/18/2013
PAH-2012.M
15.04890895

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.09	19661	6.5282	7.1034
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	116946	6.3548	6.9147
9)+10)	C1-Naphthalenes	16.19	140979	7.6608	8.3357
13)	C2-Naphthalenes	0.00	0	0.0000	0.0000
14)	C3-Naphthalenes	0.00	0	0.0000	0.0000
15)	C4-Naphthalenes	0.00	0	0.0000	0.0000
16)	Benzothiophene	13.96	77373	5.2845	5.7501
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.58	115308	7.7137	8.3933
23)	Acenaphthylene	19.09	87476	5.1129	5.5634
24)	Acenaphthene	19.67	48943	4.7769	5.1978
25)	Dibenzofuran	20.26	100307	6.2821	6.8355
26)	Fluorene	21.45	84274	6.5717	7.1507
28)	C1-Fluorenes	0.00	0	0.0000	0.0000
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	25.52	4678	0.2832	0.3082
42)	Anthracene	24.93	28222	1.7200	1.8715
41)	Phenanthrene	24.76	154416	8.8682	9.6495
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	5.38	79910	4.5893	4.9936
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	136543	6.7971	7.3959
35)+36)+37)	C1-Dibenzothiophenes	8.62	68241	3.3970	3.6963
38)	C2-Dibenzothiophenes	0.00	0	0.0000	0.0000
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.88	135366	6.4528	7.0213
59)	Pyrene	29.67	81872	3.7960	4.1304
62)	C1-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.76	88011	4.7463	5.1645
68)	Chrysene/Triphenylene	33.88	130785	5.5845	6.0765
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.29	148373	6.6169	7.1999
78)	Benzo(k,j)fluoranthene	37.37	132529	6.3468	6.9060
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.26	136708	6.2851	6.8388
81)	Benzo(a)pyrene	38.69	25114	1.2313	1.3398
89)	Perylene	38.69	24870	1.1906	1.2955
82)	Indeno(1,2,3-c,d)pyrene	43.14	100174	4.7615	5.1810
83)	Dibenzo(a,h)anthracene	43.21	98869	5.9263	6.4484
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.50	20779	1.1719	1.2752

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	77174	6.4594	7.0285
10)	1-Methylnaphthalene	16.36	63805	5.7649	6.2728
11)	2,6-Dimethylnaphthalene	18.11	61473	5.9488	6.4729
12)	1,6,7-Trimethylnaphthalene	20.98	52728	5.4309	5.9094
27)	1-Methylfluorene	23.44	43483	6.4452	7.0131
35)	4-Methyldibenzothiophene	25.86	68241	5.5835	6.0754
36)	2/3-Methyldibenzothiophene	0.00	0	0.0000	0.0000
37)	1-Methyldibenzothiophene	0.00	0	0.0000	0.0000
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	26.90	79910	5.4430	5.9225
48)	3,6-Dimethylphenanthrene	28.01	65380	4.8878	5.3184
49)	Retene	30.68	28014	5.1569	5.6112
60)	2-Methylfluoranthene	30.44	72317	5.5168	6.0029
61)	Benzo(b)fluorene	31.03	77112	6.3109	6.8669
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	39.39	196938	6.9115	7.5205
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.71	246179	14.49	87.17
21)	Acenaphthene-d10	19.56	132826	14.36	86.41
32)	Phenanthrene-d10	24.69	258173	15.28	91.90
66)	Chrysene-d12	33.80	275369	13.82	83.19
88)	Perylene-d12	38.69	2740	0.15	0.93
90)	5(b)H-Cholane	34.19	69782	18.35	110.45
	Internal Standards				
1)	Fluorene-d10	21.34	156798	16.68	
31)	Pyrene-d10	29.61	302284	16.65	
73)	Benzo(a)pyrene-d12	38.38	249996	16.63	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ENV3082C.D
Acq On : 18 Aug 2013 1:22 am
Operator : YM
Sample : MS (SED-DA-012 (0-0.5) MS/MSD)
Misc :
ALS Vial : 14 Sample Multiplier: 0.06645

Quant Time: Sep 05 12:42:44 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.343	176	156798m	251.05	0.00
31) Pyrene-d10	29.605	212	302284m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	249996m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.708	136	246179m	14.49	0.00
21) Acenaphthene-d10	19.560	164	132826m	14.36	0.00
32) Phenanthrene-d10	24.686	188	258173m	15.28	0.00
66) Chrysene-d12	33.802	240	275369m	13.82	0.00
88) Perylene-d12	38.691	264	2740m	0.15	0.04
90) 5(b)H-Cholane	34.190	217	69782m	18.35	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.089	138	19661m	6.53	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.792	128	116946m	6.35	
9) 2-Methylnaphthalene	16.021	142	77174m	6.46	
10) 1-Methylnaphthalene	16.355	142	63805m	5.76	
11) 2,6-Dimethylnaphthalene	18.111	156	61473m	5.95	
12) 1,6,7-Trimethylnaphtha...	20.981	170	52728m	5.43	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D. d	
16) Benzothiophene	13.959	134	77373m	5.28	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.581	154	115308m	7.71	
23) Acenaphthylene	19.086	152	87476m	5.11	
24) Acenaphthene	19.671	154	48943m	4.78	
25) Dibenzofuran	20.256	168	100307m	6.28	
26) Fluorene	21.455	166	84274m	6.57	
27) 1-Methylfluorene	23.439	180	43483m	6.45	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.518	167	4678m	0.28	
34) Dibenzothiophene	24.340	184	136543m	6.80	
35) 4-Methyldibenzothiophene	25.864	198	68241m	5.58	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.756	178	154416m	8.87	
42) Anthracene	24.929	178	28222m	1.72	
43) 3-Methylphenanthrene	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ENV3082C.D
Acq On : 18 Aug 2013 1:22 am
Operator : YM
Sample : MS (SED-DA-012 (0-0.5) MS/MSD)
Misc :
ALS Vial : 14 Sample Multiplier: 0.06645

Quant Time: Sep 05 12:42:44 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	26.903	192	79910m	5.44	
48) 3,6-Dimethylphenanthrene	28.012	206	65380m	4.89	
49) Retene	30.679	234	28014m	5.16	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53) Naphthobenzothiophene	0.000		0	N.D. d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.878	202	135366m	6.45	
59) Pyrene	29.674	202	81872m	3.80	
60) 2-Methylfluoranthene	30.437	216	72317m	5.52	
61) Benzo(b)fluorene	31.025	216	77112m	6.31	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	33.763	228	88011m	4.75	
68) Chrysene/Triphenylene	33.879	228	130785m	5.58	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	0.000		0	N.D. d	
77) Benzo(b)fluoranthene	37.294	252	148373m	6.62	
78) Benzo(k,j)fluoranthene	37.372	252	132529m	6.35	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.264	252	136708m	6.29	
81) Benzo(a)pyrene	38.691	252	25114m	1.23	
82) Indeno(1,2,3-c,d)pyrene	43.140	276	100174m	4.76	
83) Dibenzo(a,h)anthracene	43.214	278	98869m	5.93	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.505	276	20779m	1.17	
89) Perylene	38.691	252	24870m	1.19	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	39.390	231	196938m	6.91	
95) C28(20S)-TAS	0.000		0	N.D. d	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ENV3082C.D
Acq On : 18 Aug 2013 1:22 am
Operator : YM
Sample : MS (SED-DA-012 (0-0.5) MS/MSD)
Misc :
ALS Vial : 14 Sample Multiplier: 0.06645

Quant Time: Sep 05 12:42:44 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

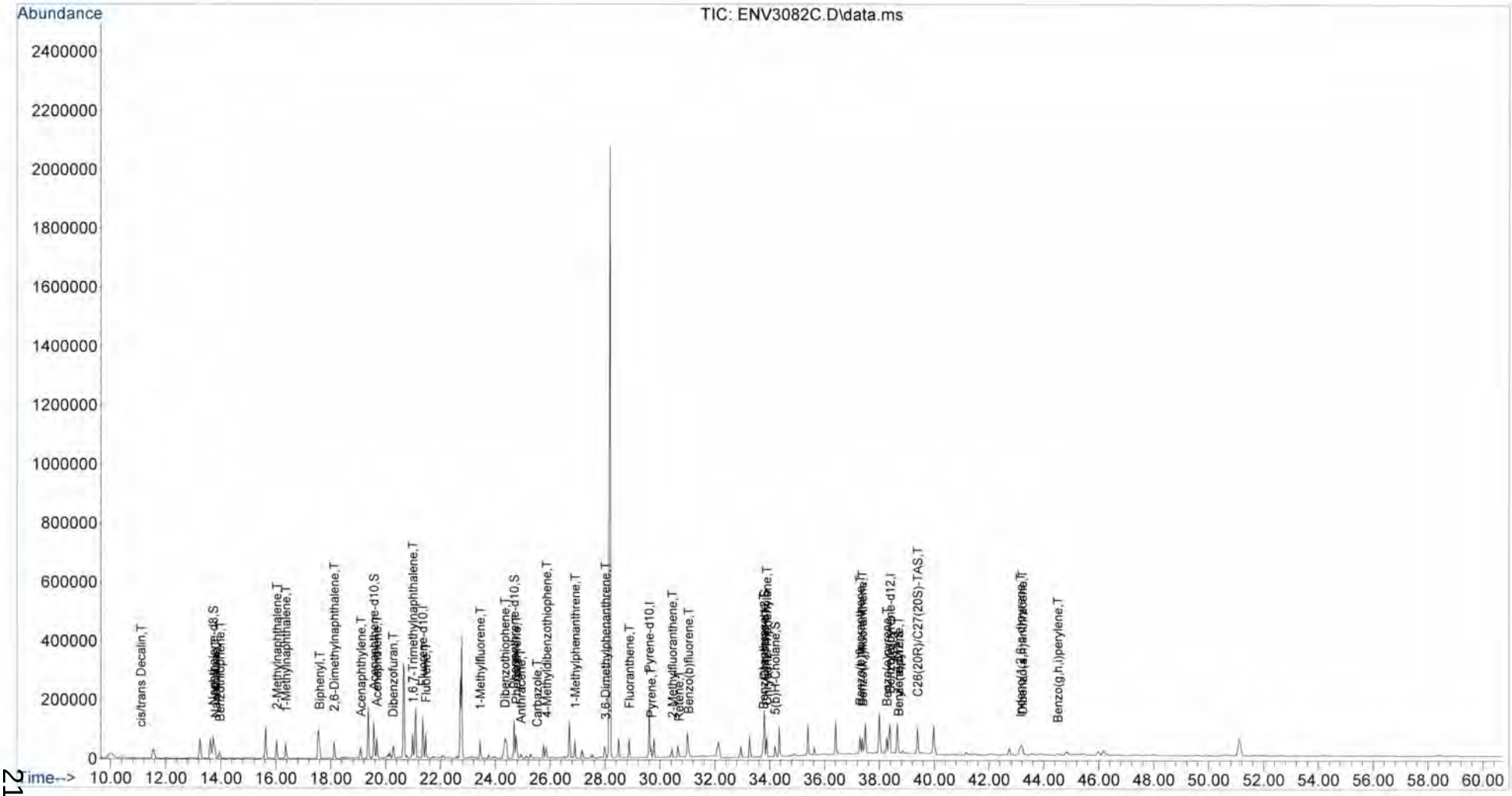
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ENV3082C.D
Acq On : 18 Aug 2013 1:22 am
Operator : YM
Sample : MS (SED-DA-012 (0-0.5) MS/MSD)
Misc :
ALS Vial : 14 Sample Multiplier: 0.06645

Quant Time: Sep 05 12:42:44 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration



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Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name ENV3082D.D
Data File Path C:\msdchem\2\data\MS60142\
Operator YM
Date Acquired 8/18/2013 2:31
Acq. Method File PAH-2012.M
Sample Name MSD (SED-DA-012 (0-0.5) MS/MSD)
Misc Info 0
Instrument Name GCMS6
Vial Number 15
Sample Multiplier 0.06662
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

ENV3082D.D
(SED-DA-012 (0-0.5) MS/MSD)
8/18/2013
PAH-2012.M
15.01050736

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.09	17666	6.6151	7.3314
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	103851	6.3641	7.0532
9)+10)	C1-Naphthalenes	16.19	125821	7.7104	8.5453
13)	C2-Naphthalenes	0.00	0	0.0000	0.0000
14)	C3-Naphthalenes	0.00	0	0.0000	0.0000
15)	C4-Naphthalenes	0.00	0	0.0000	0.0000
16)	Benzothiophene	13.96	68841	5.3024	5.8765
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.58	101860	7.6846	8.5166
23)	Acenaphthylene	19.08	76178	5.0213	5.5650
24)	Acenaphthene	19.67	42997	4.7327	5.2451
25)	Dibenzofuran	20.28	88935	6.2814	6.9615
26)	Fluorene	21.45	75723	6.6592	7.3802
28)	C1-Fluorenes	0.00	0	0.0000	0.0000
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	25.52	3811	0.2567	0.2845
42)	Anthracene	24.93	21202	1.4376	1.5933
41)	Phenanthrene	24.76	136322	8.7103	9.6534
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	5.38	71806	4.5880	5.0848
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	120759	6.6880	7.4122
35)+36)+37)	C1-Dibenzothiophenes	8.62	60164	3.3321	3.6929
38)	C2-Dibenzothiophenes	0.00	0	0.0000	0.0000
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.88	120424	6.3867	7.0782
59)	Pyrene	29.67	62448	3.2213	3.5701
62)	C1-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.76	73822	4.4292	4.9088
68)	Chrysene/Triphenylene	33.88	112781	5.3578	5.9379
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.29	128571	6.4051	7.0986
78)	Benzo(k,j)fluoranthene	37.37	116701	6.2431	6.9190
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.26	118013	6.0607	6.7170
81)	Benzo(a)pyrene	38.69	21796	1.1938	1.3230
89)	Perylene	38.69	21891	1.1707	1.2974
82)	Indeno(1,2,3-c,d)pyrene	43.14	88725	4.7110	5.2211
83)	Dibenzo(a,h)anthracene	43.18	87996	5.8920	6.5300
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.51	19394	1.2219	1.3542

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	69371	6.5480	7.2570
10)	1-Methylnaphthalene	16.35	56450	5.7519	6.3747
11)	2,6-Dimethylnaphthalene	18.14	55067	6.0096	6.6603
12)	1,6,7-Trimethylnaphthalene	20.98	47522	5.5200	6.1177
27)	1-Methylfluorene	23.44	38275	6.3980	7.0908
35)	4-Methyldibenzothiophene	25.86	60164	5.4768	6.0698
36)	2/3-Methyldibenzothiophene	0.00	0	0.0000	0.0000
37)	1-Methyldibenzothiophene	0.00	0	0.0000	0.0000
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	26.90	71806	5.4415	6.0307
48)	3,6-Dimethylphenanthrene	27.98	56603	4.7079	5.2177
49)	Retene	30.68	24071	4.9298	5.4636
60)	2-Methylfluoranthene	30.44	61479	5.2180	5.7830
61)	Benzo(b)fluorene	31.03	68814	6.2657	6.9442
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	39.39	175122	6.8654	7.6088
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.71	220450	14.63	87.80
21)	Acenaphthene-d10	19.56	114211	13.93	83.57
32)	Phenanthrene-d10	24.69	228411	15.04	90.23
66)	Chrysene-d12	33.80	235379	13.14	78.91
88)	Perylene-d12	38.69	2696	0.17	1.01
90)	5(b)H-Cholane	34.19	61543	18.08	108.53
	Internal Standards				
1)	Fluorene-d10	21.34	139393	16.72	
31)	Pyrene-d10	29.61	272396	16.70	
73)	Benzo(a)pyrene-d12	38.38	224370	16.68	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ENV3082D.D
Acq On : 18 Aug 2013 2:31 am
Operator : YM
Sample : MSD (SED-DA-012 (0-0.5) MS/MSD)
Misc :
ALS Vial : 15 Sample Multiplier: 0.06662

Quant Time: Sep 05 12:44:44 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.341	176	139393m	251.05	0.00
31) Pyrene-d10	29.606	212	272396m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	224370m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.706	136	220450m	14.63	0.00
21) Acenaphthene-d10	19.558	164	114211m	13.93	0.00
32) Phenanthrene-d10	24.687	188	228411m	15.04	0.00
66) Chrysene-d12	33.802	240	235379m	13.14	0.00
88) Perylene-d12	38.691	264	2696m	0.17	0.04
90) 5(b)H-Cholane	34.190	217	61543m	18.08	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.087	138	17666m	6.62	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.790	128	103851m	6.36	
9) 2-Methylnaphthalene	16.019	142	69371m	6.55	
10) 1-Methylnaphthalene	16.353	142	56450m	5.75	
11) 2,6-Dimethylnaphthalene	18.137	156	55067m	6.01	
12) 1,6,7-Trimethylnaphtha...	20.979	170	47522m	5.52	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D. d	
16) Benzothiophene	13.957	134	68841m	5.30	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.580	154	101860m	7.68	
23) Acenaphthylene	19.084	152	76178m	5.02	
24) Acenaphthene	19.669	154	42997m	4.73	
25) Dibenzofuran	20.282	168	88935m	6.28	
26) Fluorene	21.453	166	75723m	6.66	
27) 1-Methylfluorene	23.440	180	38275m	6.40	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.518	167	3811m	0.26	
34) Dibenzothiophene	24.340	184	120759m	6.69	
35) 4-Methyldibenzothiophene	25.865	198	60164m	5.48	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.756	178	136322m	8.71	
42) Anthracene	24.929	178	21202m	1.44	
43) 3-Methylphenanthrene	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ENV3082D.D
Acq On : 18 Aug 2013 2:31 am
Operator : YM
Sample : MSD (SED-DA-012 (0-0.5) MS/MSD)
Misc :
ALS Vial : 15 Sample Multiplier: 0.06662

Quant Time: Sep 05 12:44:44 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	26.904	192	71806m	5.44	
48) 3,6-Dimethylphenanthrene	27.978	206	56603m	4.71	
49) Retene	30.679	234	24071m	4.93	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53) Naphthobenzothiophene	0.000		0	N.D. d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.878	202	120424m	6.39	
59) Pyrene	29.675	202	62448m	3.22	
60) 2-Methylfluoranthene	30.437	216	61479m	5.22	
61) Benzo(b)fluorene	31.026	216	68814m	6.27	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	33.763	228	73822m	4.43	
68) Chrysene/Triphenylene	33.880	228	112781m	5.36	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	0.000		0	N.D. d	
77) Benzo(b)fluoranthene	37.294	252	128571m	6.41	
78) Benzo(k,j)fluoranthene	37.372	252	116701m	6.24	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.265	252	118013m	6.06	
81) Benzo(a)pyrene	38.691	252	21796m	1.19	
82) Indeno(1,2,3-c,d)pyrene	43.141	276	88725m	4.71	
83) Dibenzo(a,h)anthracene	43.178	278	87996m	5.89	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.505	276	19394m	1.22	
89) Perylene	38.691	252	21891m	1.17	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	39.390	231	175122m	6.87	
95) C28(20S)-TAS	0.000		0	N.D. d	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ENV3082D.D
Acq On : 18 Aug 2013 2:31 am
Operator : YM
Sample : MSD (SED-DA-012 (0-0.5) MS/MSD)
Misc :
ALS Vial : 15 Sample Multiplier: 0.06662

Quant Time: Sep 05 12:44:44 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

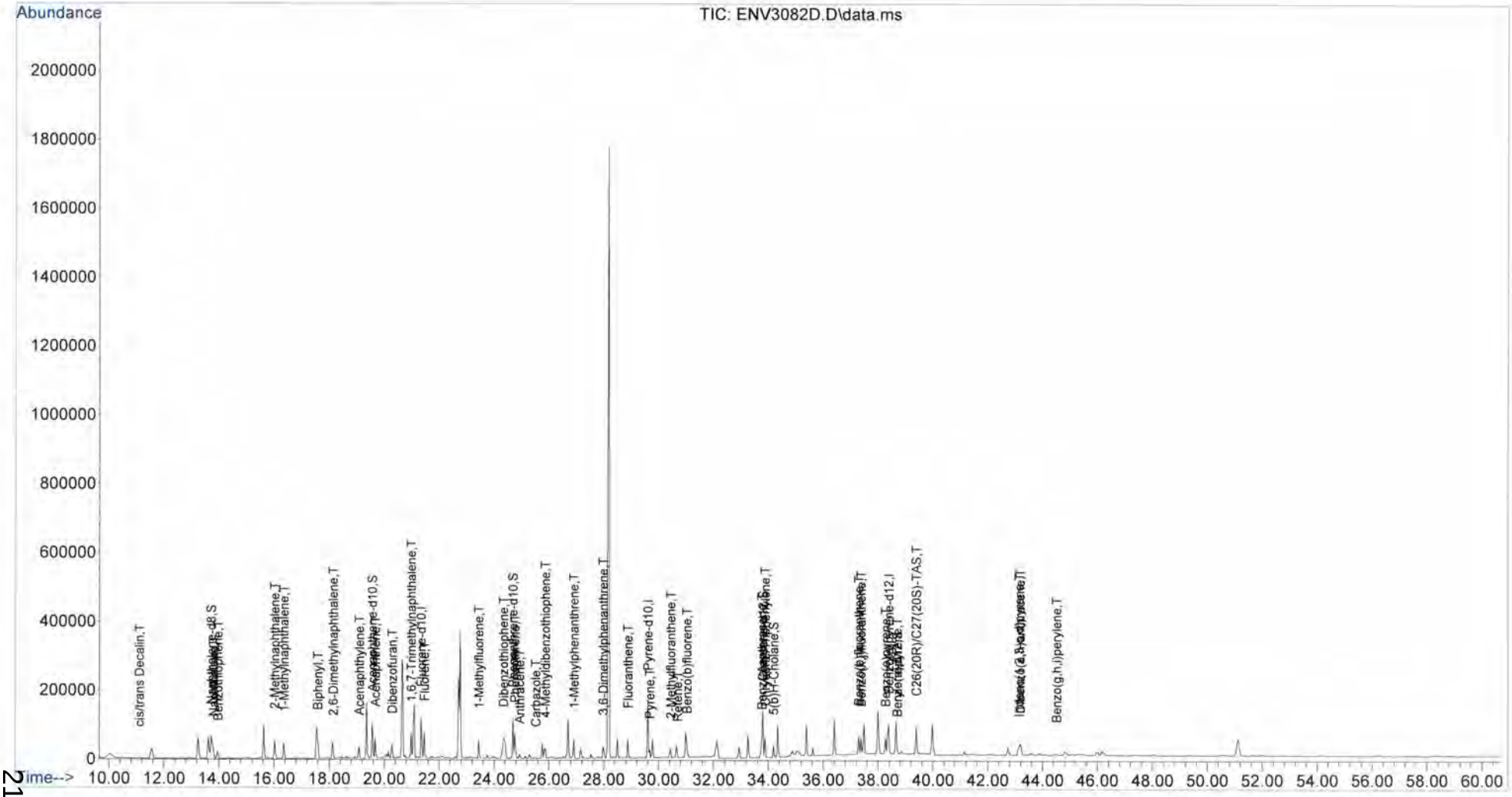
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ENV3082D.D
Acq On : 18 Aug 2013 2:31 am
Operator : YM
Sample : MSD (SED-DA-012 (0-0.5) MS/MSD)
Misc :
ALS Vial : 15 Sample Multiplier: 0.06662

Quant Time: Sep 05 12:44:44 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration



Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name ENV3082E.D
Data File Path C:\msdchem\2\data\MS60142\
Operator YM
Date Acquired 8/18/2013 3:40
Acq. Method File PAH-2012.M
Sample Name Dupl. (SED-DA-014 (0-0.5))
Misc Info 0
Instrument Name GCMS6
Vial Number 16
Sample Multiplier 0.06636
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

ENV3082E.D
Dupl. (SED-DA-014 (0-0.5))
8/18/2013
PAH-2012.M
15.06931887

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	10681	0.6826	0.7260
9)+10)	C1-Naphthalenes	16.19	10316	0.6593	0.7011
13)	C2-Naphthalenes	18.39	24820	1.5862	1.6869
14)	C3-Naphthalenes	20.06	43419	2.7748	2.9511
15)	C4-Naphthalenes	21.48	23035	1.4721	1.5656
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.58	3128	0.2461	0.2617
23)	Acenaphthylene	19.08	612	0.0421	0.0447
24)	Acenaphthene	19.67	453	0.0520	0.0553
25)	Dibenzofuran	20.28	11659	0.8588	0.9133
26)	Fluorene	21.45	12940	1.1867	1.2621
28)	C1-Fluorenes	23.44	5400	0.4952	0.5267
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	25.52	713	0.0496	0.0527
42)	Anthracene	24.93	436	0.0305	0.0325
41)	Phenanthrene	24.76	48292	3.1853	3.3876
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	6035	0.3450	0.3670
35)+36)+37)	C1-Dibenzothiophenes	26.17	5111	0.2922	0.3108
38)	C2-Dibenzothiophenes	27.25	9779	0.5591	0.5946
39)	C3-Dibenzothiophenes	29.26	13509	0.7723	0.8214
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.88	7375	0.4038	0.4294
59)	Pyrene	29.68	5767	0.3071	0.3266
62)	C1-Fluoranthenes/Pyrenes	31.16	5480	0.3000	0.3191
63)	C2-Fluoranthenes/Pyrenes	32.56	7564	0.4141	0.4404
64)	C3-Fluoranthenes/Pyrenes	34.00	5541	0.3034	0.3226
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	32.95	3271	0.1898	0.2019
54)	C1-Naphthobenzothiophenes	34.70	7156	0.4153	0.4416
55)	C2-Naphthobenzothiophenes	35.82	9475	0.5498	0.5848
56)	C3-Naphthobenzothiophenes	37.18	7511	0.4359	0.4636
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.76	782	0.0484	0.0515
68)	Chrysene/Triphenylene	33.88	2020	0.0991	0.1054
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.30	2359	0.1216	0.1293
78)	Benzo(k,j)fluoranthene	37.37	612	0.0339	0.0360
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.27	1781	0.0946	0.1006
81)	Benzo(a)pyrene	38.46	647	0.0367	0.0390
89)	Perylene	38.77	29283	1.6197	1.7226
82)	Indeno(1,2,3-c,d)pyrene	43.10	1108	0.0608	0.0647
83)	Dibenzo(a,h)anthracene	43.18	279	0.0193	0.0205
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.51	1184	0.0772	0.0821

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	6730	0.6625	0.7046
10)	1-Methylnaphthalene	16.35	3586	0.3811	0.4053
11)	2,6-Dimethylnaphthalene	18.16	5502	0.6262	0.6660
12)	1,6,7-Trimethylnaphthalene	20.98	1600	0.1938	0.2061
27)	1-Methylfluorene	23.44	1815	0.3164	0.3365
35)	4-Methyldibenzothiophene	25.86	2409	0.2264	0.2408
36)	2/3-Methyldibenzothiophene	26.14	1270	0.1193	0.1269
37)	1-Methyldibenzothiophene	26.49	1432	0.1346	0.1431
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	0.00	0	0.0000	0.0000
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	30.44	285	0.0250	0.0266
61)	Benzo(b)fluorene	31.03	391	0.0368	0.0391
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.71	210281	14.55	87.68
21)	Acenaphthene-d10	19.56	118953	15.13	91.13
32)	Phenanthrene-d10	24.69	229676	15.61	94.03
66)	Chrysene-d12	33.80	201980	11.64	70.17
88)	Perylene-d12	38.65	205398	13.31	80.24
90)	5(b)H-Cholane	34.19	61107	18.56	111.90
	Internal Standards				
1)	Fluorene-d10	21.34	133143	16.66	
31)	Pyrene-d10	29.61	262845	16.63	
73)	Benzo(a)pyrene-d12	38.38	216082	16.61	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ENV3082E.D
Acq On : 18 Aug 2013 3:40 am
Operator : YM
Sample : Dupl. (SED-DA-014 (0-0.5))
Misc :
ALS Vial : 16 Sample Multiplier: 0.06636

Quant Time: Sep 05 15:17:00 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.342	176	133143m	251.05	0.00
31) Pyrene-d10	29.606	212	262845m	250.63	0.00
73) Benzo(a)pyrene-d12	38.382	264	216082m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.706	136	210281m	14.55	0.00
21) Acenaphthene-d10	19.558	164	118953m	15.13	0.00
32) Phenanthrene-d10	24.687	188	229676m	15.61	0.00
66) Chrysene-d12	33.802	240	201980m	11.64	0.00
88) Perylene-d12	38.653	264	205398m	13.31	0.00
90) 5(b)H-Cholane	34.191	217	61107m	18.56	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	0.000		0	N.D. d	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.790	128	10681m	0.68	
9) 2-Methylnaphthalene	16.019	142	6730m	0.66	
10) 1-Methylnaphthalene	16.354	142	3586m	0.38	
11) 2,6-Dimethylnaphthalene	18.165	156	5502m	0.63	
12) 1,6,7-Trimethylnaphtha...	20.979	170	1600m	0.19	
13) C2-Naphthalenes	18.388	156	24820m	1.59	
14) C3-Naphthalenes	20.060	170	43419m	2.77	
15) C4-Naphthalenes	21.481	184	23035m	1.47	
16) Benzothiophene	0.000		0	N.D. d	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.580	154	3128m	0.25	
23) Acenaphthylene	19.084	152	612m	0.04	
24) Acenaphthene	19.670	154	453m	0.05	
25) Dibenzofuran	20.283	168	11659m	0.86	
26) Fluorene	21.453	166	12940m	1.19	
27) 1-Methylfluorene	23.440	180	1815m	0.32	
28) C1-Fluorenes	23.440	180	5400m	0.50	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.518	167	713m	0.05	
34) Dibenzothiophene	24.341	184	6035m	0.35	
35) 4-Methyldibenzothiophene	25.865	198	2409m	0.23	
36) 2/3-Methyldibenzothiop...	26.142	198	1270m	0.12	
37) 1-Methyldibenzothiophene	26.488	198	1432m	0.13	
38) C2-Dibenzothiophenes	27.250	212	9779m	0.56	
39) C3-Dibenzothiophenes	29.259	226	13509m	0.77	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.756	178	48292m	3.19	
42) Anthracene	24.930	178	436m	0.03	
43) 3-Methylphenanthrene	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ENV3082E.D
Acq On : 18 Aug 2013 3:40 am
Operator : YM
Sample : Dupl. (SED-DA-014 (0-0.5))
Misc :
ALS Vial : 16 Sample Multiplier: 0.06636

Quant Time: Sep 05 15:17:00 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	0.000		0	N.D. d	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D. d	
49) Retene	0.000		0	N.D. d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53) Naphthobenzothiophene	32.949	234	3271m	0.19	
54) C1-Naphthobenzothiophenes	34.695	248	7156m	0.42	
55) C2-Naphthobenzothiophenes	35.820	262	9475m	0.55	
56) C3-Naphthobenzothiophenes	37.179	276	7511m	0.44	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.878	202	7375m	0.40	
59) Pyrene	29.675	202	5767m	0.31	
60) 2-Methylfluoranthene	30.437	216	285m	0.02	
61) Benzo(b)fluorene	31.026	216	391m	0.04	
62) C1-Fluoranthenes/Pyrenes	31.165	216	5480m	0.30	
63) C2-Fluoranthenes/Pyrenes	32.561	230	7564m	0.41	
64) C3-Fluoranthenes/Pyrenes	33.996	244	5541m	0.30	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	33.764	228	782m	0.05	
68) Chrysene/Triphenylene	33.880	228	2020m	0.10	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	0.000		0	N.D. d	
77) Benzo(b)fluoranthene	37.295	252	2359m	0.12	
78) Benzo(k,j)fluoranthene	37.373	252	612m	0.03	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.265	252	1781m	0.09	
81) Benzo(a)pyrene	38.459	252	647m	0.04	
82) Indeno(1,2,3-c,d)pyrene	43.105	276	1108m	0.06	
83) Dibenzo(a,h)anthracene	43.178	278	279m	0.02	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.506	276	1184m	0.08	
89) Perylene	38.770	252	29283m	1.62	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D. d	
95) C28(20S)-TAS	0.000		0	N.D. d	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ENV3082E.D
Acq On : 18 Aug 2013 3:40 am
Operator : YM
Sample : Dupl. (SED-DA-014 (0-0.5))
Misc :
ALS Vial : 16 Sample Multiplier: 0.06636

Quant Time: Sep 05 15:17:00 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

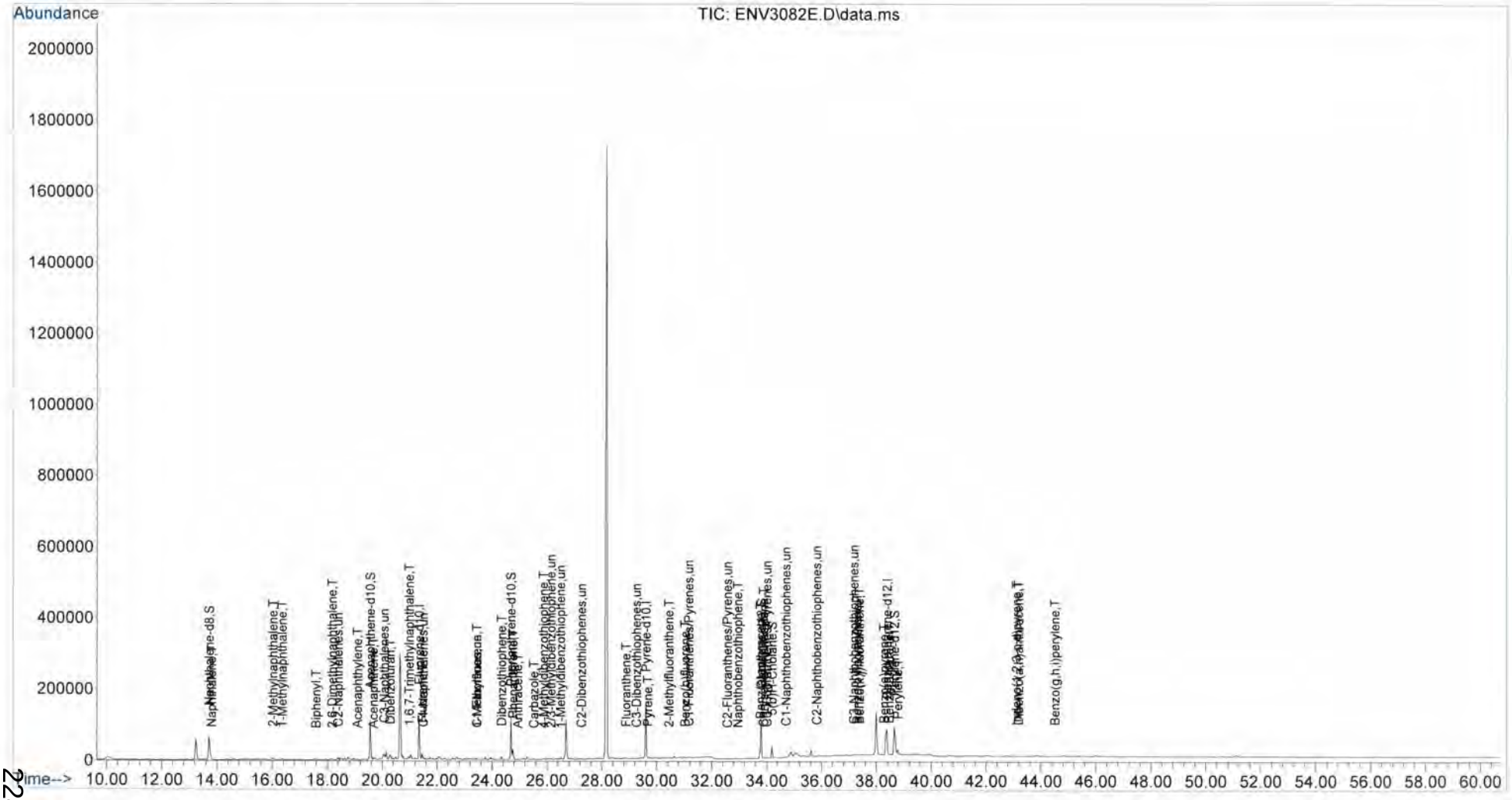
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ENV3082E.D
Acq On : 18 Aug 2013 3:40 am
Operator : YM
Sample : Dupl. (SED-DA-014 (0-0.5))
Misc :
ALS Vial : 16 Sample Multiplier: 0.06636

Quant Time: Sep 05 15:17:00 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration



AR60142.M Sun Sep 15 18:10:24 2013

Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name ARC1648.D
Data File Path C:\GCMS6\MS60142\
Operator YM
Date Acquired 8/18/2013 4:50
Acq. Method File PAH-2012.M
Sample Name SED-DA-014 (0.5-1.0)
Misc Info 0
Instrument Name GCMS6
Vial Number 17
Sample Multiplier 0.06631
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

ARC1648.D
SED-DA-014 (0.5-1.0)
8/18/2013
PAH-2012.M
15.08068165

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	23162	1.4000	1.4748
9)+10)	C1-Naphthalenes	16.19	28516	1.7236	1.8157
13)	C2-Naphthalenes	18.39	70948	4.2884	4.5175
14)	C3-Naphthalenes	20.06	108806	6.5767	6.9280
15)	C4-Naphthalenes	21.48	90661	5.4799	5.7727
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	19.08	1767	0.1149	0.1210
24)	Acenaphthene	19.67	2954	0.3207	0.3378
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.45	37536	3.2559	3.4298
28)	C1-Fluorenes	23.44	15066	1.3068	1.3766
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.93	3109	0.2087	0.2199
41)	Phenanthrene	24.76	163633	10.3531	10.9062
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.67	84057	5.3183	5.6024
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	12487	0.6848	0.7214
35)+36)+37)	C1-Dibenzothiophenes	26.17	11830	0.6488	0.6834
38)	C2-Dibenzothiophenes	27.25	18713	1.0263	1.0811
39)	C3-Dibenzothiophenes	28.78	18001	0.9872	1.0399
40)	C4-Dibenzothiophenes	30.82	10340	0.5671	0.5974
58)	Fluoranthene	28.88	30664	1.6104	1.6964
59)	Pyrene	29.68	15147	0.7737	0.8150
62)	C1-Fluoranthenes/Pyrenes	31.17	9024	0.4739	0.4992
63)	C2-Fluoranthenes/Pyrenes	32.17	19377	1.0176	1.0720
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.76	2703	0.1606	0.1692
68)	Chrysene/Triphenylene	33.88	6904	0.3248	0.3421
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.29	11010	0.5321	0.5605
78)	Benzo(k,j)fluoranthene	37.37	4316	0.2240	0.2360
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.26	6531	0.3254	0.3428
81)	Benzo(a)pyrene	38.46	3774	0.2005	0.2112
89)	Perylene	38.77	231959	12.0342	12.6771
82)	Indeno(1,2,3-c,d)pyrene	43.10	4680	0.2411	0.2540
83)	Dibenzo(a,h)anthracene	43.18	1228	0.0798	0.0840
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.51	5096	0.3115	0.3281

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	19606	1.8254	1.9229
10)	1-Methylnaphthalene	16.35	8910	0.8955	0.9433
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	25.87	5696	0.5134	0.5409
36)	2/3-Methyldibenzothiophene	26.14	3895	0.3511	0.3699
37)	1-Methyldibenzothiophene	26.49	2239	0.2018	0.2126
43)	3-Methylphenanthrene	26.42	9359	0.7023	0.7398
44)	2-Methylphenanthrene	26.52	15712	1.1790	1.2420
45)	2-Methylanthracene	26.70	43894	3.2938	3.4698
46)	4/9-Methylphenanthrene	26.80	9006	0.6758	0.7119
47)	1-Methylphenanthrene	26.90	6086	0.4567	0.4811
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.71	220861	14.46	87.17
21)	Acenaphthene-d10	19.56	125395	15.08	90.93
32)	Phenanthrene-d10	24.69	241549	15.75	94.93
66)	Chrysene-d12	33.80	228231	12.62	76.12
88)	Perylene-d12	38.65	211866	12.88	77.69
90)	5(b)H-Cholane	34.19	61353	17.48	105.46
	Internal Standards				
1)	Fluorene-d10	21.34	140665	16.65	
31)	Pyrene-d10	29.61	273805	16.62	
73)	Benzo(a)pyrene-d12	38.38	230196	16.60	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ARC1648.D
Acq On : 18 Aug 2013 4:50 am
Operator : YM
Sample : SED-DA-014 (0.5-1.0)
Misc :
ALS Vial : 17 Sample Multiplier: 0.06631

Quant Time: Sep 02 09:17:46 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.342	176	140665m	251.05	0.00
31) Pyrene-d10	29.606	212	273805m	250.63	0.00
73) Benzo(a)pyrene-d12	38.380	264	230196m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.706	136	220861m	14.46	0.00
21) Acenaphthene-d10	19.558	164	125395m	15.08	0.00
32) Phenanthrene-d10	24.688	188	241549m	15.75	0.00
66) Chrysene-d12	33.801	240	228231m	12.62	0.00
88) Perylene-d12	38.652	264	211866m	12.88	0.00
90) 5(b)H-Cholane	34.189	217	61353m	17.48	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	0.000		0	N.D. d	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.790	128	23162m	1.40	
9) 2-Methylnaphthalene	16.019	142	19606m	1.83	
10) 1-Methylnaphthalene	16.354	142	8910m	0.90	
11) 2,6-Dimethylnaphthalene	0.000		0	N.D. d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D. d	
13) C2-Naphthalenes	18.388	156	70948m	4.29	
14) C3-Naphthalenes	20.060	170	108806m	6.58	
15) C4-Naphthalenes	21.481	184	90661m	5.48	
16) Benzothiophene	0.000		0	N.D. d	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	0.000		0	N.D. d	
23) Acenaphthylene	19.084	152	1767m	0.11	
24) Acenaphthene	19.670	154	2954m	0.32	
25) Dibenzofuran	0.000		0	N.D. d	
26) Fluorene	21.453	166	37536m	3.26	
27) 1-Methylfluorene	0.000		0	N.D. d	
28) C1-Fluorenes	23.441	180	15066m	1.31	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	0.000		0	N.D. d	
34) Dibenzothiophene	24.341	184	12487m	0.68	
35) 4-Methyldibenzothiophene	25.865	198	5696m	0.51	
36) 2/3-Methyldibenzothiop...	26.143	198	3895m	0.35	
37) 1-Methyldibenzothiophene	26.489	198	2239m	0.20	
38) C2-Dibenzothiophenes	27.251	212	18713m	1.03	
39) C3-Dibenzothiophenes	28.775	226	18001m	0.99	
40) C4-Dibenzothiophenes	30.819	240	10340m	0.57	
41) Phenanthrene	24.757	178	163633m	10.35	
42) Anthracene	24.930	178	3109m	0.21	
43) 3-Methylphenanthrene	26.420	192	9359m	0.70	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ARC1648.D
Acq On : 18 Aug 2013 4:50 am
Operator : YM
Sample : SED-DA-014 (0.5-1.0)
Misc :
ALS Vial : 17 Sample Multiplier: 0.06631

Quant Time: Sep 02 09:17:46 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units Dev(Min)
44) 2-Methylphenanthrene	26.524	192	15712m	1.18
45) 2-Methylanthracene	26.697	192	43894m	3.29
46) 4/9-Methylphenanthrene	26.801	192	9006m	0.68
47) 1-Methylphenanthrene	26.905	192	6086m	0.46
48) 3,6-Dimethylphenanthrene	0.000		0	N.D. d
49) Retene	0.000		0	N.D. d
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D. d
53) Naphthobenzothiophene	0.000		0	N.D. d
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d
58) Fluoranthene	28.879	202	30664m	1.61
59) Pyrene	29.676	202	15147m	0.77
60) 2-Methylfluoranthene	0.000		0	N.D. d
61) Benzo(b)fluorene	0.000		0	N.D. d
62) C1-Fluoranthenes/Pyrenes	31.165	216	9024m	0.47
63) C2-Fluoranthenes/Pyrenes	32.171	230	19377m	1.02
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d
67) Benz(a)anthracene	33.762	228	2703m	0.16
68) Chrysene/Triphenylene	33.879	228	6904m	0.32
69) C1-Chrysenes	0.000		0	N.D. d
70) C2-Chrysenes	0.000		0	N.D. d
71) C3-Chrysenes	0.000		0	N.D. d
72) C4-Chrysenes	0.000		0	N.D. d
74) C29-Hopane	0.000		0	N.D. d
75) 18a-Oleanane	0.000		0	N.D. d
76) C30-Hopane	0.000		0	N.D. d
77) Benzo(b)fluoranthene	37.294	252	11010m	0.53
78) Benzo(k,j)fluoranthene	37.371	252	4316m	0.22
79) Benzo(a)fluoranthene	0.000		0	N.D. d
80) Benzo(e)pyrene	38.264	252	6531m	0.33
81) Benzo(a)pyrene	38.458	252	3774m	0.20
82) Indeno(1,2,3-c,d)pyrene	43.105	276	4680m	0.24
83) Dibenzo(a,h)anthracene	43.179	278	1228m	0.08
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d
87) Benzo(g,h,i)perylene	44.506	276	5096m	0.31
89) Perylene	38.768	252	231959m	12.03
91) C20-TAS	0.000		0	N.D. d
92) C21-TAS	0.000		0	N.D. d
93) C26(20S)-TAS	0.000		0	N.D. d
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D. d
95) C28(20S)-TAS	0.000		0	N.D. d
96) C27(20R)-TAS	0.000		0	N.D. d
97) C28(20R)-TAS	0.000		0	N.D. d

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ARC1648.D
Acq On : 18 Aug 2013 4:50 am
Operator : YM
Sample : SED-DA-014 (0.5-1.0)
Misc :
ALS Vial : 17 Sample Multiplier: 0.06631

Quant Time: Sep 02 09:17:46 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

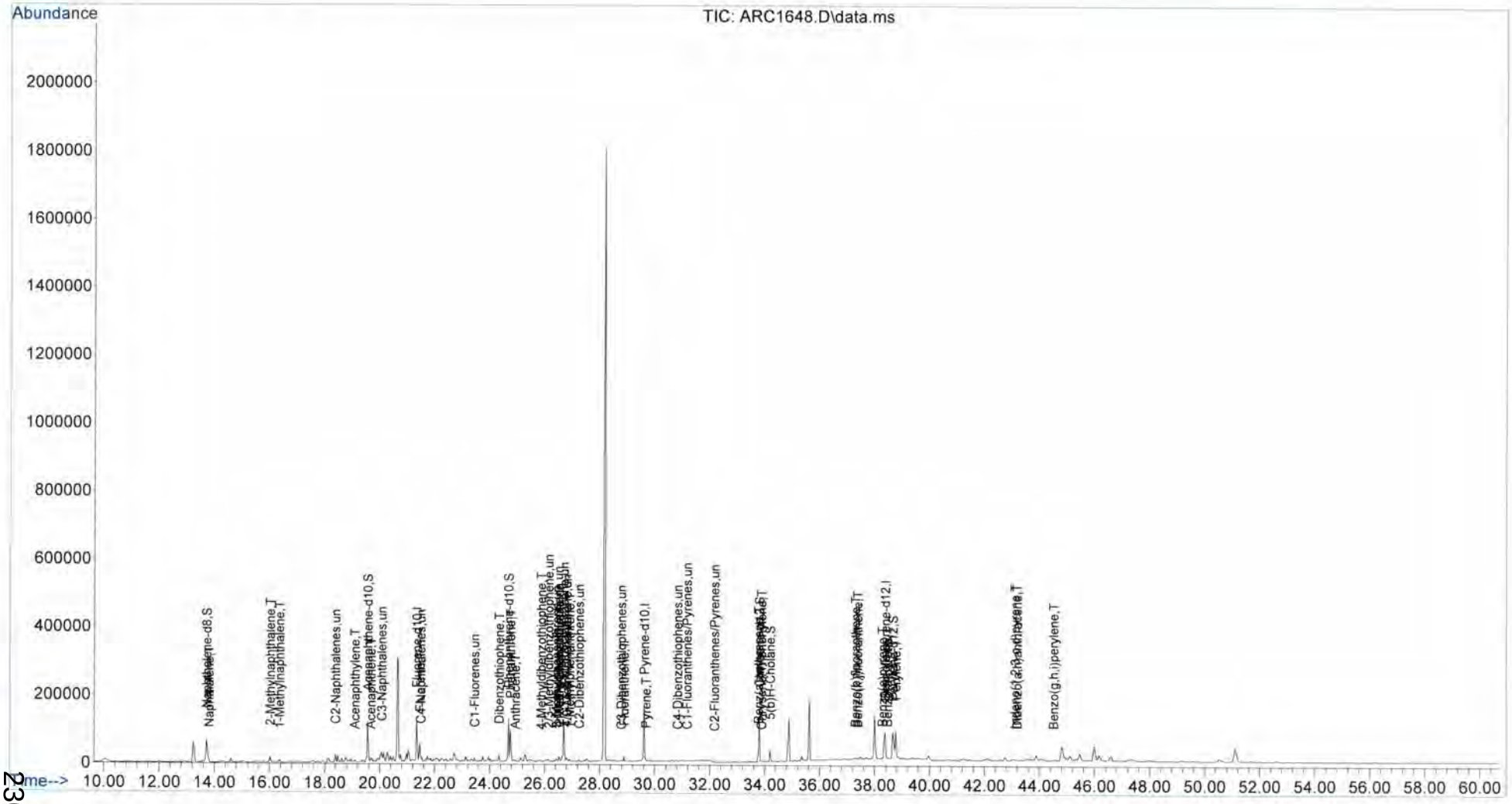
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ARC1648.D
Acq On : 18 Aug 2013 4:50 am
Operator : YM
Sample : SED-DA-014 (0.5-1.0)
Misc :
ALS Vial : 17 Sample Multiplier: 0.06631

Quant Time: Sep 02 09:17:46 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration



Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name ARC1649.D
Data File Path C:\GCMS6\MS60142\
Operator YM
Date Acquired 8/18/2013 5:59
Acq. Method File PAH-2012.M
Sample Name SED-DA-015 (0.5-1.0)
Misc Info 0
Instrument Name GCMS6
Vial Number 18
Sample Multiplier 0.06609
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

ARC1649.D
SED-DA-015 (0.5-1.0)
8/18/2013
PAH-2012.M
15.13088213

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	264581	13.0565	14.4081
9)+10)	C1-Naphthalenes	16.19	1923027	94.8975	104.7211
13)	C2-Naphthalenes	18.50	7992990	394.4377	435.2691
14)	C3-Naphthalenes	20.42	11812800	582.9376	643.2821
15)	C4-Naphthalenes	22.77	14461600	713.6530	787.5289
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	19.09	105042	5.5756	6.1528
24)	Acenaphthene	19.67	97406	8.6337	9.5275
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.46	569336	40.3184	44.4921
28)	C1-Fluorenes	23.47	2280900	161.5259	178.2468
29)	C2-Fluorenes	25.31	5566290	394.1859	434.9912
30)	C3-Fluorenes	27.56	6184830	437.9890	483.3287
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.96	271613	16.0261	17.6851
41)	Phenanthrene	24.79	3302920	183.6449	202.6555
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.71	9840696	547.1504	603.7903
50)	C2-Phenanthrenes/Anthracenes	28.39	17644600	981.0532	1082.6098
51)	C3-Phenanthrenes/Anthracenes	29.95	17481600	971.9922	1072.6109
52)	C4-Phenanthrenes/Anthracenes	31.79	11184000	621.8375	686.2088
34)	Dibenzothiophene	24.38	2389440	115.1565	127.0773
35)+36)+37)	C1-Dibenzothiophenes	26.20	9037290	435.5426	480.6291
38)	C2-Dibenzothiophenes	27.98	16706100	805.1348	888.4807
39)	C3-Dibenzothiophenes	29.50	21146900	1019.1541	1124.6548
40)	C4-Dibenzothiophenes	29.81	15167200	730.9686	806.6370
58)	Fluoranthene	28.91	1035090	47.7698	52.7148
59)	Pyrene	29.71	1851060	83.0897	91.6909
62)	C1-Fluoranthenes/Pyrenes	31.55	4817590	222.3347	245.3503
63)	C2-Fluoranthenes/Pyrenes	32.95	7878250	363.5862	401.2239
64)	C3-Fluoranthenes/Pyrenes	34.15	4995520	230.5464	254.4121
65)	C4-Fluoranthenes/Pyrenes	35.20	6115880	282.2519	311.4700
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.80	457858	23.9050	26.3795
68)	Chrysene/Triphenylene	33.92	1622820	67.0860	74.0306
69)	C1-Chrysenes	35.16	4759900	196.7711	217.1404
70)	C2-Chrysenes	36.63	4320810	178.6195	197.1098
71)	C3-Chrysenes	38.07	3436390	142.0578	156.7633
72)	C4-Chrysenes	39.51	2370090	97.9778	108.1202
77)	Benzo(b)fluoranthene	37.37	953147	45.6744	50.4025
78)	Benzo(k,j)fluoranthene	37.45	273026	14.0494	15.5038
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.34	761200	37.6035	41.4961
81)	Benzo(a)pyrene	38.54	495480	26.1036	28.8058
89)	Perylene	38.85	549290	28.2552	31.1801
82)	Indeno(1,2,3-c,d)pyrene	43.25	251301	12.8349	14.1636
83)	Dibenzo(a,h)anthracene	43.29	123350	7.9446	8.7670
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.62	432501	26.2108	28.9240

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	1147490	87.2216	96.2506
10)	1-Methylnaphthalene	16.36	775537	63.6348	70.2221
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	25.90	3765440	298.2747	329.1515
36)	2/3-Methyldibenzothiophene	26.18	2925870	231.7690	255.7613
37)	1-Methyldibenzothiophene	26.52	2345980	185.8338	205.0710
43)	3-Methylphenanthrene	26.49	1906310	125.7098	138.7230
44)	2-Methylphenanthrene	26.56	2527750	166.6896	183.9449
45)	2-Methylanthracene	26.73	196476	12.9563	14.2976
46)	4/9-Methylphenanthrene	26.83	3068860	202.3722	223.3214
47)	1-Methylphenanthrene	26.94	2141300	141.2053	155.8225
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.76	302986	16.19	97.96
21)	Acenaphthene-d10	19.59	158469	15.56	94.13
32)	Phenanthrene-d10	24.72	261519	14.98	90.62
66)	Chrysene-d12	33.84	320972	15.60	94.39
88)	Perylene-d12	38.77	209705	12.64	76.50
90)	5(b)H-Cholane	34.27	43590	12.32	74.54
	Internal Standards				
1)	Fluorene-d10	21.40	171723	16.59	
31)	Pyrene-d10	29.64	310540	16.56	
73)	Benzo(a)pyrene-d12	38.46	231400	16.54	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ARC1649.D
Acq On : 18 Aug 2013 5:59 am
Operator : YM
Sample : SED-DA-015 (0.5-1.0)
Misc :
ALS Vial : 18 Sample Multiplier: 0.06609

Quant Time: Sep 02 09:29:52 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.400	176	171723m	251.05	0.05
31) Pyrene-d10	29.641	212	310540m	250.63	0.03
73) Benzo(a)pyrene-d12	38.459	264	231400m	250.32	0.08
System Monitoring Compounds					
2) Naphthalene-d8	13.764	136	302986m	16.19	0.06
21) Acenaphthene-d10	19.588	164	158469m	15.56	0.03
32) Phenanthrene-d10	24.722	188	261519m	14.98	0.03
66) Chrysene-d12	33.841	240	320972m	15.60	0.04
88) Perylene-d12	38.769	264	209705m	12.64	0.12
90) 5(b)H-Cholane	34.267	217	43590m	12.32	0.08
Target Compounds					Qvalue
3) cis/trans Decalin	0.000		0	N.D. d	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.792	128	264581m	13.06	
9) 2-Methylnaphthalene	16.022	142	1147490m	87.22	
10) 1-Methylnaphthalene	16.356	142	775537m	63.63	
11) 2,6-Dimethylnaphthalene	0.000		0	N.D. d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D. d	
13) C2-Naphthalenes	18.502	156	7992985m	394.44	
14) C3-Naphthalenes	20.424	170	11812791m	582.94	
15) C4-Naphthalenes	22.765	184	14461585m	713.65	
16) Benzothiophene	0.000		0	N.D. d	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	0.000		0	N.D. d	
23) Acenaphthylene	19.087	152	105042m	5.58	
24) Acenaphthene	19.672	154	97406m	8.63	
25) Dibenzofuran	0.000		0	N.D. d	
26) Fluorene	21.455	166	569336m	40.32	
27) 1-Methylfluorene	0.000		0	N.D. d	
28) C1-Fluorenes	23.475	180	2280904m	161.53	
29) C2-Fluorenes	25.311	194	5566292m	394.19	
30) C3-Fluorenes	27.562	208	6184832m	437.99	
33) Carbazole	0.000		0	N.D. d	
34) Dibenzothiophene	24.375	184	2389439m	115.16	
35) 4-Methyldibenzothiophene	25.900	198	3765443m	298.27	
36) 2/3-Methyldibenzothiop...	26.177	198	2925868m	231.77	
37) 1-Methyldibenzothiophene	26.523	198	2345975m	185.83	
38) C2-Dibenzothiophenes	27.978	212	16706080m	805.13	
39) C3-Dibenzothiophenes	29.502	226	21146898m	1019.15	
40) C4-Dibenzothiophenes	29.814	240	15167242m	730.97	
41) Phenanthrene	24.791	178	3302921m	183.65	
42) Anthracene	24.964	178	271613m	16.03	
43) 3-Methylphenanthrene	26.488	192	1906314m	125.71	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ARC1649.D
Acq On : 18 Aug 2013 5:59 am
Operator : YM
Sample : SED-DA-015 (0.5-1.0)
Misc :
ALS Vial : 18 Sample Multiplier: 0.06609

Quant Time: Sep 02 09:29:52 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units Dev(Min)
44) 2-Methylphenanthrene	26.558	192	2527752m	166.69
45) 2-Methylanthracene	26.731	192	196476m	12.96
46) 4/9-Methylphenanthrene	26.835	192	3068860m	202.37
47) 1-Methylphenanthrene	26.939	192	2141296m	141.21
48) 3,6-Dimethylphenanthrene	0.000		0	N.D. d
49) Retene	0.000		0	N.D. d
50) C2-Phenanthrenes/Anthr...	28.394	206	17644551m	981.05
51) C3-Phenanthrenes/Anthr...	29.952	220	17481627m	971.99
52) C4-Phenanthrenes/Anthr...	31.788	234	11183957m	621.84
53) Naphthobenzothiophene	0.000		0	N.D. d
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d
58) Fluoranthene	28.913	202	1035085m	47.77
59) Pyrene	29.710	202	1851056m	83.09
60) 2-Methylfluoranthene	0.000		0	N.D. d
61) Benzo(b)fluorene	0.000		0	N.D. d
62) C1-Fluoranthenes/Pyrenes	31.546	216	4817591m	222.33
63) C2-Fluoranthenes/Pyrenes	32.948	230	7878249m	363.59
64) C3-Fluoranthenes/Pyrenes	34.151	244	4995517m	230.55
65) C4-Fluoranthenes/Pyrenes	35.199	258	6115884m	282.25
67) Benz(a)anthracene	33.802	228	457858m	23.90
68) Chrysene/Triphenylene	33.918	228	1622815m	67.09
69) C1-Chrysenes	35.160	242	4759902m	196.77
70) C2-Chrysenes	36.635	256	4320812m	178.62
71) C3-Chrysenes	38.071	270	3436388m	142.06
72) C4-Chrysenes	39.506	284	2370088m	97.98
74) C29-Hopane	0.000		0	N.D. d
75) 18a-Oleanane	0.000		0	N.D. d
76) C30-Hopane	0.000		0	N.D. d
77) Benzo(b)fluoranthene	37.372	252	953147m	45.67
78) Benzo(k,j)fluoranthene	37.450	252	273026m	14.05
79) Benzo(a)fluoranthene	0.000		0	N.D. d
80) Benzo(e)pyrene	38.342	252	761200m	37.60
81) Benzo(a)pyrene	38.536	252	495480m	26.10
82) Indeno(1,2,3-c,d)pyrene	43.252	276	251301m	12.83
83) Dibenzo(a,h)anthracene	43.289	278	123350m	7.94
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d
87) Benzo(g,h,i)perylene	44.617	276	432501m	26.21
89) Perylene	38.847	252	549290m	28.26
91) C20-TAS	0.000		0	N.D. d
92) C21-TAS	0.000		0	N.D. d
93) C26(20S)-TAS	0.000		0	N.D. d
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D. d
95) C28(20S)-TAS	0.000		0	N.D. d
96) C27(20R)-TAS	0.000		0	N.D. d
97) C28(20R)-TAS	0.000		0	N.D. d

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ARC1649.D
Acq On : 18 Aug 2013 5:59 am
Operator : YM
Sample : SED-DA-015 (0.5-1.0)
Misc :
ALS Vial : 18 Sample Multiplier: 0.06609

Quant Time: Sep 02 09:29:52 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

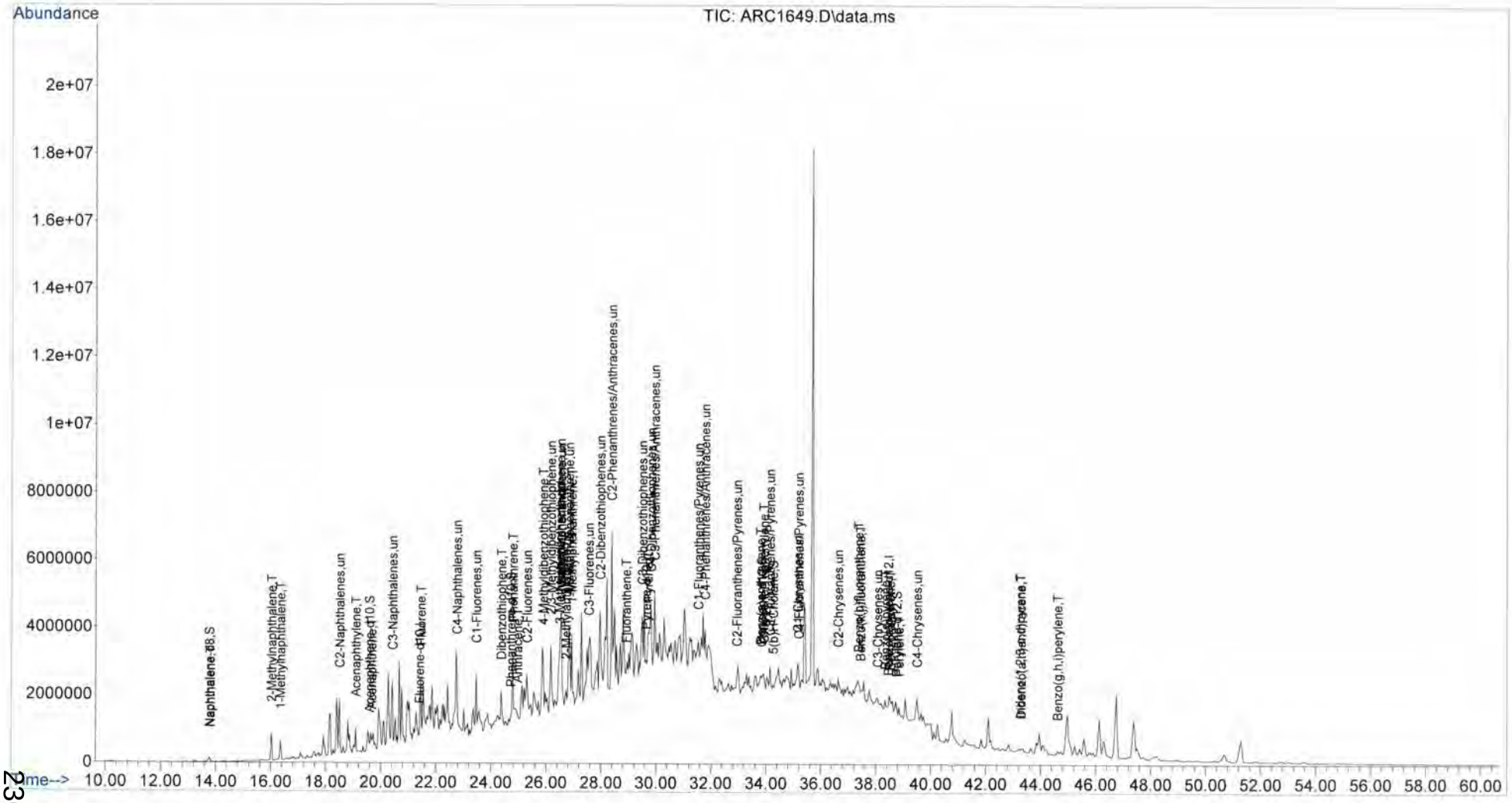
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ARC1649.D
Acq On : 18 Aug 2013 5:59 am
Operator : YM
Sample : SED-DA-015 (0.5-1.0)
Misc :
ALS Vial : 18 Sample Multiplier: 0.06609

Quant Time: Sep 02 09:29:52 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration



Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name ARC1650.D
Data File Path C:\msdchem\2\data\MS60142\
Operator YM
Date Acquired 8/18/2013 7:08
Acq. Method File PAH-2012.M
Sample Name SED-DA-015 (1.0-1.5)
Misc Info 0
Instrument Name GCMS6
Vial Number 19
Sample Multiplier 0.06653
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

ARC1650.D
SED-DA-015 (1.0-1.5)
8/18/2013
PAH-2012.M
15.03081317

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	78016	5.4878	6.4998
9)+10)	C1-Naphthalenes	16.19	63061	4.4358	5.2538
13)	C2-Naphthalenes	18.39	105297	7.4068	8.7727
14)	C3-Naphthalenes	20.06	154846	10.8921	12.9007
15)	C4-Naphthalenes	22.74	82693	5.8168	6.8894
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	19.09	10137	0.7670	0.9084
24)	Acenaphthene	19.67	4590	0.5799	0.6869
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.45	32261	3.2565	3.8571
28)	C1-Fluorenes	23.44	27069	2.7324	3.2363
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.93	17827	1.1642	1.3789
41)	Phenanthrene	24.76	179013	11.0165	13.0481
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.67	161790	9.9566	11.7927
50)	C2-Phenanthrenes/Anthracenes	28.19	157155	9.6713	11.4548
51)	C3-Phenanthrenes/Anthracenes	29.88	83723	5.1523	6.1025
52)	C4-Phenanthrenes/Anthracenes	30.65	77427	4.7649	5.6436
34)	Dibenzothiophene	24.34	38793	2.0693	2.4509
35)+36)+37)	C1-Dibenzothiophenes	26.17	46537	2.4824	2.9402
38)	C2-Dibenzothiophenes	0.00	0	0.0000	0.0000
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.88	139669	7.1343	8.4500
59)	Pyrene	29.68	72147	3.5845	4.2455
62)	C1-Fluoranthenes/Pyrenes	30.82	93530	4.7776	5.6586
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.76	36450	2.1064	2.4948
68)	Chrysene/Triphenylene	33.88	177775	8.1342	9.6342
69)	C1-Chrysenes	35.08	190252	8.7051	10.3104
70)	C2-Chrysenes	36.83	65047	2.9762	3.5251
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.29	203542	8.6706	10.2695
78)	Benzo(k,j)fluoranthene	37.33	39203	1.7933	2.1240
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.26	74397	3.2671	3.8696
81)	Benzo(a)pyrene	38.46	28581	1.3385	1.5854
89)	Perylene	38.77	3057880	139.8294	165.6156
82)	Indeno(1,2,3-c,d)pyrene	43.14	43590	1.9791	2.3441
83)	Dibenzo(a,h)anthracene	43.21	13221	0.7570	0.8966
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.54	31966	1.7221	2.0397

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	43402	4.7025	5.5697
10)	1-Methylnaphthalene	16.35	19659	2.2993	2.7233
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	25.87	21644	1.8976	2.2476
36)	2/3-Methyldibenzothiophene	26.14	16472	1.4442	1.7105
37)	1-Methyldibenzothiophene	26.49	8421	0.7383	0.8745
43)	3-Methylphenanthrene	26.42	29161	2.1284	2.5209
44)	2-Methylphenanthrene	26.52	51352	3.7481	4.4393
45)	2-Methylanthracene	26.70	44004	3.2118	3.8041
46)	4/9-Methylphenanthrene	26.80	22492	1.6416	1.9444
47)	1-Methylphenanthrene	26.91	14781	1.0788	1.2778
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.71	192071	14.63	87.93
21)	Acenaphthene-d10	19.56	105532	14.77	88.76
32)	Phenanthrene-d10	24.69	221608	14.05	84.43
66)	Chrysene-d12	33.80	283336	15.24	91.61
88)	Perylene-d12	38.69	146906	7.87	47.32
90)	5(b)H-Cholane	34.19	62416	15.68	94.25
	Internal Standards				
1)	Fluorene-d10	21.34	121274	16.70	
31)	Pyrene-d10	29.61	282437	16.67	
73)	Benzo(a)pyrene-d12	38.38	262038	16.65	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ARC1650.D
Acq On : 18 Aug 2013 7:08 am
Operator : YM
Sample : SED-DA-015 (1.0-1.5)
Misc :
ALS Vial : 19 Sample Multiplier: 0.06653

Quant Time: Sep 02 09:36:04 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.342	176	121274m	251.05	0.00
31) Pyrene-d10	29.607	212	282437m	250.63	0.00
73) Benzo(a)pyrene-d12	38.380	264	262038m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.707	136	192071m	14.63	0.00
21) Acenaphthene-d10	19.559	164	105532m	14.77	0.00
32) Phenanthrene-d10	24.688	188	221608m	14.05	0.00
66) Chrysene-d12	33.801	240	283336m	15.24	0.00
88) Perylene-d12	38.691	264	146906m	7.87	0.04
90) 5(b)H-Cholane	34.189	217	62416m	15.68	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	0.000		0	N.D. d	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.791	128	78016m	5.49	
9) 2-Methylnaphthalene	16.020	142	43402m	4.70	
10) 1-Methylnaphthalene	16.354	142	19659m	2.30	
11) 2,6-Dimethylnaphthalene	0.000		0	N.D. d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D. d	
13) C2-Naphthalenes	18.389	156	105297m	7.41	
14) C3-Naphthalenes	20.061	170	154846m	10.89	
15) C4-Naphthalenes	22.736	184	82693m	5.82	
16) Benzothiophene	0.000		0	N.D. d	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	0.000		0	N.D. d	
23) Acenaphthylene	19.085	152	10137m	0.77	
24) Acenaphthene	19.670	154	4590m	0.58	
25) Dibenzofuran	0.000		0	N.D. d	
26) Fluorene	21.454	166	32261m	3.26	
27) 1-Methylfluorene	0.000		0	N.D. d	
28) C1-Fluorenes	23.441	180	27069m	2.73	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	0.000		0	N.D. d	
34) Dibenzothiophene	24.342	184	38793m	2.07	
35) 4-Methyldibenzothiophene	25.866	198	21644m	1.90	
36) 2/3-Methyldibenzothiop...	26.143	198	16472m	1.44	
37) 1-Methyldibenzothiophene	26.489	198	8421m	0.74	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.757	178	179013m	11.02	
42) Anthracene	24.931	178	17827m	1.16	
43) 3-Methylphenanthrene	26.420	192	29161m	2.13	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ARC1650.D
Acq On : 18 Aug 2013 7:08 am
Operator : YM
Sample : SED-DA-015 (1.0-1.5)
Misc :
ALS Vial : 19 Sample Multiplier: 0.06653

Quant Time: Sep 02 09:36:04 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units Dev(Min)
44) 2-Methylphenanthrene	26.524	192	51352m	3.75
45) 2-Methylanthracene	26.697	192	44004m	3.21
46) 4/9-Methylphenanthrene	26.801	192	22492m	1.64
47) 1-Methylphenanthrene	26.905	192	14781m	1.08
48) 3,6-Dimethylphenanthrene	0.000		0	N.D. d
49) Retene	0.000		0	N.D. d
50) C2-Phenanthrenes/Anthr...	28.187	206	157155m	9.67
51) C3-Phenanthrenes/Anthr...	29.884	220	83723m	5.15
52) C4-Phenanthrenes/Anthr...	30.646	234	77427m	4.76
53) Naphthobenzothiophene	0.000		0	N.D. d
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d
58) Fluoranthene	28.880	202	139669m	7.13
59) Pyrene	29.676	202	72147m	3.58
60) 2-Methylfluoranthene	0.000		0	N.D. d
61) Benzo(b)fluorene	0.000		0	N.D. d
62) C1-Fluoranthenes/Pyrenes	30.819	216	93530m	4.78
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d
67) Benz(a)anthracene	33.762	228	36450m	2.11
68) Chrysene/Triphenylene	33.879	228	177775m	8.13
69) C1-Chrysenes	35.082	242	190252m	8.71
70) C2-Chrysenes	36.828	256	65047m	2.98
71) C3-Chrysenes	0.000		0	N.D. d
72) C4-Chrysenes	0.000		0	N.D. d
74) C29-Hopane	0.000		0	N.D. d
75) 18a-Oleanane	0.000		0	N.D. d
76) C30-Hopane	0.000		0	N.D. d
77) Benzo(b)fluoranthene	37.294	252	203542m	8.67
78) Benzo(k,j)fluoranthene	37.333	252	39203m	1.79
79) Benzo(a)fluoranthene	0.000		0	N.D. d
80) Benzo(e)pyrene	38.264	252	74397m	3.27
81) Benzo(a)pyrene	38.458	252	28581m	1.34
82) Indeno(1,2,3-c,d)pyrene	43.141	276	43590m	1.98
83) Dibenzo(a,h)anthracene	43.214	278	13221m	0.76
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d
87) Benzo(g,h,i)perylene	44.542	276	31966m	1.72
89) Perylene	38.768	252	3057877m	139.83
91) C20-TAS	0.000		0	N.D. d
92) C21-TAS	0.000		0	N.D. d
93) C26(20S)-TAS	0.000		0	N.D. d
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D. d
95) C28(20S)-TAS	0.000		0	N.D. d
96) C27(20R)-TAS	0.000		0	N.D. d
97) C28(20R)-TAS	0.000		0	N.D. d

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ARC1650.D
Acq On : 18 Aug 2013 7:08 am
Operator : YM
Sample : SED-DA-015 (1.0-1.5)
Misc :
ALS Vial : 19 Sample Multiplier: 0.06653

Quant Time: Sep 02 09:36:04 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

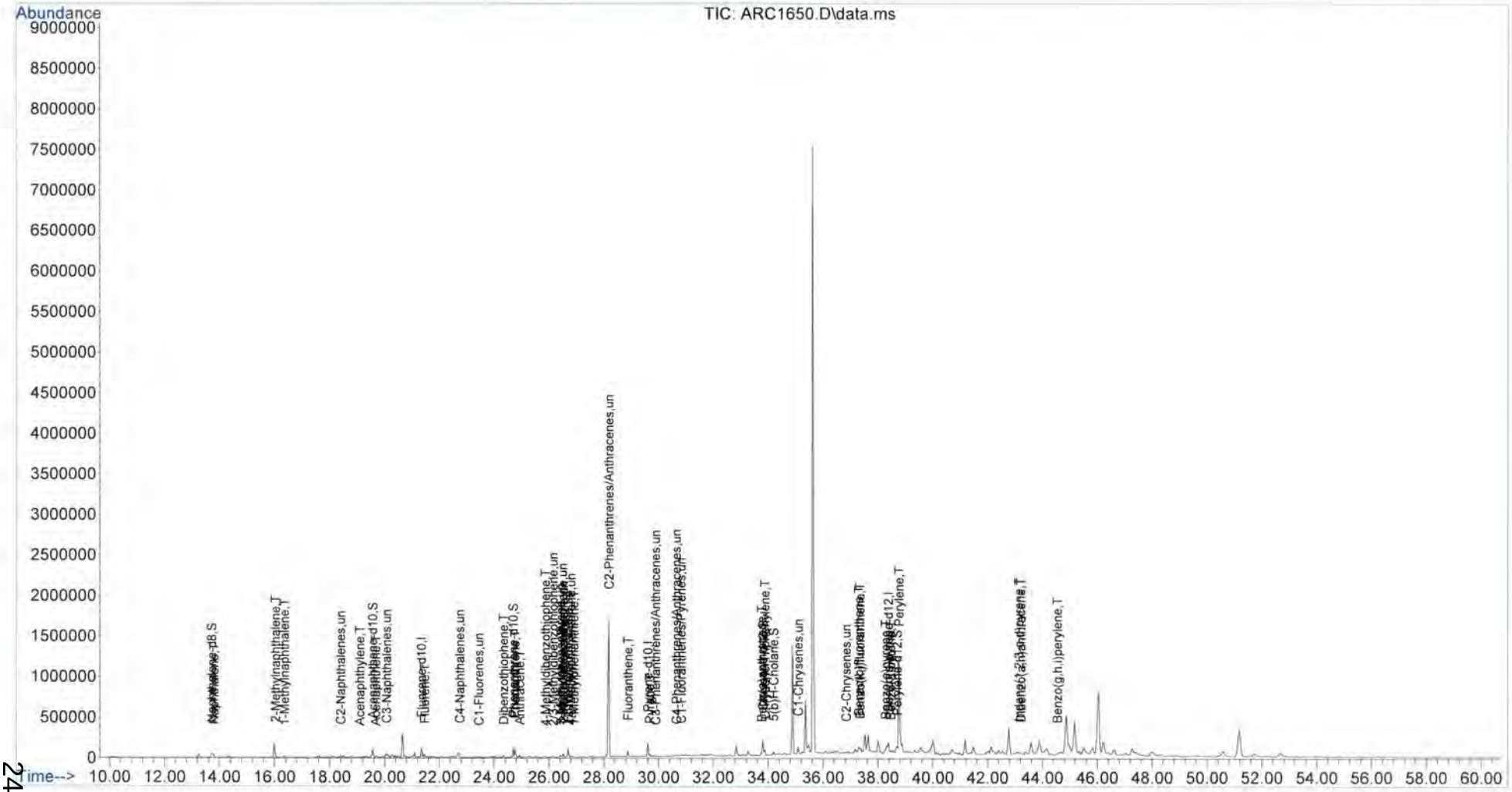
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60142\
Data File : ARC1650.D
Acq On : 18 Aug 2013 7:08 am
Operator : YM
Sample : SED-DA-015 (1.0-1.5)
Misc :
ALS Vial : 19 Sample Multiplier: 0.06653

Quant Time: Sep 02 09:36:04 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration



Sequence Name: C:\msdchem\1\sequence\MS70060.s
Comment: Arcadis-Mayflower AR-Sediments-PAH (08/29/13)
Operator: YM
Data Path: C:\MSDCHEM\1\DATA\MS70060\
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

Sequence Barcode Options
( ) On Mismatch, Inject Anyway
( ) On Mismatch, Don't Inject
(X) Barcode Disabled

Line			Sample Name/Misc Info	
1)	Sample	1	MS70060A	PAH-2012 Solvent rinse
2)	Sample	2	MS70060B	PAH-2012 AR-WKC1-020-030
3)	Sample	3	MS70060C	PAH-2012 AR-WKC2-100-030
4)	Sample	4	MS70060D	PAH-2012 AR-WKC3-250-030
5)	Sample	5	MS70060E	PAH-2012 AR-WKC4-500-030
6)	Sample	6	MS70060F	PAH-2012 AR-WKC5-1000-030
7)	Sample	7	MS70060G	PAH-2012 AR-WKC6-5000-030
8)	Sample	8	MS70060H	PAH-2012 AR-WKISSU-250-002
9)	Sample	9	MS70060I	PAH-2012 AR-WKICV-250-004
10)	Sample	10	MS70060J	PAH-2012 AR-WKCC-250-038
11)	Sample	11	MS70060K	PAH-2012 AR-SRM2779-WK4.0-002
12)	Sample	12	ARC1651	PAH-2012
13)	Sample	13	ARC1652	PAH-2012 — Do dilution reinject on MS70061
14)	Sample	14	ARC1654	PAH-2012
15)	Sample	15	ARC1655	PAH-2012
16)	Sample	16	ARC1656	PAH-2012
17)	Sample	17	ARC1657	PAH-2012
18)	Sample	18	ARC1658	PAH-2012
19)	Sample	19	ARC1659	PAH-2012
20)	Sample	20	MS70060L	PAH-2012 AR-WKCC-250-038
21)	Sample	21	ARC1660	PAH-2012
22)	Sample	22	ARC1661	PAH-2012
23)	Sample	23	ARC1666	PAH-2012
24)	Sample	24	ARC1669	PAH-2012
25)	Sample	25	ARC1670	PAH-2012
26)	Sample	26	ARC1671	PAH-2012
27)	Sample	27	ARC1672	PAH-2012
28)	Sample	28	ARC1673	PAH-2012
29)	Sample	29	MS70060M	PAH-2012 AR-WKCC-250-038

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70060\
Data File : MS70060J.D
Acq On : 30 Aug 2013 8:10 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 31 16:25:34 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorene-d10	1.000	1.000	0.0	83	0.00
2	S	Naphthalene-d8	1.752	1.692	3.4	86	0.00
3	T	cis/trans Decalin	0.291	0.292	-0.3	87	0.03
4	un	C1-Decalins	0.291	0.000	100.0#	0#	-12.46#
5	un	C2-Decalins	0.291	0.000	100.0#	0#	-13.40#
6	un	C3-Decalins	0.291	0.000	100.0#	0#	-15.91#
7	un	C4-Decalins	0.291	0.000	100.0#	0#	-18.17#
8	T	Naphthalene	1.792	1.750	2.3	87	0.03
9	T	2-Methylnaphthalene	1.188	1.129	5.0	85	0.00
10	T	1-Methylnaphthalene	1.115	1.081	3.0	86	0.00
11	T	2,6-Dimethylnaphthalene	1.016	0.961	5.4	86	0.00
12	T	1,6,7-Trimethylnaphthalene	0.948	0.873	7.9	84	0.00
13	un	C2-Naphthalenes	1.792	0.000	100.0#	0#	-18.84#
14	un	C3-Naphthalenes	1.792	0.000	100.0#	0#	-20.28#
15	un	C4-Naphthalenes	1.792	0.000	100.0#	0#	-22.12#
16	T	Benzothiophene	1.383	1.334	3.5	86	0.00
17	un	C1-Benzothiophenes	1.383	0.000	100.0#	0#	-15.41#
18	un	C2-Benzothiophenes	1.383	0.000	100.0#	0#	-17.89#
19	un	C3-Benzothiophenes	1.383	0.000	100.0#	0#	-20.26#
20	un	C4-Benzothiophenes	1.383	0.000	100.0#	0#	-22.23#
21	S	Acenaphthene-d10	0.989	0.933	5.7	85	0.00
22	T	Biphenyl	1.485	1.410	5.1	86	0.03
23	T	Acenaphthylene	1.694	1.502	11.3	81	0.03
24	T	Acenaphthene	1.048	0.978	6.7	84	0.00
25	T	Dibenzofuran	1.615	1.566	3.0	87	0.00
26	T	Fluorene	1.284	1.210	5.8	85	0.00
27	T	1-Methylfluorene	0.806	0.716	11.2	82	0.00
28	un	C1-Fluorenes	1.284	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.284	0.000	100.0#	0#	-24.82#
30	un	C3-Fluorenes	1.284	0.000	100.0#	0#	-27.21#
31	I	Pyrene-d10	1.000	1.000	0.0	77	0.00
32	S	Phenanthrene-d10	0.803	0.782	2.6	84	0.00
33	T	Carbazole	0.780	0.693	11.2	78	0.00
34	T	Dibenzothiophene	0.865	0.872	-0.8	87	0.03
35	T	4-Methyldibenzothiophene	0.744	0.716	3.8	82	0.00
36	un	2/3-Methyldibenzothiophene	0.744	0.000	100.0#	0#	-26.14#
37	un	1-Methyldibenzothiophene	0.744	0.000	100.0#	0#	-26.45#
38	un	C2-Dibenzothiophenes	0.865	0.000	100.0#	0#	-27.56#
39	un	C3-Dibenzothiophenes	0.865	0.000	100.0#	0#	-28.60#
40	un	C4-Dibenzothiophenes	0.865	0.000	100.0#	0#	-31.02#
41	T	Phenanthrene	1.061	1.028	3.1	84	0.00
42	T	Anthracene	0.977	0.911	6.8	83	0.00
43	un	3-Methylphenanthrene	0.810	0.000	100.0#	0#	-26.86#
44	un	2-Methylphenanthrene	0.810	0.000	100.0#	0#	-26.86#
45	un	2-Methylanthracene	0.810	0.000	100.0#	0#	-26.86#
46	un	4/9-Methylphenanthrene	0.810	0.000	100.0#	0#	-26.86#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70060\
Data File : MS70060J.D
Acq On : 30 Aug 2013 8:10 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 31 16:25:34 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
47	T	1-Methylphenanthrene	0.810	0.785	3.1	82	0.00
48	T	3,6-Dimethylphenanthrene	0.661	0.629	4.8	82	0.00
49	T	Retene	0.272	0.252	7.4	81	-0.03
50	un	C2-Phenanthrenes/Anthracene	1.061	0.000	100.0#	0#	-28.49#
51	un	C3-Phenanthrenes/Anthracene	1.061	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.061	0.000	100.0#	0#	-31.99#
53	T	Naphthobenzothiophene	1.197	1.156	3.4	83	0.00
54	un	C1-Naphthobenzothiophenes	1.197	0.000	100.0#	0#	-34.16#
55	un	C2-Naphthobenzothiophenes	1.197	0.000	100.0#	0#	-35.94#
56	un	C3-Naphthobenzothiophenes	1.197	0.000	100.0#	0#	-37.34#
57	un	C4-Naphthobenzothiophenes	1.197	0.000	100.0#	0#	-37.61#
58	T	Fluoranthene	1.147	1.119	2.4	83	0.00
59	T	Pyrene	1.201	1.139	5.2	83	0.00
60	T	2-Methylfluoranthene	0.676	0.603	10.8	79	0.00
61	T	Benzo(b)fluorene	0.710	0.637	10.3	78	0.00
62	un	C1-Fluoranthenes/Pyrenes	1.147	0.000	100.0#	0#	-30.60#
63	un	C2-Fluoranthenes/Pyrenes	1.147	0.000	100.0#	0#	-32.10#
64	un	C3-Fluoranthenes/Pyrenes	1.147	0.000	100.0#	0#	-33.92#
65	un	C4-Fluoranthenes/Pyrenes	1.147	0.000	100.0#	0#	-35.24#
66	S	Chrysene-d12	1.061	1.108	-4.4	86	0.00
67	T	Benz(a)anthracene	1.208	1.089	9.9	77	0.00
68	T	Chrysene/Triphenylene	1.087	1.152	-6.0	88	0.00
69	un	C1-Chrysenes	1.087	0.000	100.0#	0#	-35.75#
70	un	C2-Chrysenes	1.087	0.000	100.0#	0#	-36.91#
71	un	C3-Chrysenes	1.087	0.000	100.0#	0#	-38.00#
72	un	C4-Chrysenes	1.087	0.000	100.0#	0#	-39.51#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	71	0.00
74	un	C29-Hopane	0.456	0.000	100.0#	0#	-40.39#
75	un	18a-Oleanane	0.456	0.000	100.0#	0#	-42.45#
76	T	C30-Hopane	0.456	0.446	2.2	78	0.00
77	T	Benzo(b)fluoranthene	1.511	1.522	-0.7	78	0.00
78	T	Benzo(k,j)fluoranthene	1.423	1.494	-5.0	82	-0.04
79	un	Benzo(a)fluoranthene	1.423	0.000	100.0#	0#	-37.22#
80	T	Benzo(e)pyrene	1.524	1.564	-2.6	79	0.00
81	T	Benzo(a)pyrene	1.418	1.366	3.7	77	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.574	1.627	-3.4	78	0.00
83	T	Dibenzo(a,h)anthracene	1.215	1.301	-7.1	83	-0.04
84	un	C1-Dibenzo(a,h)anthracenes	1.215	0.000	100.0#	0#	-48.42#
85	un	C2-Dibenzo(a,h)anthracenes	1.215	0.000	100.0#	0#	-50.34#
86	un	C3-Dibenzo(a,h)anthracenes	1.215	0.000	100.0#	0#	-51.04#
87	T	Benzo(g,h,i)perylene	1.406	1.469	-4.5	80	-0.04
88	S	Perylene-d12	1.261	1.275	-1.1	81	-0.04
89	T	Perylene	1.439	1.392	3.3	78	0.00
90	S	5(b)H-Cholane	0.213	0.203	4.7	75	-0.04
91	un	C20-TAS	1.650	0.000	100.0#	0#	-33.58#
92	un	C21-TAS	1.650	0.000	100.0#	0#	-34.16#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70060\
Data File : MS70060J.D
Acq On : 30 Aug 2013 8:10 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 31 16:25:34 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
93	un	C26(20S)-TAS	1.650	0.000	100.0#	0#	-38.58#
94	T	C26(20R)/C27(20S)-TAS	1.650	1.423	13.8	69	0.00
95	un	C28(20S)-TAS	1.650	0.000	100.0#	0#	-40.02#
96	un	C27(20R)-TAS	1.650	0.000	100.0#	0#	-41.31#
97	un	C28(20R)-TAS	1.650	0.000	100.0#	0#	-41.31#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060J.D
Acq On : 30 Aug 2013 8:10 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 31 16:25:34 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	327360m	251.05	0.00
31) Pyrene-d10	29.565	212	609236m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	456490m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.738	136	552005m	241.56	0.00
21) Acenaphthene-d10	19.588	164	304435m	236.06	0.00
32) Phenanthrene-d10	24.683	188	475393m	243.66	0.00
66) Chrysene-d12	33.731	240	673745m	261.29	0.00
88) Perylene-d12	38.580	264	581304m	252.79	-0.04
90) 5(b)H-Cholane	34.119	217	92379m	237.66	-0.04
Target Compounds					Qvalue
3) cis/trans Decalin	11.120	138	94278m	248.77	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	570522m	244.16	
9) 2-Methylnaphthalene	16.051	142	368400m	237.75	
10) 1-Methylnaphthalene	16.385	142	351908m	242.00	
11) 2,6-Dimethylnaphthalene	18.140	156	313142m	236.39	
12) 1,6,7-Trimethylnaphtha...	21.009	170	284547m	230.25	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.989	134	432125m	239.68	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.638	154	455610m	235.28	
23) Acenaphthylene	19.115	152	485605m	219.83	
24) Acenaphthene	19.700	154	319341m	233.71	
25) Dibenzofuran	20.285	168	508077m	241.24	
26) Fluorene	21.455	166	395237m	235.98	
27) 1-Methylfluorene	23.436	180	235089m	223.56	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.514	167	417307m	220.13	
34) Dibenzothiophene	24.337	184	522342m	248.49	
35) 4-Methyldibenzothiophene	25.826	198	439041m	242.63	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	619039m	240.06	
42) Anthracene	24.925	178	555574m	234.00	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060J.D
Acq On : 30 Aug 2013 8:10 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 31 16:25:34 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43)	3-Methylphenanthrene	0.000		0	N.D. d	
44)	2-Methylphenanthrene	0.000		0	N.D. d	
45)	2-Methylanthracene	0.000		0	N.D. d	
46)	4/9-Methylphenanthrene	0.000		0	N.D. d	
47)	1-Methylphenanthrene	26.864	192	471925m	239.62	
48)	3,6-Dimethylphenanthrene	27.938	206	382898m	238.21	
49)	Retene	30.604	234	136585m	206.90	
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51)	C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52)	C4-Phenanthrenes/Anthr...	0.000		0	N.D.	
53)	Naphthobenzothiophene	32.877	234	706906m	242.97	
54)	C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55)	C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56)	C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57)	C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58)	Fluoranthene	28.838	202	680972m	244.18	
59)	Pyrene	29.635	202	692384m	237.09	
60)	2-Methylfluoranthene	30.396	216	369016m	224.59	
61)	Benzo(b)fluorene	30.985	216	390890m	226.57	
62)	C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63)	C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64)	C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65)	C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67)	Benz(a)anthracene	33.692	228	660478m	224.99	
68)	Chrysene/Triphenylene	33.809	228	695814m	263.26	
69)	C1-Chrysenes	0.000		0	N.D. d	
70)	C2-Chrysenes	0.000		0	N.D. d	
71)	C3-Chrysenes	0.000		0	N.D. d	
72)	C4-Chrysenes	0.000		0	N.D. d	
74)	C29-Hopane	0.000		0	N.D. d	
75)	18a-Oleanane	0.000		0	N.D. d	
76)	C30-Hopane	42.635	191	203451m	244.90	
77)	Benzo(b)fluoranthene	37.222	252	695062m	252.20	
78)	Benzo(k,j)fluoranthene	37.300	252	678230m	261.35	
79)	Benzo(a)fluoranthene	0.000		0	N.D. d	
80)	Benzo(e)pyrene	38.192	252	710024m	255.42	
81)	Benzo(a)pyrene	38.386	252	621552m	240.42	
82)	Indeno(1,2,3-c,d)pyrene	43.041	276	729008m	253.93	
83)	Dibenzo(a,h)anthracene	43.078	278	587991m	265.49	
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87)	Benzo(g,h,i)perylene	44.368	276	663522m	258.82	
89)	Perylene	38.697	252	635327m	242.09	
91)	C20-TAS	0.000		0	N.D. d	
92)	C21-TAS	0.000		0	N.D. d	
93)	C26(20S)-TAS	0.000		0	N.D. d	
94)	C26(20R)/C27(20S)-TAS	39.317	231	648609m	215.52	
95)	C28(20S)-TAS	0.000		0	N.D.	
96)	C27(20R)-TAS	0.000		0	N.D. d	
97)	C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060J.D
Acq On : 30 Aug 2013 8:10 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 31 16:25:34 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

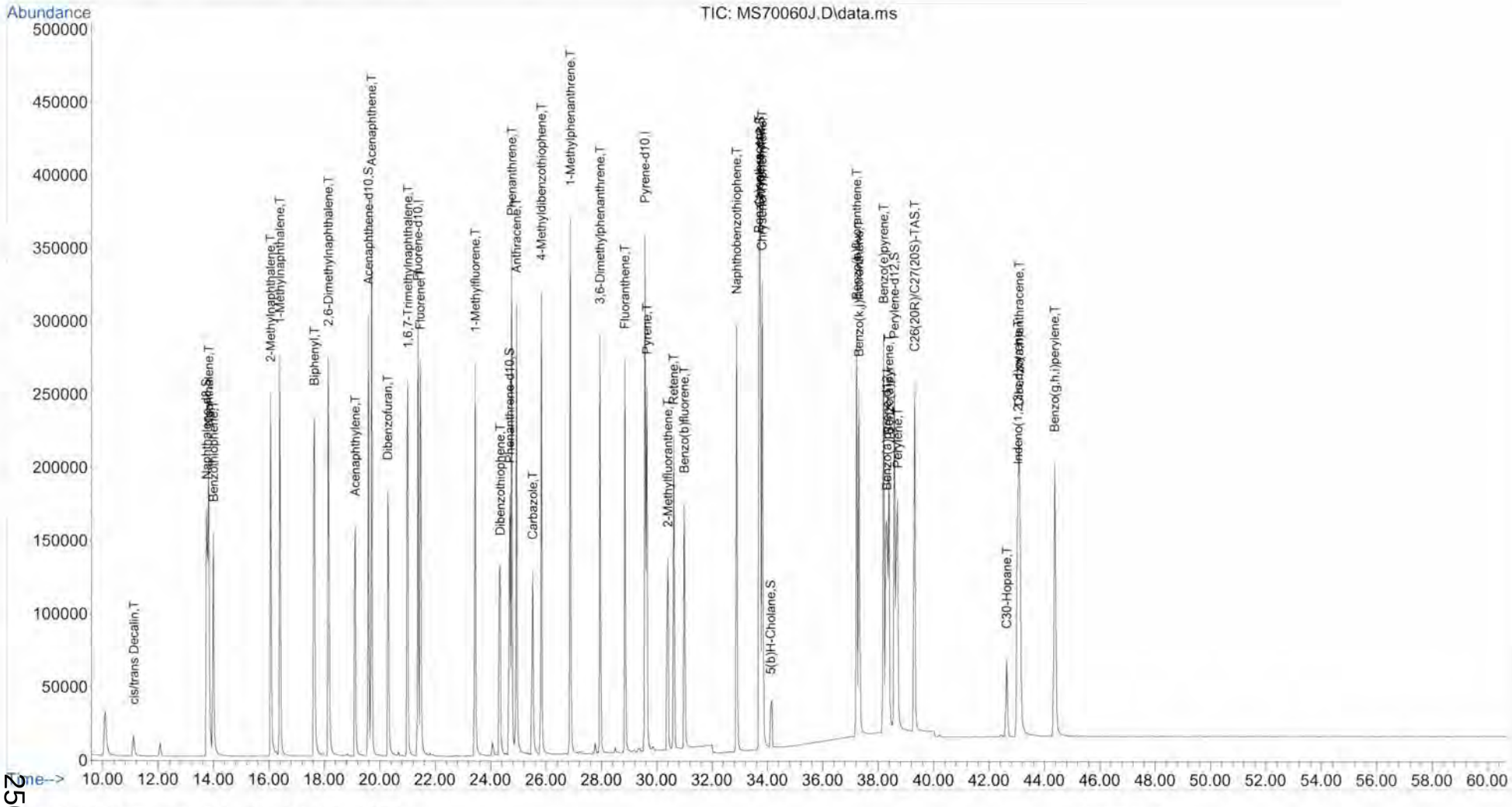
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060J.D
Acq On : 30 Aug 2013 8:10 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 31 16:25:34 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70060\
Data File : MS70060L.D
Acq On : 30 Aug 2013 7:37 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 31 16:39:25 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorene-d10	1.000	1.000	0.0	75	0.00
2	S	Naphthalene-d8	1.752	1.552	11.4	72	0.00
3	T	cis/trans Decalin	0.291	0.269	7.6	73	0.03
4	un	C1-Decalins	0.291	0.000	100.0#	0#	-12.46#
5	un	C2-Decalins	0.291	0.000	100.0#	0#	-13.40#
6	un	C3-Decalins	0.291	0.000	100.0#	0#	-15.91#
7	un	C4-Decalins	0.291	0.000	100.0#	0#	-18.17#
8	T	Naphthalene	1.792	1.587	11.4	72	0.03
9	T	2-Methylnaphthalene	1.188	1.073	9.7	74	0.00
10	T	1-Methylnaphthalene	1.115	1.020	8.5	74	0.00
11	T	2,6-Dimethylnaphthalene	1.016	0.927	8.8	76	0.00
12	T	1,6,7-Trimethylnaphthalene	0.948	0.875	7.7	76	0.00
13	un	C2-Naphthalenes	1.792	0.000	100.0#	0#	-18.84#
14	un	C3-Naphthalenes	1.792	0.000	100.0#	0#	-20.28#
15	un	C4-Naphthalenes	1.792	0.000	100.0#	0#	-22.12#
16	T	Benzothiophene	1.383	1.235	10.7	73	0.00
17	un	C1-Benzothiophenes	1.383	0.000	100.0#	0#	-15.41#
18	un	C2-Benzothiophenes	1.383	0.000	100.0#	0#	-17.89#
19	un	C3-Benzothiophenes	1.383	0.000	100.0#	0#	-20.26#
20	un	C4-Benzothiophenes	1.383	0.000	100.0#	0#	-22.23#
21	S	Acenaphthene-d10	0.989	0.895	9.5	74	0.00
22	T	Biphenyl	1.485	1.327	10.6	73	0.03
23	T	Acenaphthylene	1.694	1.526	9.9	75	0.03
24	T	Acenaphthene	1.048	0.957	8.7	75	0.00
25	T	Dibenzofuran	1.615	1.469	9.0	74	0.00
26	T	Fluorene	1.284	1.157	9.9	74	0.03
27	T	1-Methylfluorene	0.806	0.771	4.3	80	0.00
28	un	C1-Fluorenes	1.284	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.284	0.000	100.0#	0#	-24.82#
30	un	C3-Fluorenes	1.284	0.000	100.0#	0#	-27.21#
31	I	Pyrene-d10	1.000	1.000	0.0	72	0.00
32	S	Phenanthrene-d10	0.803	0.760	5.4	77	0.00
33	T	Carbazole	0.780	0.749	4.0	79	0.00
34	T	Dibenzothiophene	0.865	0.803	7.2	75	0.03
35	T	4-Methyldibenzothiophene	0.744	0.715	3.9	77	0.00
36	un	2/3-Methyldibenzothiophene	0.744	0.000	100.0#	0#	-26.14#
37	un	1-Methyldibenzothiophene	0.744	0.000	100.0#	0#	-26.45#
38	un	C2-Dibenzothiophenes	0.865	0.000	100.0#	0#	-27.56#
39	un	C3-Dibenzothiophenes	0.865	0.000	100.0#	0#	-28.60#
40	un	C4-Dibenzothiophenes	0.865	0.000	100.0#	0#	-31.02#
41	T	Phenanthrene	1.061	1.015	4.3	78	0.00
42	T	Anthracene	0.977	0.977	0.0	83	0.00
43	un	3-Methylphenanthrene	0.810	0.000	100.0#	0#	-26.86#
44	un	2-Methylphenanthrene	0.810	0.000	100.0#	0#	-26.86#
45	un	2-Methylanthracene	0.810	0.000	100.0#	0#	-26.86#
46	un	4/9-Methylphenanthrene	0.810	0.000	100.0#	0#	-26.86#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70060\
Data File : MS70060L.D
Acq On : 30 Aug 2013 7:37 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 31 16:39:25 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
47	T	1-Methylphenanthrene	0.810	0.739	8.8	73	0.00
48	T	3,6-Dimethylphenanthrene	0.661	0.588	11.0	71	0.00
49	T	Retene	0.272	0.258	5.1	78	0.00
50	un	C2-Phenanthrenes/Anthracene	1.061	0.000	100.0#	0#	-28.49#
51	un	C3-Phenanthrenes/Anthracene	1.061	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.061	0.000	100.0#	0#	-31.99#
53	T	Naphthobenzothiophene	1.197	1.057	11.7	71	0.00
54	un	C1-Naphthobenzothiophenes	1.197	0.000	100.0#	0#	-34.16#
55	un	C2-Naphthobenzothiophenes	1.197	0.000	100.0#	0#	-35.94#
56	un	C3-Naphthobenzothiophenes	1.197	0.000	100.0#	0#	-37.34#
57	un	C4-Naphthobenzothiophenes	1.197	0.000	100.0#	0#	-37.61#
58	T	Fluoranthene	1.147	1.028	10.4	71	0.00
59	T	Pyrene	1.201	1.161	3.3	79	0.00
60	T	2-Methylfluoranthene	0.676	0.663	1.9	81	0.00
61	T	Benzo(b)fluorene	0.710	0.648	8.7	74	0.00
62	un	C1-Fluoranthenes/Pyrenes	1.147	0.000	100.0#	0#	-30.60#
63	un	C2-Fluoranthenes/Pyrenes	1.147	0.000	100.0#	0#	-32.10#
64	un	C3-Fluoranthenes/Pyrenes	1.147	0.000	100.0#	0#	-33.92#
65	un	C4-Fluoranthenes/Pyrenes	1.147	0.000	100.0#	0#	-35.24#
66	S	Chrysene-d12	1.061	0.938	11.6	68	0.00
67	T	Benz(a)anthracene	1.208	1.115	7.7	74	0.00
68	T	Chrysene/Triphenylene	1.087	0.948	12.8	68	0.00
69	un	C1-Chrysenes	1.087	0.000	100.0#	0#	-35.75#
70	un	C2-Chrysenes	1.087	0.000	100.0#	0#	-36.91#
71	un	C3-Chrysenes	1.087	0.000	100.0#	0#	-38.00#
72	un	C4-Chrysenes	1.087	0.000	100.0#	0#	-39.51#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	70	0.00
74	un	C29-Hopane	0.456	0.000	100.0#	0#	-40.39#
75	un	18a-Oleanane	0.456	0.000	100.0#	0#	-42.45#
76	T	C30-Hopane	0.456	0.425	6.8	73	0.00
77	T	Benzo(b)fluoranthene	1.511	1.449	4.1	74	0.00
78	T	Benzo(k,j)fluoranthene	1.423	1.326	6.8	72	-0.04
79	un	Benzo(a)fluoranthene	1.423	0.000	100.0#	0#	-37.22#
80	T	Benzo(e)pyrene	1.524	1.440	5.5	72	0.00
81	T	Benzo(a)pyrene	1.418	1.359	4.2	76	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.574	1.324	15.9	63	0.00
83	T	Dibenzo(a,h)anthracene	1.215	0.000	100.0#	0#	-43.11#
84	un	C1-Dibenzo(a,h)anthracenes	1.215	0.000	100.0#	0#	-48.42#
85	un	C2-Dibenzo(a,h)anthracenes	1.215	0.000	100.0#	0#	-50.34#
86	un	C3-Dibenzo(a,h)anthracenes	1.215	0.000	100.0#	0#	-51.04#
87	T	Benzo(g,h,i)perylene	1.406	1.076	23.5	58	0.00
88	S	Perylene-d12	1.261	1.133	10.2	72	-0.04
89	T	Perylene	1.439	1.345	6.5	75	0.00
90	S	5(b)H-Cholane	0.213	0.220	-3.3	81	0.00
91	un	C20-TAS	1.650	0.000	100.0#	0#	-33.58#
92	un	C21-TAS	1.650	0.000	100.0#	0#	-34.16#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70060\
Data File : MS70060L.D
Acq On : 30 Aug 2013 7:37 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 31 16:39:25 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
93 un	C26(20S)-TAS	1.650	0.000	100.0#	0#	-38.58#
94 T	C26(20R)/C27(20S)-TAS	1.650	1.669	-1.2	80	0.00
95 un	C28(20S)-TAS	1.650	0.000	100.0#	0#	-40.02#
96 un	C27(20R)-TAS	1.650	0.000	100.0#	0#	-41.31#
97 un	C28(20R)-TAS	1.650	0.000	100.0#	0#	-41.31#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060L.D
Acq On : 30 Aug 2013 7:37 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 31 16:39:25 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	297568m	251.05	0.00
31) Pyrene-d10	29.566	212	569979m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	451248m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.739	136	460183m	221.54	0.00
21) Acenaphthene-d10	19.589	164	265491m	226.47	0.00
32) Phenanthrene-d10	24.683	188	432554m	236.97	0.00
66) Chrysene-d12	33.731	240	533253m	221.05	0.00
88) Perylene-d12	38.580	264	510881m	224.74	-0.04
90) 5(b)H-Cholane	34.158	217	98979m	257.60	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.120	138	78812m	228.78	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	470151m	221.35	
9) 2-Methylnaphthalene	16.051	142	318339m	226.01	
10) 1-Methylnaphthalene	16.385	142	301846m	228.36	
11) 2,6-Dimethylnaphthalene	18.140	156	274577m	228.03	
12) 1,6,7-Trimethylnaphtha...	21.009	170	259232m	230.77	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.989	134	363736m	221.95	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.639	154	389568m	221.32	
23) Acenaphthylene	19.115	152	448559m	223.39	
24) Acenaphthene	19.700	154	284219m	228.83	
25) Dibenzofuran	20.285	168	433000m	226.18	
26) Fluorene	21.483	166	343583m	225.68	
27) 1-Methylfluorene	23.436	180	230169m	240.79	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.514	167	421835m	237.84	
34) Dibenzothiophene	24.337	184	449883m	228.76	
35) 4-Methyldibenzothiophene	25.826	198	409992m	242.18	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	572142m	237.15	
42) Anthracene	24.925	178	556908m	250.72	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060L.D
Acq On : 30 Aug 2013 7:37 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 31 16:39:25 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43)	3-Methylphenanthrene	0.000		0	N.D. d	
44)	2-Methylphenanthrene	0.000		0	N.D. d	
45)	2-Methylanthracene	0.000		0	N.D. d	
46)	4/9-Methylphenanthrene	0.000		0	N.D. d	
47)	1-Methylphenanthrene	26.865	192	415666m	225.59	
48)	3,6-Dimethylphenanthrene	27.938	206	334864m	222.67	
49)	Retene	30.639	234	131278m	212.55	
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51)	C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52)	C4-Phenanthrenes/Anthr...	0.000		0	N.D.	
53)	Naphthobenzothiophene	32.878	234	604878m	222.22	
54)	C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55)	C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56)	C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57)	C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58)	Fluoranthene	28.838	202	585090m	224.25	
59)	Pyrene	29.635	202	660180m	241.64	
60)	2-Methylfluoranthene	30.397	216	379619m	246.96	
61)	Benzo(b)fluorene	30.985	216	371839m	230.37	
62)	C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63)	C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64)	C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65)	C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67)	Benz(a)anthracene	33.692	228	632783m	230.40	
68)	Chrysene/Triphenylene	33.809	228	535753m	216.67	
69)	C1-Chrysenes	0.000		0	N.D. d	
70)	C2-Chrysenes	0.000		0	N.D. d	
71)	C3-Chrysenes	0.000		0	N.D. d	
72)	C4-Chrysenes	0.000		0	N.D. d	
74)	C29-Hopane	0.000		0	N.D. d	
75)	18a-Oleanane	0.000		0	N.D. d	
76)	C30-Hopane	42.636	191	191338m	233.00	
77)	Benzo(b)fluoranthene	37.223	252	654442m	240.22	
78)	Benzo(k,j)fluoranthene	37.300	252	595080m	231.97	
79)	Benzo(a)fluoranthene	0.000		0	N.D. d	
80)	Benzo(e)pyrene	38.193	252	646263m	235.19	
81)	Benzo(a)pyrene	38.386	252	611374m	239.23	
82)	Indeno(1,2,3-c,d)pyrene	43.041	276	586563m	206.69	
83)	Dibenzo(a,h)anthracene	0.000		0	N.D. d	
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87)	Benzo(g,h,i)perylene	44.405	276	480735m	189.70	
89)	Perylene	38.697	252	606777m	233.90	
91)	C20-TAS	0.000		0	N.D. d	
92)	C21-TAS	0.000		0	N.D. d	
93)	C26(20S)-TAS	0.000		0	N.D. d	
94)	C26(20R)/C27(20S)-TAS	39.318	231	752340m	252.90	
95)	C28(20S)-TAS	0.000		0	N.D. d	
96)	C27(20R)-TAS	0.000		0	N.D. d	
97)	C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060L.D
Acq On : 30 Aug 2013 7:37 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 31 16:39:25 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

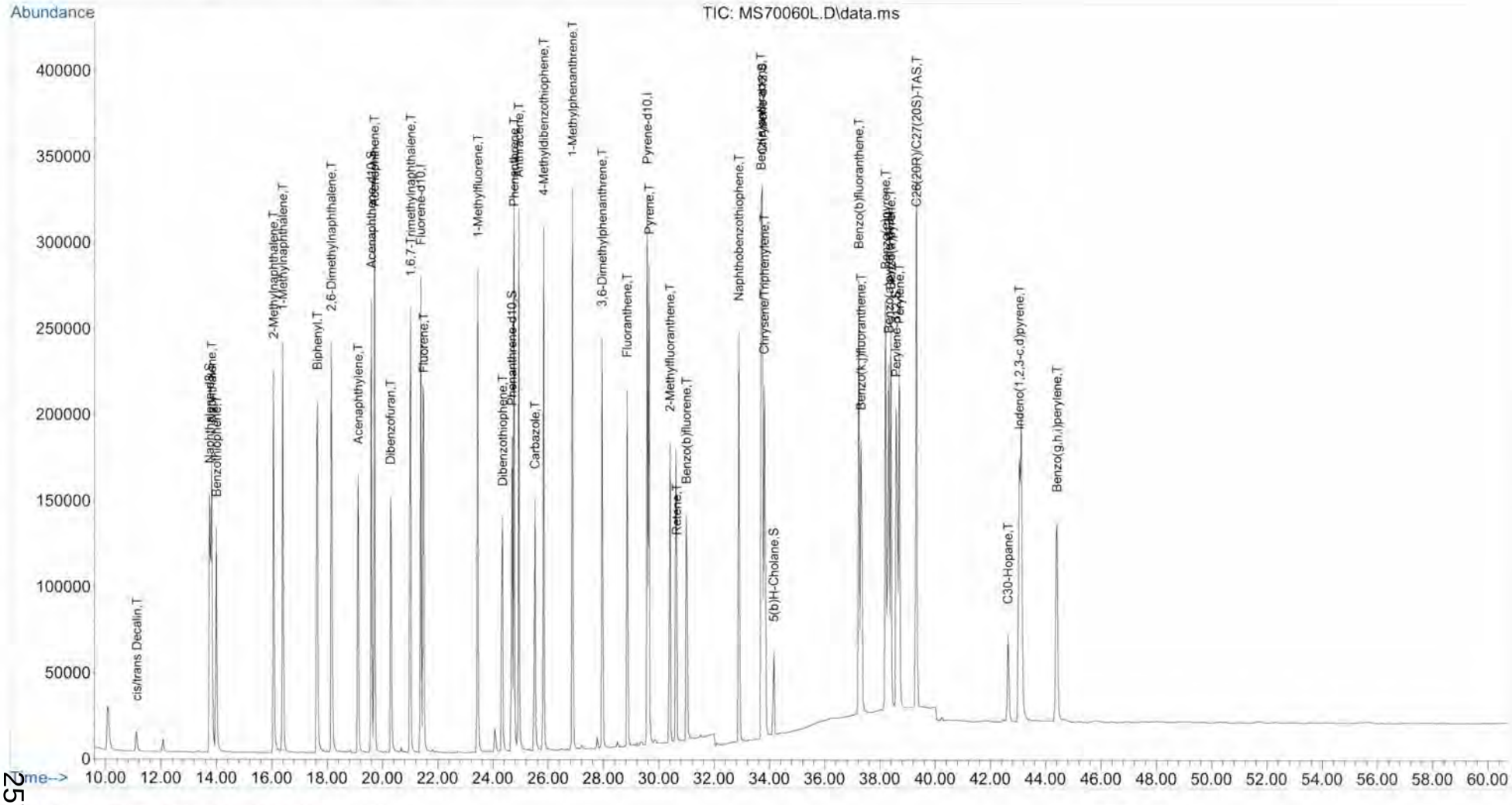
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060L.D
Acq On : 30 Aug 2013 7:37 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 31 16:39:25 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : Q:\2013\J13034\PAH\MSDChemstation\MS70060\
Data File : MS70060M.D
Acq On : 31 Aug 2013 5:55 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Sep 02 14:34:08 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorene-d10	1.000	1.000	0.0	62	0.00
2	S	Naphthalene-d8	1.752	1.484	15.3	57	0.00
3	T	cis/trans Decalin	0.291	0.262	10.0	59	0.03
4	un	C1-Decalins	0.291	0.000	100.0#	0#	-12.46#
5	un	C2-Decalins	0.291	0.000	100.0#	0#	-13.40#
6	un	C3-Decalins	0.291	0.000	100.0#	0#	-15.91#
7	un	C4-Decalins	0.291	0.000	100.0#	0#	-18.17#
8	T	Naphthalene	1.792	1.536	14.3	58	0.03
9	T	2-Methylnaphthalene	1.188	1.035	12.9	59	0.00
10	T	1-Methylnaphthalene	1.115	0.983	11.8	59	0.00
11	T	2,6-Dimethylnaphthalene	1.016	0.910	10.4	62	0.03
12	T	1,6,7-Trimethylnaphthalene	0.948	0.906	4.4	66	0.00
13	un	C2-Naphthalenes	1.792	0.000	100.0#	0#	-18.84#
14	un	C3-Naphthalenes	1.792	0.000	100.0#	0#	-20.28#
15	un	C4-Naphthalenes	1.792	0.000	100.0#	0#	-22.12#
16	T	Benzothiophene	1.383	1.182	14.5	58	0.00
17	un	C1-Benzothiophenes	1.383	0.000	100.0#	0#	-15.41#
18	un	C2-Benzothiophenes	1.383	0.000	100.0#	0#	-17.89#
19	un	C3-Benzothiophenes	1.383	0.000	100.0#	0#	-20.26#
20	un	C4-Benzothiophenes	1.383	0.000	100.0#	0#	-22.23#
21	S	Acenaphthene-d10	0.989	0.881	10.9	61	0.00
22	T	Biphenyl	1.485	1.282	13.7	59	0.03
23	T	Acenaphthylene	1.694	1.560	7.9	64	0.03
24	T	Acenaphthene	1.048	0.948	9.5	62	0.00
25	T	Dibenzofuran	1.615	1.427	11.6	60	0.03
26	T	Fluorene	1.284	1.149	10.5	61	0.03
27	T	1-Methylfluorene	0.806	0.810	-0.5	70	0.00
28	un	C1-Fluorenes	1.284	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.284	0.000	100.0#	0#	-24.82#
30	un	C3-Fluorenes	1.284	0.000	100.0#	0#	-27.21#
31	I	Pyrene-d10	1.000	1.000	0.0	60	0.00
32	S	Phenanthrene-d10	0.803	0.778	3.1	65	0.00
33	T	Carbazole	0.780	0.785	-0.6	69	0.00
34	T	Dibenzothiophene	0.865	0.790	8.7	61	0.03
35	T	4-Methyldibenzothiophene	0.744	0.719	3.4	64	0.00
36	un	2/3-Methyldibenzothiophene	0.744	0.000	100.0#	0#	-26.14#
37	un	1-Methyldibenzothiophene	0.744	0.000	100.0#	0#	-26.45#
38	un	C2-Dibenzothiophenes	0.865	0.000	100.0#	0#	-27.56#
39	un	C3-Dibenzothiophenes	0.865	0.000	100.0#	0#	-28.60#
40	un	C4-Dibenzothiophenes	0.865	0.000	100.0#	0#	-31.02#
41	T	Phenanthrene	1.061	0.956	9.9	61	0.00
42	T	Anthracene	0.977	1.014	-3.8	72	0.00
43	un	3-Methylphenanthrene	0.810	0.000	100.0#	0#	-26.86#
44	un	2-Methylphenanthrene	0.810	0.000	100.0#	0#	-26.86#
45	un	2-Methylanthracene	0.810	0.000	100.0#	0#	-26.86#
46	un	4/9-Methylphenanthrene	0.810	0.000	100.0#	0#	-26.86#
47	T	1-Methylphenanthrene	0.810	0.745	8.0	61	0.00

Evaluate Continuing Calibration Report

Data Path : Q:\2013\J13034\PAH\MSDChemstation\MS70060\
Data File : MS70060M.D
Acq On : 31 Aug 2013 5:55 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Sep 02 14:34:08 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
48	T	3,6-Dimethylphenanthrene	0.661	0.600	9.2	61	0.00
49	T	Retene	0.272	0.284	-4.4	71	0.00
50	un	C2-Phenanthrenes/Anthracene	1.061	0.000	100.0#	0#	-28.49#
51	un	C3-Phenanthrenes/Anthracene	1.061	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.061	0.000	100.0#	0#	-31.99#
53	T	Naphthobenzothiophene	1.197	1.019	14.9	57	0.00
54	un	C1-Naphthobenzothiophenes	1.197	0.000	100.0#	0#	-34.16#
55	un	C2-Naphthobenzothiophenes	1.197	0.000	100.0#	0#	-35.94#
56	un	C3-Naphthobenzothiophenes	1.197	0.000	100.0#	0#	-37.34#
57	un	C4-Naphthobenzothiophenes	1.197	0.000	100.0#	0#	-37.61#
58	T	Fluoranthene	1.147	1.028	10.4	59	0.00
59	T	Pyrene	1.201	1.191	0.8	67	0.00
60	T	2-Methylfluoranthene	0.676	0.712	-5.3	72	0.00
61	T	Benzo(b)fluorene	0.710	0.671	5.5	64	0.00
62	un	C1-Fluoranthenes/Pyrenes	1.147	0.000	100.0#	0#	-30.60#
63	un	C2-Fluoranthenes/Pyrenes	1.147	0.000	100.0#	0#	-32.10#
64	un	C3-Fluoranthenes/Pyrenes	1.147	0.000	100.0#	0#	-33.92#
65	un	C4-Fluoranthenes/Pyrenes	1.147	0.000	100.0#	0#	-35.24#
66	S	Chrysene-d12	1.061	0.877	17.3	53	0.00
67	T	Benz(a)anthracene	1.208	1.103	8.7	61	0.00
68	T	Chrysene/Triphenylene	1.087	0.907	16.6	54	0.00
69	un	C1-Chrysenes	1.087	0.000	100.0#	0#	-35.75#
70	un	C2-Chrysenes	1.087	0.000	100.0#	0#	-36.91#
71	un	C3-Chrysenes	1.087	0.000	100.0#	0#	-38.00#
72	un	C4-Chrysenes	1.087	0.000	100.0#	0#	-39.51#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	51	0.00
74	un	C29-Hopane	0.456	0.000	100.0#	0#	-40.39#
75	un	18a-Oleanane	0.456	0.000	100.0#	0#	-42.45#
76	T	C30-Hopane	0.456	0.000	100.0#	0#	-42.64#
77	T	Benzo(b)fluoranthene	1.511	1.542	-2.1	57	0.00
78	T	Benzo(k,j)fluoranthene	1.423	1.415	0.6	56	0.00
79	un	Benzo(a)fluoranthene	1.423	0.000	100.0#	0#	-37.22#
80	T	Benzo(e)pyrene	1.524	1.508	1.0	55	0.00
81	T	Benzo(a)pyrene	1.418	1.493	-5.3	61	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.574	1.287	18.2	44#	0.00
83	T	Dibenzo(a,h)anthracene	1.215	1.072	11.8	49#	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.215	0.000	100.0#	0#	-48.42#
85	un	C2-Dibenzo(a,h)anthracenes	1.215	0.000	100.0#	0#	-50.34#
86	un	C3-Dibenzo(a,h)anthracenes	1.215	0.000	100.0#	0#	-51.04#
87	T	Benzo(g,h,i)perylene	1.406	0.970	31.0#	38#	0.00
88	S	Perylene-d12	1.261	1.183	6.2	54	0.00
89	T	Perylene	1.439	1.416	1.6	57	0.00
90	S	5(b)H-Cholane	0.213	0.265	-24.4	71	0.00
91	un	C20-TAS	1.650	0.000	100.0#	0#	-33.58#
92	un	C21-TAS	1.650	0.000	100.0#	0#	-34.16#
93	un	C26(20S)-TAS	1.650	0.000	100.0#	0#	-38.58#
94	T	C26(20R)/C27(20S)-TAS	1.650	1.987	-20.4	70	0.00

Evaluate Continuing Calibration Report

Data Path : Q:\2013\J13034\PAH\MSDChemstation\MS70060\
Data File : MS70060M.D
Acq On : 31 Aug 2013 5:55 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Sep 02 14:34:08 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
95 un	C28(20S)-TAS	1.650	0.000	100.0#	0#	-40.02#
96 un	C27(20R)-TAS	1.650	0.000	100.0#	0#	-41.31#
97 un	C28(20R)-TAS	1.650	0.000	100.0#	0#	-41.31#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : Q:\2013\J13034\PAH\MSDChemstation\MS70060\
Data File : MS70060M.D
Acq On : 31 Aug 2013 5:55 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Sep 02 14:34:08 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	247076m	251.05	0.00
31) Pyrene-d10	29.566	212	473411m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	328366m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.739	136	365249m	211.77	0.00
21) Acenaphthene-d10	19.588	164	216832m	222.76	0.00
32) Phenanthrene-d10	24.683	188	367517m	242.41	0.00
66) Chrysene-d12	33.731	240	414312m	206.78	0.00
88) Perylene-d12	38.619	264	388122m	234.63	0.00
90) 5(b)H-Cholane	34.158	217	86845m	310.60	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.120	138	63840m	223.19	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	377979m	214.32	
9) 2-Methylnaphthalene	16.051	142	255021m	218.06	
10) 1-Methylnaphthalene	16.385	142	241533m	220.07	
11) 2,6-Dimethylnaphthalene	18.168	156	224005m	224.04	
12) 1,6,7-Trimethylnaphtha...	21.009	170	222868m	238.94	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.989	134	289132m	212.48	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.639	154	312606m	213.89	
23) Acenaphthylene	19.115	152	380790m	228.40	
24) Acenaphthene	19.700	154	233737m	226.64	
25) Dibenzofuran	20.313	168	349425	219.83	100
26) Fluorene	21.483	166	283180m	224.02	
27) 1-Methylfluorene	23.436	180	200864m	253.08	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.514	167	367449m	249.44	
34) Dibenzothiophene	24.337	184	367765m	225.15	
35) 4-Methyldibenzothiophene	25.826	198	342365m	243.48	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	447224m	223.19	
42) Anthracene	24.925	178	480459m	260.42	
43) 3-Methylphenanthrene	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : Q:\2013\J13034\PAH\MSDChemstation\MS70060\
Data File : MS70060M.D
Acq On : 31 Aug 2013 5:55 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Sep 02 14:34:08 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	26.865	192	347724m	227.22	
48) 3,6-Dimethylphenanthrene	27.938	206	283844m	227.25	
49) Retene	30.639	234	119809m	233.55	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53) Naphthobenzothiophene	32.878	234	484078m	214.12	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.838	202	485965m	224.25	
59) Pyrene	29.635	202	562322m	247.80	
60) 2-Methylfluoranthene	30.397	216	338366m	265.03	
61) Benzo(b)fluorene	30.985	216	319548m	238.36	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	33.692	228	519817m	227.88	
68) Chrysene/Triphenylene	33.809	228	425581m	207.22	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	0.000		0	N.D. d	
77) Benzo(b)fluoranthene	37.223	252	506632m	255.56	
78) Benzo(k,j)fluoranthene	37.339	252	462075m	247.53	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.192	252	492414m	246.26	
81) Benzo(a)pyrene	38.386	252	488614m	262.75	
82) Indeno(1,2,3-c,d)pyrene	43.041	276	415039m	200.98	
83) Dibenzo(a,h)anthracene	43.115	278	348305m	218.63	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.405	276	315306m	170.98	
89) Perylene	38.697	252	464919m	246.28	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	39.318	231	651747m	301.07	
95) C28(20S)-TAS	0.000		0	N.D. d	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : Q:\2013\J13034\PAH\MSDChemstation\MS70060\
Data File : MS70060M.D
Acq On : 31 Aug 2013 5:55 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Sep 02 14:34:08 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

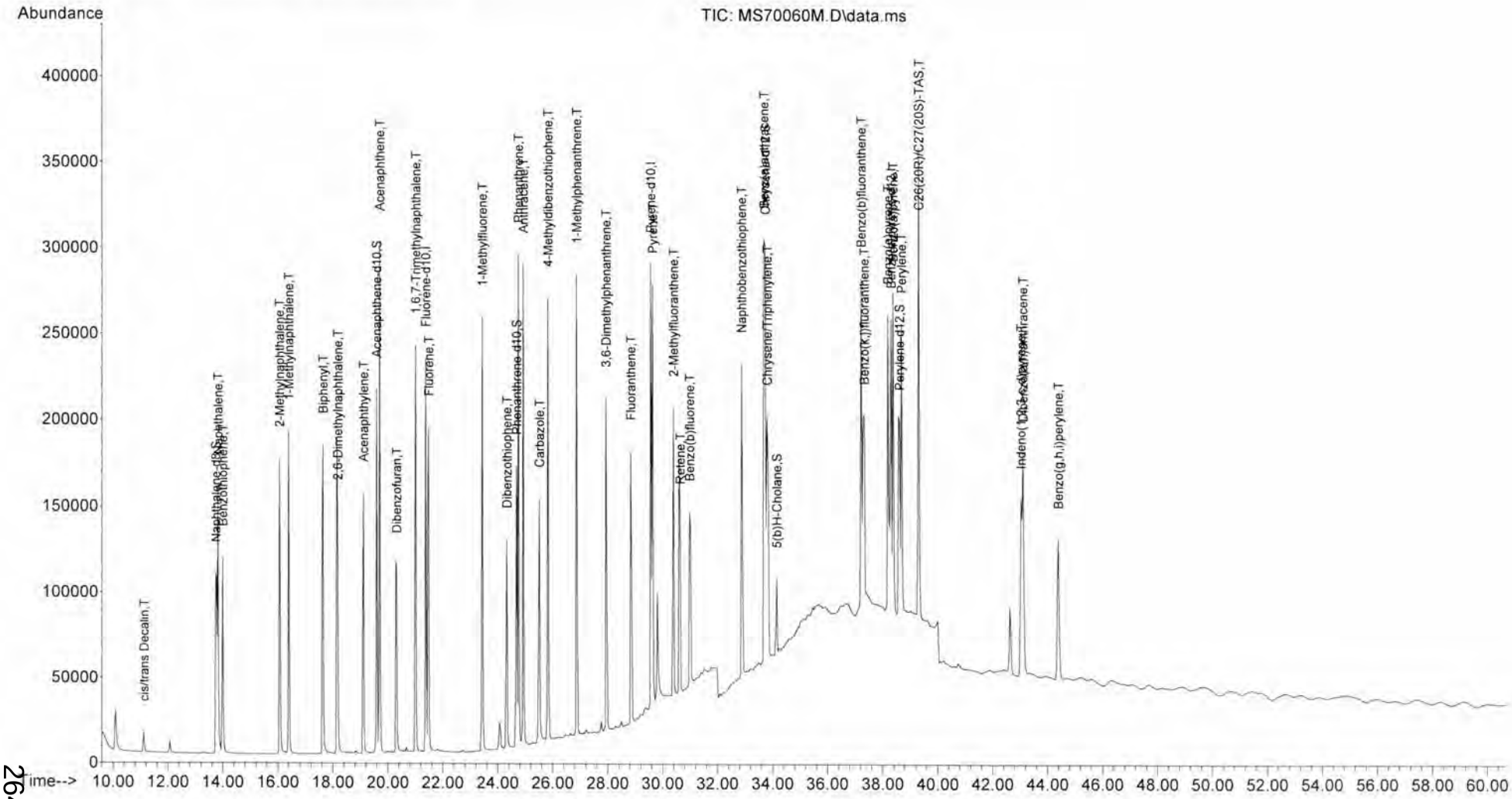
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Q:\2013\J13034\PAH\MSDChemstation\MS70060\
Data File : MS70060M.D
Acq On : 31 Aug 2013 5:55 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Sep 02 14:34:08 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration



Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name MS70060H.D
Data File Path C:\GCMS7\MS70060\
Operator YM
Date Acquired 8/30/2013 5:53
Acq. Method File PAH-2012.M
Sample Name AR-WKISSU-250-002
Misc Info 0
Instrument Name GCMSD
Vial Number 8
Sample Multiplier 1
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

MS70060H.D
AR-WKISSU-250-002
8/30/2013
PAH-2012.M
1

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	0.00	0	0.0000	0.0000
9)+10)	C1-Naphthalenes	0.00	0	0.0000	0.0000
13)	C2-Naphthalenes	0.00	0	0.0000	0.0000
14)	C3-Naphthalenes	0.00	0	0.0000	0.0000
15)	C4-Naphthalenes	0.00	0	0.0000	0.0000
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	0.00	0	0.0000	0.0000
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	0.00	0	0.0000	0.0000
28)	C1-Fluorenes	0.00	0	0.0000	0.0000
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	0.00	0	0.0000	0.0000
41)	Phenanthrene	0.00	0	0.0000	0.0000
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	0.00	0	0.0000	0.0000
35)+36)+37)	C1-Dibenzothiophenes	0.00	0	0.0000	0.0000
38)	C2-Dibenzothiophenes	0.00	0	0.0000	0.0000
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	0.00	0	0.0000	0.0000
59)	Pyrene	0.00	0	0.0000	0.0000
62)	C1-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	0.00	0	0.0000	0.0000
68)	Chrysene/Triphenylene	0.00	0	0.0000	0.0000
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	0.00	0	0.0000	0.0000
78)	Benzo(k,j)fluoranthene	0.00	0	0.0000	0.0000
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	0.00	0	0.0000	0.0000
81)	Benzo(a)pyrene	0.00	0	0.0000	0.0000
89)	Perylene	0.00	0	0.0000	0.0000
82)	Indeno(1,2,3-c,d)pyrene	0.00	0	0.0000	0.0000
83)	Dibenzo(a,h)anthracene	0.00	0	0.0000	0.0000
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	0.00	0	0.0000	0.0000

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	0.00	0	0.0000	0.0000
10)	1-Methylnaphthalene	0.00	0	0.0000	0.0000
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	0.00	0	0.0000	0.0000
36)	2/3-Methyldibenzothiophene	0.00	0	0.0000	0.0000
37)	1-Methyldibenzothiophene	0.00	0	0.0000	0.0000
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	0.00	0	0.0000	0.0000
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.74	578130	238.21	95.24
21)	Acenaphthene-d10	19.59	313161	228.63	91.39
32)	Phenanthrene-d10	24.68	487912	236.11	94.37
66)	Chrysene-d12	33.73	643556	235.65	94.24
88)	Perylene-d12	38.58	616371	231.93	92.76
90)	5(b)H-Cholane	34.16	101777	226.57	90.63
	Internal Standards				
1)	Fluorene-d10	21.37	347678	251.05	
31)	Pyrene-d10	29.57	645263	250.63	
73)	Benzo(a)pyrene-d12	38.31	527547	250.33	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : MS70060H.D
Acq On : 30 Aug 2013 5:53 am
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 31 16:09:10 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	347678m	251.05	0.00
31) Pyrene-d10	29.566	212	645263m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	527547m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.739	136	578130m	238.21	0.00
21) Acenaphthene-d10	19.588	164	313161m	228.63	0.00
32) Phenanthrene-d10	24.683	188	487912m	236.11	0.00
66) Chrysene-d12	33.731	240	643556m	235.65	0.00
88) Perylene-d12	38.580	264	616371m	231.93	-0.04
90) 5(b)H-Cholane	34.158	217	101777m	226.57	0.00

Target Compounds				Qvalue
3) cis/trans Decalin	0.000	0	N.D. d	
4) C1-Decalins	0.000	0	N.D. d	
5) C2-Decalins	0.000	0	N.D. d	
6) C3-Decalins	0.000	0	N.D. d	
7) C4-Decalins	0.000	0	N.D. d	
8) Naphthalene	0.000	0	N.D. d	
9) 2-Methylnaphthalene	0.000	0	N.D. d	
10) 1-Methylnaphthalene	0.000	0	N.D. d	
11) 2,6-Dimethylnaphthalene	0.000	0	N.D. d	
12) 1,6,7-Trimethylnaphtha...	0.000	0	N.D. d	
13) C2-Naphthalenes	0.000	0	N.D. d	
14) C3-Naphthalenes	0.000	0	N.D. d	
15) C4-Naphthalenes	0.000	0	N.D. d	
16) Benzothiophene	0.000	0	N.D.	
17) C1-Benzothiophenes	0.000	0	N.D. d	
18) C2-Benzothiophenes	0.000	0	N.D. d	
19) C3-Benzothiophenes	0.000	0	N.D. d	
20) C4-Benzothiophenes	0.000	0	N.D. d	
22) Biphenyl	0.000	0	N.D. d	
23) Acenaphthylene	0.000	0	N.D. d	
24) Acenaphthene	0.000	0	N.D. d	
25) Dibenzofuran	0.000	0	N.D. d	
26) Fluorene	0.000	0	N.D. d	
27) 1-Methylfluorene	0.000	0	N.D. d	
28) C1-Fluorenes	0.000	0	N.D. d	
29) C2-Fluorenes	0.000	0	N.D. d	
30) C3-Fluorenes	0.000	0	N.D. d	
33) Carbazole	0.000	0	N.D. d	
34) Dibenzothiophene	0.000	0	N.D. d	
35) 4-Methyldibenzothiophene	0.000	0	N.D. d	
36) 2/3-Methyldibenzothiop...	0.000	0	N.D. d	
37) 1-Methyldibenzothiophene	0.000	0	N.D. d	
38) C2-Dibenzothiophenes	0.000	0	N.D. d	
39) C3-Dibenzothiophenes	0.000	0	N.D. d	
40) C4-Dibenzothiophenes	0.000	0	N.D. d	
41) Phenanthrene	0.000	0	N.D. d	
42) Anthracene	0.000	0	N.D. d	
43) 3-Methylphenanthrene	0.000	0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : MS70060H.D
Acq On : 30 Aug 2013 5:53 am
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 31 16:09:10 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	0.000		0	N.D.	d	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	0.000		0	N.D.	d	
59) Pyrene	0.000		0	N.D.	d	
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	0.000		0	N.D.	d	
68) Chrysene/Triphenylene	0.000		0	N.D.	d	
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	0.000		0	N.D.	d	
78) Benzo(k,j)fluoranthene	0.000		0	N.D.	d	
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	0.000		0	N.D.	d	
81) Benzo(a)pyrene	0.000		0	N.D.	d	
82) Indeno(1,2,3-c,d)pyrene	0.000		0	N.D.	d	
83) Dibenzo(a,h)anthracene	0.000		0	N.D.	d	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	0.000		0	N.D.	d	
89) Perylene	0.000		0	N.D.	d	
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : MS70060H.D
Acq On : 30 Aug 2013 5:53 am
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 31 16:09:10 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

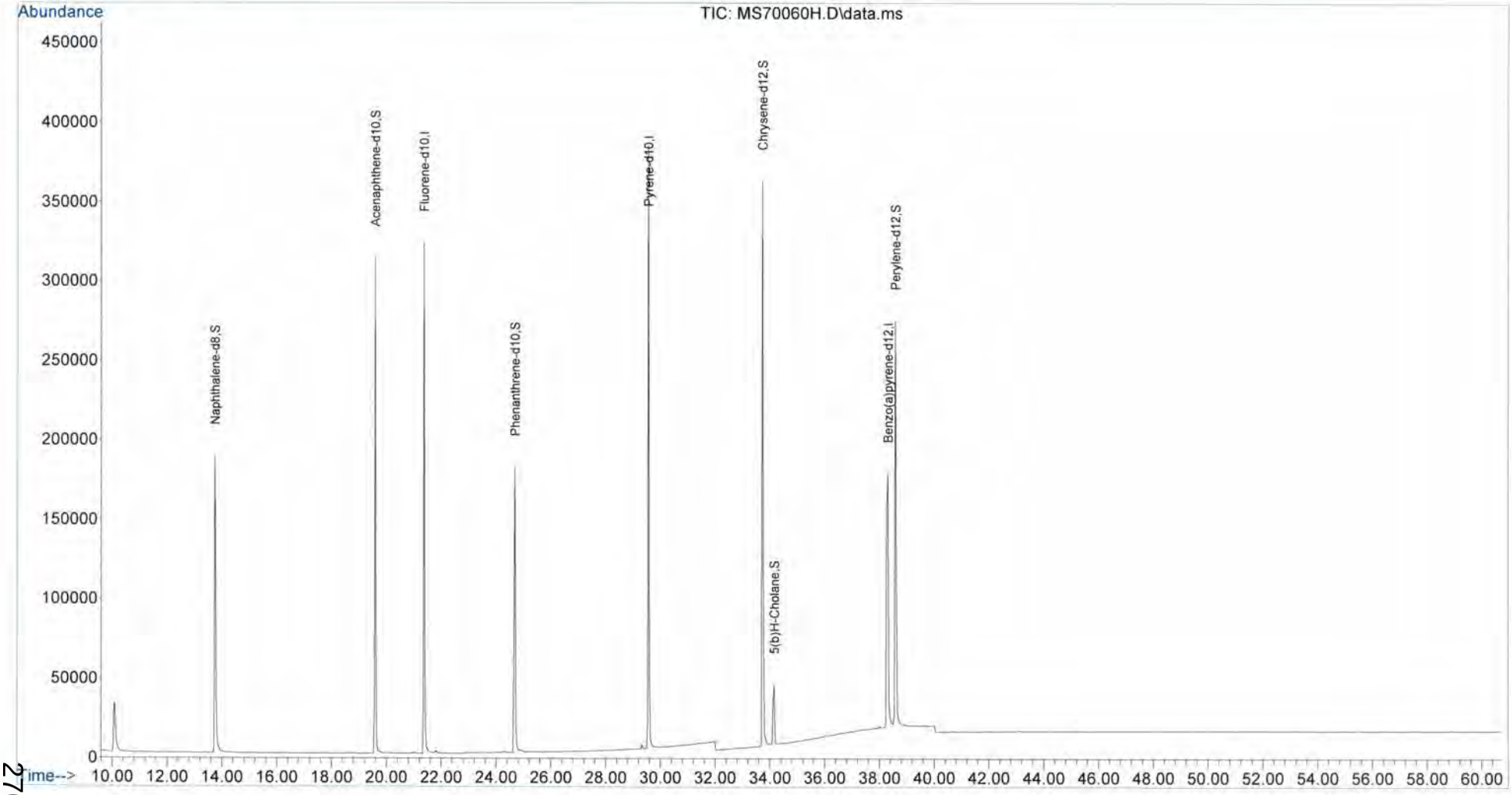
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : MS70060H.D
Acq On : 30 Aug 2013 5:53 am
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 31 16:09:10 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration



Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name MS70060K.D
Data File Path C:\msdchem\2\data\MS70060\
Operator YM
Date Acquired 8/30/2013 9:19
Acq. Method File PAH-2012.M
Sample Name AR-SRM2779-WK4.0-002
Misc Info 0
Instrument Name GCMSD
Vial Number 11
Sample Multiplier 0.24461
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

MS70060K.D
AR-SRM2779-WK4.0-002
8/30/2013
PAH-2012.M
4.088140305

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.12	1558190	647.1598	739.8334
4)	C1-Decalins	12.26	2187480	908.5256	1038.6269
5)	C2-Decalins	13.74	1789060	743.0494	849.4544
6)	C3-Decalins	16.61	1769160	734.7815	840.0026
7)	C4-Decalins	17.64	1040100	431.9837	493.8440
8)	Naphthalene	13.82	9761840	657.5704	751.7348
9)+10)	C1-Naphthalenes	16.22	21286220	1433.8678	1639.1984
13)	C2-Naphthalenes	18.42	24419000	1644.8922	1880.4415
14)	C3-Naphthalenes	20.42	15677100	1056.0327	1207.2571
15)	C4-Naphthalenes	22.74	8434210	568.1385	649.4962
16)	Benzothiophene	14.02	86873	7.5844	8.6704
17)	C1-Benzothiophenes	15.58	350016	30.5577	34.9335
18)	C2-Benzothiophenes	18.31	198465	17.3268	19.8080
19)	C3-Benzothiophenes	20.26	287037	25.0596	28.6481
20)	C4-Benzothiophenes	22.68	260221	22.7183	25.9716
22)	Biphenyl	17.64	1811890	147.2763	168.3663
23)	Acenaphthylene	19.12	100297	7.1467	8.1701
24)	Acenaphthene	19.70	90993	10.4817	11.9827
25)	Dibenzofuran	20.28	327341	24.4644	27.9677
26)	Fluorene	21.46	1164720	109.4586	125.1331
28)	C1-Fluorenes	23.44	2692800	253.0662	289.3054
29)	C2-Fluorenes	25.17	3422800	321.6719	367.7355
30)	C3-Fluorenes	26.76	2191950	205.9971	235.4960
33)	Carbazole	25.51	51125	3.8744	4.4292
42)	Anthracene	24.93	57214	3.4621	3.9578
41)	Phenanthrene	24.75	3860290	215.0699	245.8680
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.65	8059692	449.0329	513.3347
50)	C2-Phenanthrenes/Anthracenes	28.32	8819560	491.3677	561.7318
51)	C3-Phenanthrenes/Anthracenes	29.88	6446750	359.1706	410.6041
52)	C4-Phenanthrenes/Anthracenes	31.71	2652280	147.7674	168.9278
34)	Dibenzothiophene	24.34	594010	40.5979	46.4116
35)+36)+37)	C1-Dibenzothiophenes	26.13	1777187	121.4628	138.8563
38)	C2-Dibenzothiophenes	27.90	2194790	150.0046	171.4854
39)	C3-Dibenzothiophenes	28.73	1511450	103.3012	118.0940
40)	C4-Dibenzothiophenes	30.15	576837	39.4243	45.0699
58)	Fluoranthene	28.87	88315	4.5496	5.2011
59)	Pyrene	29.63	210439	10.3528	11.8353
62)	C1-Fluoranthenes/Pyrenes	30.78	1161840	59.8526	68.4236
63)	C2-Fluoranthenes/Pyrenes	32.26	1981720	102.0890	116.7082
64)	C3-Fluoranthenes/Pyrenes	33.93	1834980	94.5293	108.0659
65)	C4-Fluoranthenes/Pyrenes	35.05	1500760	77.3124	88.3836
53)	Naphthobenzothiophene	32.88	369990	18.2701	20.8864
54)	C1-Naphthobenzothiophenes	34.04	846334	41.7919	47.7765
55)	C2-Naphthobenzothiophenes	35.75	1029490	50.8361	58.1158
56)	C3-Naphthobenzothiophenes	37.11	704048	34.7659	39.7444
57)	C4-Naphthobenzothiophenes	38.08	311449	15.3793	17.5817
67)	Benz(a)anthracene	33.69	111003	5.4325	6.2104
68)	Chrysene/Triphenylene	33.81	664731	36.1331	41.3073
69)	C1-Chrysenes	35.05	1505400	81.8296	93.5477
70)	C2-Chrysenes	36.21	1963520	106.7317	122.0157
71)	C3-Chrysenes	37.92	1459350	79.3265	90.6861
72)	C4-Chrysenes	39.32	794975	43.2126	49.4006
77)	Benzo(b)fluoranthene	37.22	96720	4.1693	4.7664
78)	Benzo(k,j)fluoranthene	37.26	11073	0.5069	0.5795
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.19	179663	7.6782	8.7778
81)	Benzo(a)pyrene	38.39	31524	1.4486	1.6561
89)	Perylene	38.70	11519	0.5214	0.5961
82)	Indeno(1,2,3-c,d)pyrene	43.08	12613	0.5219	0.5967
83)	Dibenzo(a,h)anthracene	43.08	10712	0.5746	0.6569
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.37	29342	1.3597	1.5544

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	13061900	1326.8233	1516.8251
10)	1-Methylnaphthalene	16.39	8224320	890.2263	1017.7071
11)	2,6-Dimethylnaphthalene	18.20	6834860	812.1150	928.4102
12)	1,6,7-Trimethylnaphthalene	21.01	1770670	225.5265	257.8220
27)	1-Methylfluorene	23.44	1165170	174.4047	199.3796
35)	4-Methyldibenzothiophene	25.83	1027450	81.5740	93.2554
36)	2/3-Methyldibenzothiophene	26.10	441964	35.0898	40.1147
37)	1-Methyldibenzothiophene	26.45	307773	24.4356	27.9348
43)	3-Methylphenanthrene	26.41	1976430	144.1773	164.8236
44)	2-Methylphenanthrene	26.52	1961830	143.1125	163.6063
45)	2-Methylanthracene	26.66	159712	11.6507	13.3191
46)	4/9-Methylphenanthrene	26.80	2207390	161.0258	184.0848
47)	1-Methylphenanthrene	26.86	1754330	127.9758	146.3020
48)	3,6-Dimethylphenanthrene	27.94	504885	45.1259	51.5879
49)	Retene	30.60	50608	11.0135	12.5907
60)	2-Methylfluoranthene	30.40	53654	4.6915	5.3634
61)	Benzo(b)fluorene	31.02	158439	13.1937	15.0830
74)	C29-Hopane	40.64	151716	21.6962	24.8031
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	41.94	255878	36.5919	41.8319
91)	C20-TAS	33.27	88831	3.5067	4.0088
92)	C21-TAS	34.35	174442	6.8862	7.8723
93)	C26(20S)-TAS	38.46	74320	2.9338	3.3540
94)	C26(20R)/C27(20S)-TAS	39.36	240094	9.4778	10.8351
95)	C28(20S)-TAS	40.13	166355	6.5669	7.5073
96)	C27(20R)-TAS	40.57	154589	6.1025	6.9764
97)	C28(20R)-TAS	41.68	146647	5.7890	6.6179
	Surrogate Standards				
2)	Naphthalene-d8	13.74	847327	58.36	95.39
21)	Acenaphthene-d10	19.59	481890	58.81	96.11
32)	Phenanthrene-d10	24.68	727005	53.53	87.47
66)	Chrysene-d12	33.73	1020440	56.85	92.96
88)	Perylene-d12	38.58	1009630	52.16	85.28
90)	5(b)H-Cholane	34.16	234038	71.53	116.97
	Internal Standards				
1)	Fluorene-d10	21.37	508735	61.41	
31)	Pyrene-d10	29.57	1037290	61.31	
73)	Benzo(a)pyrene-d12	38.31	939914	61.23	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : MS70060K.D
Acq On : 30 Aug 2013 9:19 am
Operator : YM
Sample : AR-SRM2779-WK4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Sep 02 15:40:30 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	508735m	251.05	0.00
31) Pyrene-d10	29.566	212	1037292m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	939914m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.739	136	847327m	58.36	0.00
21) Acenaphthene-d10	19.589	164	481890m	58.81	0.00
32) Phenanthrene-d10	24.683	188	727005m	53.53	0.00
66) Chrysene-d12	33.731	240	1020435m	56.85	0.00
88) Perylene-d12	38.580	264	1009634m	52.16	-0.04
90) 5(b)H-Cholane	34.158	217	234038m	71.53	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.120	138	1558188m	647.16	
4) C1-Decalins	12.262	152	2187483m	908.52	
5) C2-Decalins	13.739	166	1789060m	743.05	
6) C3-Decalins	16.608	180	1769157m	734.78	
7) C4-Decalins	17.639	194	1040103m	431.98	
8) Naphthalene	13.822	128	9761835m	657.57	
9) 2-Methylnaphthalene	16.051	142	13061914m	1326.82	
10) 1-Methylnaphthalene	16.385	142	8224316m	890.23	
11) 2,6-Dimethylnaphthalene	18.196	156	6834863m	812.11	
12) 1,6,7-Trimethylnaphtha...	21.009	170	1770671m	225.53	
13) C2-Naphthalenes	18.419	156	24418950m	1644.89	
14) C3-Naphthalenes	20.424	170	15677119m	1056.03	
15) C4-Naphthalenes	22.736	184	8434207m	568.14	
16) Benzothiophene	14.017	134	86873m	7.58	
17) C1-Benzothiophenes	15.577	148	350016m	30.56	
18) C2-Benzothiophenes	18.307	162	198465m	17.33	
19) C3-Benzothiophenes	20.257	176	287037m	25.06	
20) C4-Benzothiophenes	22.681	190	260221m	22.72	
22) Biphenyl	17.639	154	1811889m	147.28	
23) Acenaphthylene	19.115	152	100297m	7.15	
24) Acenaphthene	19.700	154	90993m	10.48	
25) Dibenzofuran	20.285	168	327341m	24.46	
26) Fluorene	21.455	166	1164715m	109.46	
27) 1-Methylfluorene	23.436	180	1165168m	174.40	
28) C1-Fluorenes	23.436	180	2692804m	253.07	
29) C2-Fluorenes	25.168	194	3422804m	321.67	
30) C3-Fluorenes	26.761	208	2191951m	206.00	
33) Carbazole	25.514	167	51125m	3.87	
34) Dibenzothiophene	24.337	184	594010m	40.60	
35) 4-Methyldibenzothiophene	25.826	198	1027446m	81.57	
36) 2/3-Methyldibenzothiop...	26.103	198	441964m	35.09	
37) 1-Methyldibenzothiophene	26.449	198	307773m	24.44	
38) C2-Dibenzothiophenes	27.903	212	2194793m	150.00	
39) C3-Dibenzothiophenes	28.735	226	1511453m	103.30	
40) C4-Dibenzothiophenes	30.154	240	576837m	39.42	
41) Phenanthrene	24.752	178	3860285m	215.07	
42) Anthracene	24.925	178	57214m	3.46	
43) 3-Methylphenanthrene	26.414	192	1976426m	144.18	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : MS70060K.D
Acq On : 30 Aug 2013 9:19 am
Operator : YM
Sample : AR-SRM2779-WK4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Sep 02 15:40:30 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Methylphenanthrene	26.518	192	1961832m	143.11	
45) 2-Methylanthracene	26.657	192	159712m	11.65	
46) 4/9-Methylphenanthrene	26.795	192	2207393m	161.03	
47) 1-Methylphenanthrene	26.865	192	1754332m	127.98	
48) 3,6-Dimethylphenanthrene	27.938	206	504885m	45.13	
49) Retene	30.604	234	50608m	11.01	
50) C2-Phenanthrenes/Anthr...	28.319	206	8819556m	491.37	
51) C3-Phenanthrenes/Anthr...	29.877	220	6446753m	359.17	
52) C4-Phenanthrenes/Anthr...	31.713	234	2652275m	147.77	
53) Naphthobenzothiophene	32.878	234	369990m	18.27	
54) C1-Naphthobenzothiophenes	34.041	248	846334m	41.79	
55) C2-Naphthobenzothiophenes	35.748	262	1029485m	50.84	
56) C3-Naphthobenzothiophenes	37.106	276	704048m	34.77	
57) C4-Naphthobenzothiophenes	38.076	290	311449m	15.38	
58) Fluoranthene	28.873	202	88315m	4.55	
59) Pyrene	29.635	202	210439m	10.35	
60) 2-Methylfluoranthene	30.397	216	53654m	4.69	
61) Benzo(b)fluorene	31.020	216	158439m	13.19	
62) C1-Fluoranthenes/Pyrenes	30.778	216	1161840m	59.85	
63) C2-Fluoranthenes/Pyrenes	32.257	230	1981719m	102.09	
64) C3-Fluoranthenes/Pyrenes	33.925	244	1834977m	94.53	
65) C4-Fluoranthenes/Pyrenes	35.050	258	1500764m	77.31	
67) Benz(a)anthracene	33.692	228	111003m	5.43	
68) Chrysene/Triphenylene	33.809	228	664731m	36.13	
69) C1-Chrysenes	35.050	242	1505404m	81.83	
70) C2-Chrysenes	36.214	256	1963520m	106.73	
71) C3-Chrysenes	37.921	270	1459353m	79.33	
72) C4-Chrysenes	39.318	284	794975m	43.21	
74) C29-Hopane	40.645	191	151716m	21.70	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	41.935	191	255878m	36.59	
77) Benzo(b)fluoranthene	37.223	252	96720m	4.17	
78) Benzo(k,j)fluoranthene	37.261	252	11073m	0.51	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.193	252	179663m	7.68	
81) Benzo(a)pyrene	38.386	252	31524m	1.45	
82) Indeno(1,2,3-c,d)pyrene	43.078	276	12613m	0.52	
83) Dibenzo(a,h)anthracene	43.078	278	10712m	0.57	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.368	276	29342m	1.36	
89) Perylene	38.697	252	11519m	0.52	
91) C20-TAS	33.266	231	88831m	3.51	
92) C21-TAS	34.352	231	174442m	6.89	
93) C26(20S)-TAS	38.464	231	74320m	2.93	
94) C26(20R)/C27(20S)-TAS	39.356	231	240094m	9.48	
95) C28(20S)-TAS	40.128	231	166355m	6.57	
96) C27(20R)-TAS	40.571	231	154589m	6.10	
97) C28(20R)-TAS	41.677	231	146647m	5.79	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : MS70060K.D
Acq On : 30 Aug 2013 9:19 am
Operator : YM
Sample : AR-SRM2779-WK4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Sep 02 15:40:30 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

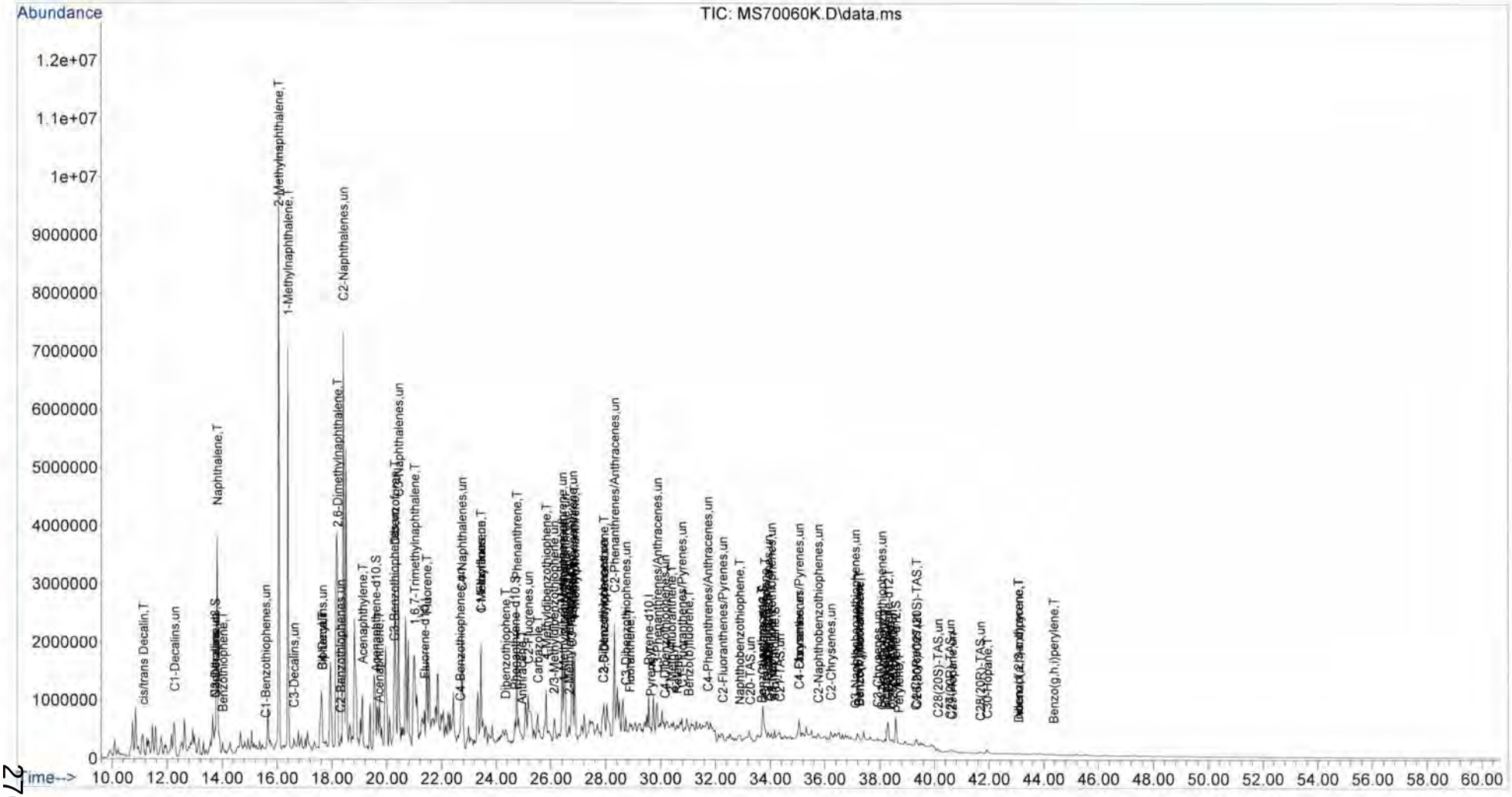
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : MS70060K.D
Acq On : 30 Aug 2013 9:19 am
Operator : YM
Sample : AR-SRM2779-WK4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Sep 02 15:40:30 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration



Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name ARC1651.D
Data File Path C:\msdchem\2\data\MS70060\
Operator YM
Date Acquired 8/30/2013 10:28
Acq. Method File PAH-2012.M
Sample Name SED-DA-016 (0.5-1.0)
Misc Info 0
Instrument Name GCMSD
Vial Number 12
Sample Multiplier 0.06592
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

ARC1651.D
SED-DA-016 (0.5-1.0)
8/30/2013
PAH-2012.M
15.16990291

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.82	223780	5.9855	6.7680
9)+10)	C1-Naphthalenes	16.22	214463	5.7363	6.4863
13)	C2-Naphthalenes	18.42	556755	14.8916	16.8386
14)	C3-Naphthalenes	20.34	440693	11.7873	13.3284
15)	C4-Naphthalenes	22.74	789220	21.1094	23.8693
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	19.11	66232	1.8739	2.1189
24)	Acenaphthene	19.70	335318	15.3373	17.3425
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.45	560049	20.8989	23.6313
28)	C1-Fluorenes	23.44	108346	4.0431	4.5717
29)	C2-Fluorenes	25.31	107255	4.0023	4.5256
30)	C3-Fluorenes	26.69	211017	7.8743	8.9039
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.93	80998	2.0041	2.2661
41)	Phenanthrene	24.75	885940	20.1821	22.8208
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.65	458099	10.4357	11.8001
50)	C2-Phenanthrenes/Anthracenes	28.15	470626	10.7211	12.1228
51)	C3-Phenanthrenes/Anthracenes	29.88	238782	5.4396	6.1507
52)	C4-Phenanthrenes/Anthracenes	30.60	187416	4.2694	4.8276
34)	Dibenzothiophene	24.34	143967	4.0232	4.5493
35)+36)+37)	C1-Dibenzothiophenes	26.13	165314	4.6198	5.2238
38)	C2-Dibenzothiophenes	27.56	192388	5.3764	6.0793
39)	C3-Dibenzothiophenes	28.73	185764	5.1913	5.8700
40)	C4-Dibenzothiophenes	30.15	90113	2.5183	2.8475
58)	Fluoranthene	28.84	655071	13.7983	15.6024
59)	Pyrene	29.63	432955	8.7092	9.8478
62)	C1-Fluoranthenes/Pyrenes	30.78	414895	8.7393	9.8819
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.69	258730	5.1774	5.8543
68)	Chrysene/Triphenylene	33.81	457557	10.1696	11.4992
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.22	609656	11.8073	13.3510
78)	Benzo(k,j)fluoranthene	37.26	198508	4.0828	4.6166
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.19	277176	5.3220	6.0179
81)	Benzo(a)pyrene	38.39	172249	3.5563	4.0212
89)	Perylene	38.70	8729850	177.5516	200.7653
82)	Indeno(1,2,3-c,d)pyrene	43.04	247741	4.6060	5.2082
83)	Dibenzo(a,h)anthracene	43.11	71222	1.7164	1.9408
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.41	203808	4.2432	4.7980

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	138569	5.5891	6.3198
10)	1-Methylnaphthalene	16.38	75894	3.2619	3.6884
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	25.83	75079	2.4373	2.7560
36)	2/3-Methyldibenzothiophene	26.10	68602	2.2271	2.5182
37)	1-Methyldibenzothiophene	26.45	21633	0.7023	0.7941
43)	3-Methylphenanthrene	26.41	106559	3.1784	3.5940
44)	2-Methylphenanthrene	26.52	128014	3.8184	4.3176
45)	2-Methylanthracene	26.66	102880	3.0687	3.4699
46)	4/9-Methylphenanthrene	26.80	59290	1.7685	1.9997
47)	1-Methylphenanthrene	26.86	61356	1.8301	2.0694
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.74	556529	15.22	92.31
21)	Acenaphthene-d10	19.59	283155	13.72	83.21
32)	Phenanthrene-d10	24.68	484438	14.59	88.44
66)	Chrysene-d12	33.73	631945	14.40	87.35
88)	Perylene-d12	38.62	410115	9.52	57.75
90)	5(b)H-Cholane	34.16	121597	16.70	101.32
	Internal Standards				
1)	Fluorene-d10	21.37	345277	16.55	
31)	Pyrene-d10	29.57	683663	16.52	
73)	Benzo(a)pyrene-d12	38.31	563783	16.50	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1651.D
Acq On : 30 Aug 2013 10:28 am
Operator : YM
Sample : SED-DA-016 (0.5-1.0)
Misc :
ALS Vial : 12 Sample Multiplier: 0.06592

Quant Time: Sep 02 15:47:40 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	345277m	251.05	0.00
31) Pyrene-d10	29.565	212	683663m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	563783m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.738	136	556529m	15.22	0.00
21) Acenaphthene-d10	19.588	164	283155m	13.72	0.00
32) Phenanthrene-d10	24.683	188	484438m	14.59	0.00
66) Chrysene-d12	33.731	240	631945m	14.40	0.00
88) Perylene-d12	38.619	264	410115m	9.52	0.00
90) 5(b)H-Cholane	34.158	217	121597m	16.70	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	0.000		0	N.D. d	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	223780m	5.99	
9) 2-Methylnaphthalene	16.051	142	138569m	5.59	
10) 1-Methylnaphthalene	16.385	142	75894m	3.26	
11) 2,6-Dimethylnaphthalene	0.000		0	N.D. d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D. d	
13) C2-Naphthalenes	18.418	156	556755m	14.89	
14) C3-Naphthalenes	20.340	170	440693m	11.79	
15) C4-Naphthalenes	22.736	184	789220m	21.11	
16) Benzothiophene	0.000		0	N.D. d	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	0.000		0	N.D. d	
23) Acenaphthylene	19.115	152	66232m	1.87	
24) Acenaphthene	19.700	154	335318m	15.34	
25) Dibenzofuran	0.000		0	N.D. d	
26) Fluorene	21.455	166	560049m	20.90	
27) 1-Methylfluorene	0.000		0	N.D. d	
28) C1-Fluorenes	23.436	180	108346m	4.04	
29) C2-Fluorenes	25.306	194	107255m	4.00	
30) C3-Fluorenes	26.691	208	211017m	7.87	
33) Carbazole	0.000		0	N.D. d	
34) Dibenzothiophene	24.337	184	143967m	4.02	
35) 4-Methyldibenzothiophene	25.826	198	75079m	2.44	
36) 2/3-Methyldibenzothiop...	26.103	198	68602m	2.23	
37) 1-Methyldibenzothiophene	26.449	198	21633m	0.70	
38) C2-Dibenzothiophenes	27.557	212	192388m	5.38	
39) C3-Dibenzothiophenes	28.734	226	185764m	5.19	
40) C4-Dibenzothiophenes	30.154	240	90113m	2.52	
41) Phenanthrene	24.752	178	885940m	20.18	
42) Anthracene	24.925	178	80998m	2.00	
43) 3-Methylphenanthrene	26.414	192	106559m	3.18	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1651.D
Acq On : 30 Aug 2013 10:28 am
Operator : YM
Sample : SED-DA-016 (0.5-1.0)
Misc :
ALS Vial : 12 Sample Multiplier: 0.06592

Quant Time: Sep 02 15:47:40 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Methylphenanthrene	26.518	192	128014m	3.82	
45) 2-Methylanthracene	26.657	192	102880m	3.07	
46) 4/9-Methylphenanthrene	26.795	192	59290m	1.77	
47) 1-Methylphenanthrene	26.864	192	61356m	1.83	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D. d	
49) Retene	0.000		0	N.D. d	
50) C2-Phenanthrenes/Anthr...	28.146	206	470626m	10.72	
51) C3-Phenanthrenes/Anthr...	29.877	220	238782m	5.44	
52) C4-Phenanthrenes/Anthr...	30.604	234	187416m	4.27	
53) Naphthobenzothiophene	0.000		0	N.D. d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.838	202	655071m	13.80	
59) Pyrene	29.635	202	432955m	8.71	
60) 2-Methylfluoranthene	0.000		0	N.D. d	
61) Benzo(b)fluorene	0.000		0	N.D. d	
62) C1-Fluoranthenes/Pyrenes	30.777	216	414895m	8.74	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	33.692	228	258730m	5.18	
68) Chrysene/Triphenylene	33.809	228	457557m	10.17	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	0.000		0	N.D. d	
77) Benzo(b)fluoranthene	37.222	252	609656m	11.81	
78) Benzo(k,j)fluoranthene	37.261	252	198508m	4.08	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.192	252	277176m	5.32	
81) Benzo(a)pyrene	38.386	252	172249m	3.56	
82) Indeno(1,2,3-c,d)pyrene	43.041	276	247741m	4.61	
83) Dibenzo(a,h)anthracene	43.115	278	71222m	1.72	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.405	276	203808m	4.24	
89) Perylene	38.697	252	8729845m	177.55	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D. d	
95) C28(20S)-TAS	0.000		0	N.D. d	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1651.D
Acq On : 30 Aug 2013 10:28 am
Operator : YM
Sample : SED-DA-016 (0.5-1.0)
Misc :
ALS Vial : 12 Sample Multiplier: 0.06592

Quant Time: Sep 02 15:47:40 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

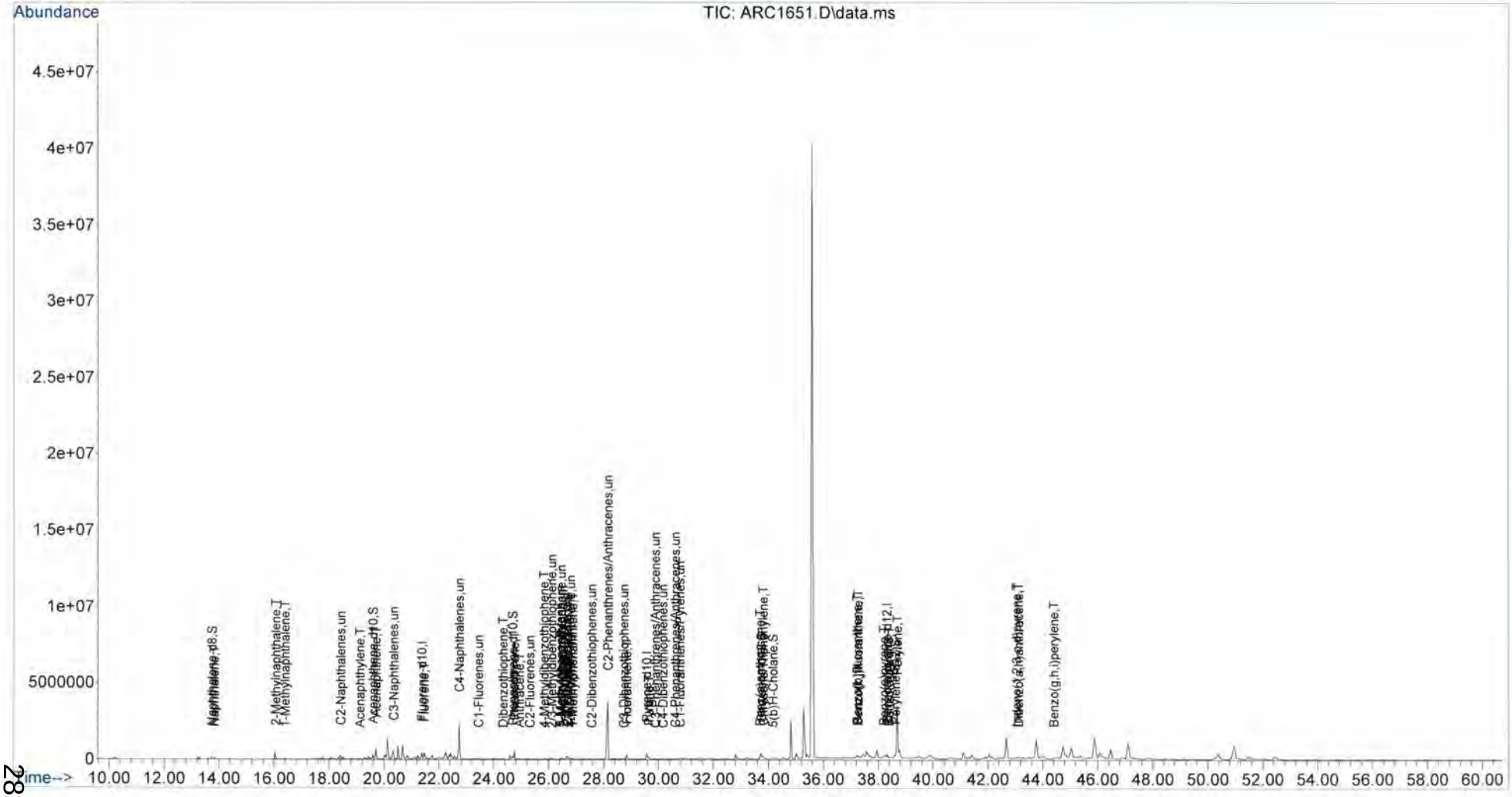
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1651.D
Acq On : 30 Aug 2013 10:28 am
Operator : YM
Sample : SED-DA-016 (0.5-1.0)
Misc :
ALS Vial : 12 Sample Multiplier: 0.06592

Quant Time: Sep 02 15:47:40 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration



Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name ARC1654.D
Data File Path C:\msdchem\2\data\MS70060\
Operator YM
Date Acquired 8/30/2013 12:45
Acq. Method File PAH-2012.M
Sample Name SED-DA-008 (0.5-1.0)
Misc Info 0
Instrument Name GCMSD
Vial Number 14
Sample Multiplier 0.06649
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

ARC1654.D
SED-DA-008 (0.5-1.0)
8/30/2013
PAH-2012.M
15.03985562

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.82	20633	0.7326	0.7799
9)+10)	C1-Naphthalenes	16.22	17302	0.6144	0.6540
13)	C2-Naphthalenes	18.20	21309	0.7566	0.8054
14)	C3-Naphthalenes	20.09	25631	0.9101	0.9688
15)	C4-Naphthalenes	0.00	0	0.0000	0.0000
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	19.12	659	0.0248	0.0263
24)	Acenaphthene	19.64	861	0.0523	0.0557
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.48	17906	0.8870	0.9442
28)	C1-Fluorenes	23.44	5693	0.2820	0.3002
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.93	3564	0.1185	0.1261
41)	Phenanthrene	24.75	96333	2.9484	3.1385
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	7737	0.2905	0.3092
35)+36)+37)	C1-Dibenzothiophenes	26.14	9241	0.3470	0.3693
38)	C2-Dibenzothiophenes	27.90	15265	0.5731	0.6101
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.84	29765	0.8424	0.8967
59)	Pyrene	29.63	10064	0.2720	0.2895
62)	C1-Fluoranthenes/Pyrenes	30.78	13530	0.3829	0.4076
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.69	7180	0.1930	0.2055
68)	Chrysene/Triphenylene	33.81	15270	0.4560	0.4854
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.22	20621	0.5072	0.5399
78)	Benzo(k,j)fluoranthene	37.26	8729	0.2280	0.2427
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.19	14192	0.3461	0.3684
81)	Benzo(a)pyrene	38.39	2444	0.0641	0.0682
89)	Perylene	0.00	0	0.0000	0.0000
82)	Indeno(1,2,3-c,d)pyrene	43.04	8735	0.2062	0.2195
83)	Dibenzo(a,h)anthracene	43.11	1812	0.0555	0.0590
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.41	6495	0.1717	0.1828

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	12916	0.6916	0.7362
10)	1-Methylnaphthalene	16.39	4386	0.2503	0.2664
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	25.83	4273	0.1864	0.1984
36)	2/3-Methyldibenzothiophene	26.14	2753	0.1201	0.1278
37)	1-Methyldibenzothiophene	26.45	2215	0.0966	0.1028
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	0.00	0	0.0000	0.0000
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.74	354463	12.87	77.39
21)	Acenaphthene-d10	19.59	134622	8.66	52.07
32)	Phenanthrene-d10	24.68	386324	15.63	93.94
66)	Chrysene-d12	33.73	461848	14.14	85.03
88)	Perylene-d12	38.58	5429	0.16	0.96
90)	5(b)H-Cholane	34.16	93558	16.32	98.15
	Internal Standards				
1)	Fluorene-d10	21.37	262335	16.69	
31)	Pyrene-d10	29.57	513246	16.66	
73)	Benzo(a)pyrene-d12	38.31	447761	16.64	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1654.D
Acq On : 30 Aug 2013 12:45 pm
Operator : YM
Sample : SED-DA-008 (0.5-1.0)
Misc :
ALS Vial : 14 Sample Multiplier: 0.06649

Quant Time: Sep 02 15:53:26 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	262335m	251.05	0.00
31) Pyrene-d10	29.566	212	513246m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	447761m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.739	136	354463m	12.87	0.00
21) Acenaphthene-d10	19.589	164	134622m	8.66	0.00
32) Phenanthrene-d10	24.683	188	386324m	15.63	0.00
66) Chrysene-d12	33.731	240	461848m	14.14	0.00
88) Perylene-d12	38.581	264	5429m	0.16	-0.04
90) 5(b)H-Cholane	34.158	217	93558m	16.32	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	0.000		0	N.D. d	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	20633m	0.73	
9) 2-Methylnaphthalene	16.051	142	12916m	0.69	
10) 1-Methylnaphthalene	16.385	142	4386m	0.25	
11) 2,6-Dimethylnaphthalene	0.000		0	N.D. d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D. d	
13) C2-Naphthalenes	18.196	156	21309m	0.76	
14) C3-Naphthalenes	20.090	170	25631m	0.91	
15) C4-Naphthalenes	0.000		0	N.D. d	
16) Benzothiophene	0.000		0	N.D. d	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	0.000		0	N.D. d	
23) Acenaphthylene	19.115	152	659m	0.02	
24) Acenaphthene	19.644	154	861m	0.05	
25) Dibenzofuran	0.000		0	N.D. d	
26) Fluorene	21.483	166	17906m	0.89	
27) 1-Methylfluorene	0.000		0	N.D. d	
28) C1-Fluorenes	23.436	180	5693m	0.28	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	0.000		0	N.D. d	
34) Dibenzothiophene	24.337	184	7737m	0.29	
35) 4-Methyldibenzothiophene	25.826	198	4273m	0.19	
36) 2/3-Methyldibenzothiop...	26.137	198	2753m	0.12	
37) 1-Methyldibenzothiophene	26.449	198	2215m	0.10	
38) C2-Dibenzothiophenes	27.903	212	15265m	0.57	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	96333m	2.95	
42) Anthracene	24.925	178	3564m	0.12	
43) 3-Methylphenanthrene	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1654.D
Acq On : 30 Aug 2013 12:45 pm
Operator : YM
Sample : SED-DA-008 (0.5-1.0)
Misc :
ALS Vial : 14 Sample Multiplier: 0.06649

Quant Time: Sep 02 15:53:26 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	0.000		0	N.D. d	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D. d	
49) Retene	0.000		0	N.D. d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53) Naphthobenzothiophene	0.000		0	N.D. d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.838	202	29765m	0.84	
59) Pyrene	29.635	202	10064m	0.27	
60) 2-Methylfluoranthene	0.000		0	N.D. d	
61) Benzo(b)fluorene	0.000		0	N.D. d	
62) C1-Fluoranthenes/Pyrenes	30.778	216	13530m	0.38	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	33.692	228	7180m	0.19	
68) Chrysene/Triphenylene	33.809	228	15270m	0.46	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	0.000		0	N.D. d	
77) Benzo(b)fluoranthene	37.223	252	20621m	0.51	
78) Benzo(k,j)fluoranthene	37.261	252	8729m	0.23	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.193	252	14192m	0.35	
81) Benzo(a)pyrene	38.387	252	2444m	0.06	
82) Indeno(1,2,3-c,d)pyrene	43.041	276	8735m	0.21	
83) Dibenzo(a,h)anthracene	43.115	278	1812m	0.06	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	
87) Benzo(g,h,i)perylene	44.405	276	6495m	0.17	
89) Perylene	0.000		0	N.D. d	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D. d	
95) C28(20S)-TAS	0.000		0	N.D. d	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1654.D
Acq On : 30 Aug 2013 12:45 pm
Operator : YM
Sample : SED-DA-008 (0.5-1.0)
Misc :
ALS Vial : 14 Sample Multiplier: 0.06649

Quant Time: Sep 02 15:53:26 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

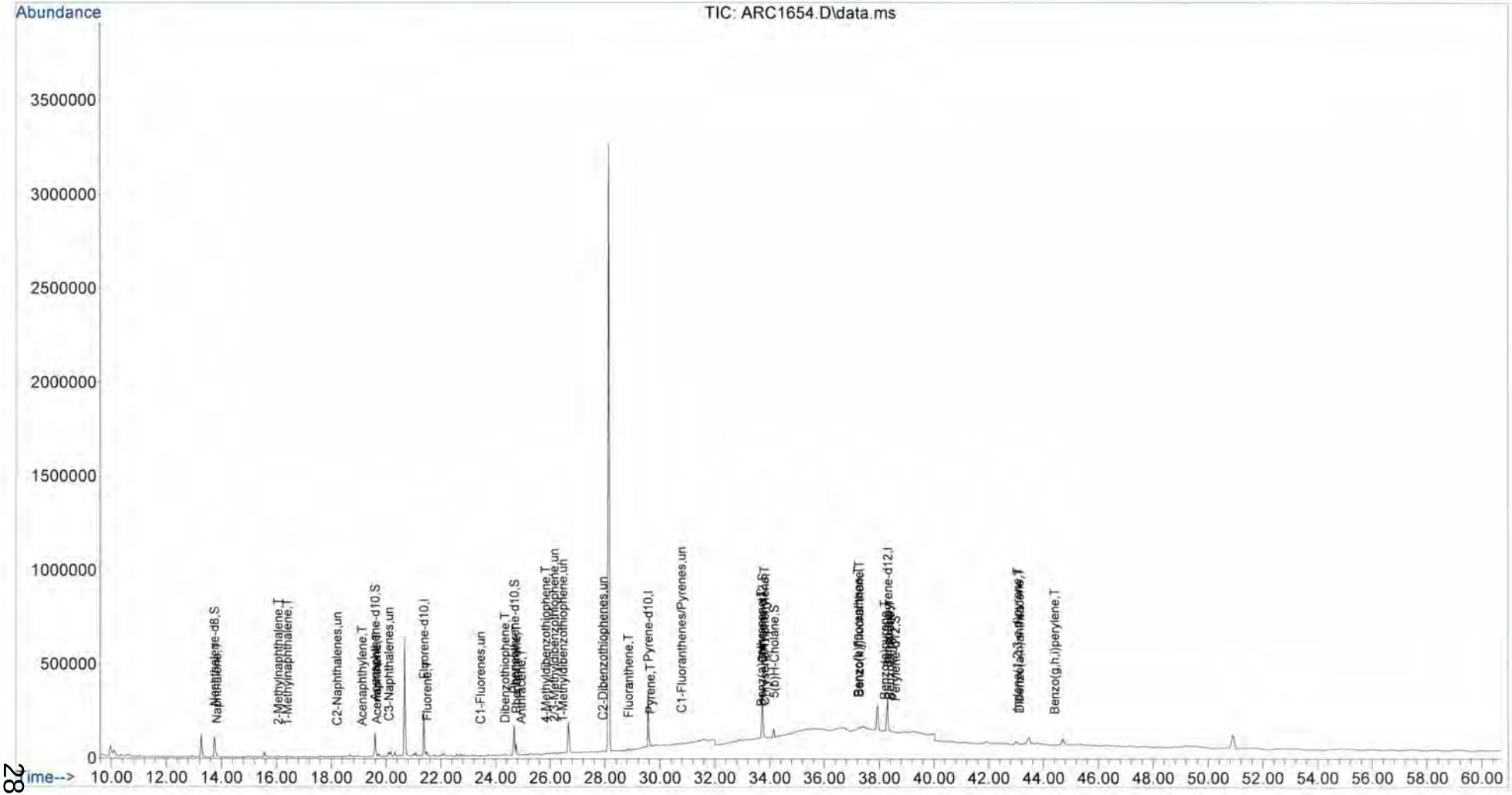
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1654.D
Acq On : 30 Aug 2013 12:45 pm
Operator : YM
Sample : SED-DA-008 (0.5-1.0)
Misc :
ALS Vial : 14 Sample Multiplier: 0.06649

Quant Time: Sep 02 15:53:26 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration



Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name ARC1655.D
Data File Path C:\msdchem\2\data\MS70060\
Operator YM
Date Acquired 8/30/2013 13:54
Acq. Method File PAH-2012.M
Sample Name SED-DA-008 (1.0-1.5)
Misc Info 0
Instrument Name GCMSD
Vial Number 15
Sample Multiplier 0.06667
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

ARC1655.D
SED-DA-008 (1.0-1.5)
8/30/2013
PAH-2012.M
14.99925004

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.82	22089	0.9498	1.0344
9)+10)	C1-Naphthalenes	16.22	17604	0.7569	0.8244
13)	C2-Naphthalenes	18.20	12173	0.5234	0.5701
14)	C3-Naphthalenes	20.09	12823	0.5514	0.6005
15)	C4-Naphthalenes	0.00	0	0.0000	0.0000
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	0.00	0	0.0000	0.0000
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.48	19299	1.1577	1.2609
28)	C1-Fluorenes	23.44	5273	0.3163	0.3445
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	0.00	0	0.0000	0.0000
41)	Phenanthrene	24.75	82587	2.7233	2.9660
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	6794	0.2748	0.2993
35)+36)+37)	C1-Dibenzothiophenes	26.14	8148	0.3296	0.3590
38)	C2-Dibenzothiophenes	27.90	9331	0.3775	0.4111
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.84	10405	0.3173	0.3455
59)	Pyrene	29.63	1529	0.0445	0.0485
62)	C1-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	0.00	0	0.0000	0.0000
68)	Chrysene/Triphenylene	0.00	0	0.0000	0.0000
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	0.00	0	0.0000	0.0000
78)	Benzo(k,j)fluoranthene	0.00	0	0.0000	0.0000
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	0.00	0	0.0000	0.0000
81)	Benzo(a)pyrene	0.00	0	0.0000	0.0000
89)	Perylene	0.00	0	0.0000	0.0000
82)	Indeno(1,2,3-c,d)pyrene	0.00	0	0.0000	0.0000
83)	Dibenzo(a,h)anthracene	0.00	0	0.0000	0.0000
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	0.00	0	0.0000	0.0000

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	12986	0.8420	0.9171
10)	1-Methylnaphthalene	16.38	4618	0.3191	0.3475
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	25.83	4074	0.1914	0.2085
36)	2/3-Methyldibenzothiophene	26.14	1633	0.0767	0.0836
37)	1-Methyldibenzothiophene	26.45	2441	0.1147	0.1249
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	0.00	0	0.0000	0.0000
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.77	346821	15.25	91.44
21)	Acenaphthene-d10	19.59	121096	9.43	56.56
32)	Phenanthrene-d10	24.68	351410	15.32	91.82
66)	Chrysene-d12	33.73	418900	13.81	82.87
88)	Perylene-d12	38.58	1511	0.05	0.29
90)	5(b)H-Cholane	34.16	80838	15.48	92.89
	Internal Standards				
1)	Fluorene-d10	21.37	217225	16.74	
31)	Pyrene-d10	29.57	477676	16.71	
73)	Benzo(a)pyrene-d12	38.31	408788	16.69	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1655.D
Acq On : 30 Aug 2013 1:54 pm
Operator : YM
Sample : SED-DA-008 (1.0-1.5)
Misc :
ALS Vial : 15 Sample Multiplier: 0.06667

Quant Time: Sep 02 15:58:26 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	217225m	251.05	0.00
31) Pyrene-d10	29.566	212	477676m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	408788m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.766	136	346821m	15.25	0.03
21) Acenaphthene-d10	19.588	164	121096m	9.43	0.00
32) Phenanthrene-d10	24.683	188	351410m	15.32	0.00
66) Chrysene-d12	33.731	240	418900m	13.81	0.00
88) Perylene-d12	38.580	264	1511m	0.05	-0.04
90) 5(b)H-Cholane	34.158	217	80838m	15.48	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	0.000		0	N.D. d	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	22089m	0.95	
9) 2-Methylnaphthalene	16.051	142	12986m	0.84	
10) 1-Methylnaphthalene	16.385	142	4618m	0.32	
11) 2,6-Dimethylnaphthalene	0.000		0	N.D. d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D. d	
13) C2-Naphthalenes	18.196	156	12173m	0.52	
14) C3-Naphthalenes	20.090	170	12823m	0.55	
15) C4-Naphthalenes	0.000		0	N.D. d	
16) Benzothiophene	0.000		0	N.D. d	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	0.000		0	N.D. d	
23) Acenaphthylene	0.000		0	N.D. d	
24) Acenaphthene	0.000		0	N.D. d	
25) Dibenzofuran	0.000		0	N.D. d	
26) Fluorene	21.483	166	19299m	1.16	
27) 1-Methylfluorene	0.000		0	N.D. d	
28) C1-Fluorenes	23.436	180	5273m	0.32	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	0.000		0	N.D. d	
34) Dibenzothiophene	24.337	184	6794m	0.27	
35) 4-Methyldibenzothiophene	25.826	198	4074m	0.19	
36) 2/3-Methyldibenzothiop...	26.137	198	1633m	0.08	
37) 1-Methyldibenzothiophene	26.449	198	2441m	0.11	
38) C2-Dibenzothiophenes	27.903	212	9331m	0.38	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	82587m	2.72	
42) Anthracene	0.000		0	N.D. d	
43) 3-Methylphenanthrene	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1655.D
Acq On : 30 Aug 2013 1:54 pm
Operator : YM
Sample : SED-DA-008 (1.0-1.5)
Misc :
ALS Vial : 15 Sample Multiplier: 0.06667

Quant Time: Sep 02 15:58:26 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	0.000		0	N.D. d	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D. d	
49) Retene	0.000		0	N.D. d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53) Naphthobenzothiophene	0.000		0	N.D. d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.838	202	10405m	0.32	
59) Pyrene	29.635	202	1529m	0.04	
60) 2-Methylfluoranthene	0.000		0	N.D. d	
61) Benzo(b)fluorene	0.000		0	N.D. d	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	0.000		0	N.D. d	
68) Chrysene/Triphenylene	0.000		0	N.D. d	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	0.000		0	N.D. d	
77) Benzo(b)fluoranthene	0.000		0	N.D. d	
78) Benzo(k,j)fluoranthene	0.000		0	N.D. d	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	0.000		0	N.D. d	
81) Benzo(a)pyrene	0.000		0	N.D. d	
82) Indeno(1,2,3-c,d)pyrene	0.000		0	N.D. d	
83) Dibenzo(a,h)anthracene	0.000		0	N.D. d	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	0.000		0	N.D. d	
89) Perylene	0.000		0	N.D. d	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D. d	
95) C28(20S)-TAS	0.000		0	N.D. d	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1655.D
Acq On : 30 Aug 2013 1:54 pm
Operator : YM
Sample : SED-DA-008 (1.0-1.5)
Misc :
ALS Vial : 15 Sample Multiplier: 0.06667

Quant Time: Sep 02 15:58:26 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

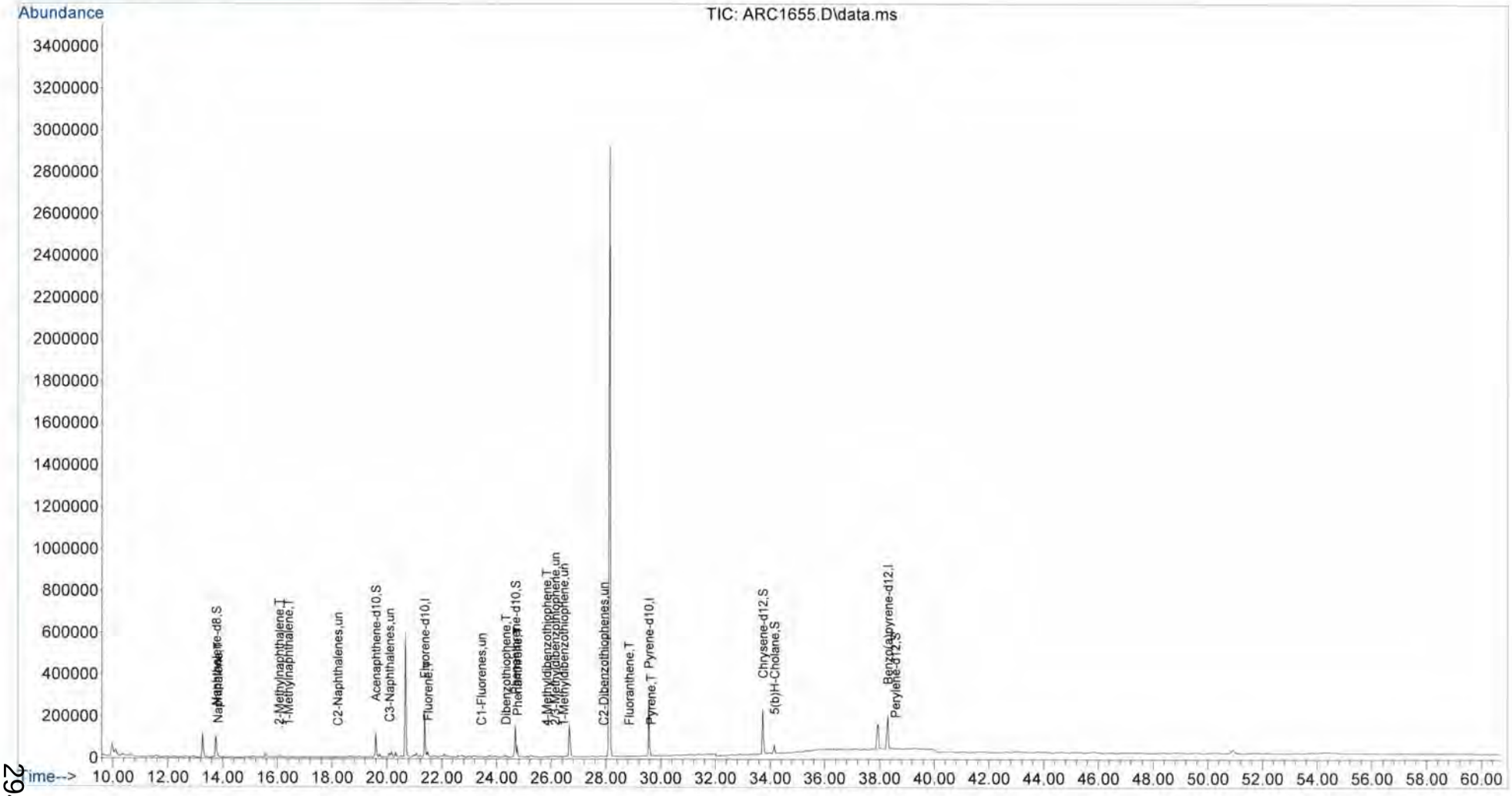
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1655.D
Acq On : 30 Aug 2013 1:54 pm
Operator : YM
Sample : SED-DA-008 (1.0-1.5)
Misc :
ALS Vial : 15 Sample Multiplier: 0.06667

Quant Time: Sep 02 15:58:26 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration



Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name ARC1656.D
Data File Path C:\msdchem\2\data\MS70060\
Operator YM
Date Acquired 8/30/2013 15:02
Acq. Method File PAH-2012.M
Sample Name SED-DA-007 (0.5-1.0)
Misc Info 0
Instrument Name GCMSD
Vial Number 16
Sample Multiplier 0.06566
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

ARC1656.D
SED-DA-007 (0.5-1.0)
8/30/2013
PAH-2012.M
15.22997259

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.82	21131	0.8035	0.8780
9)+10)	C1-Naphthalenes	16.23	24432	0.9290	1.0152
13)	C2-Naphthalenes	18.20	37418	1.4228	1.5547
14)	C3-Naphthalenes	20.09	25379	0.9650	1.0545
15)	C4-Naphthalenes	0.00	0	0.0000	0.0000
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	0.00	0	0.0000	0.0000
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.48	23717	1.2582	1.3749
28)	C1-Fluorenes	23.44	8770	0.4652	0.5084
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	0.00	0	0.0000	0.0000
41)	Phenanthrene	24.75	96032	3.1439	3.4355
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	7197	0.2890	0.3158
35)+36)+37)	C1-Dibenzothiophenes	26.14	9442	0.3792	0.4144
38)	C2-Dibenzothiophenes	27.90	9618	0.3863	0.4221
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.84	10555	0.3195	0.3491
59)	Pyrene	29.63	1330	0.0384	0.0420
62)	C1-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	0.00	0	0.0000	0.0000
68)	Chrysene/Triphenylene	0.00	0	0.0000	0.0000
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	0.00	0	0.0000	0.0000
78)	Benzo(k,j)fluoranthene	0.00	0	0.0000	0.0000
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	0.00	0	0.0000	0.0000
81)	Benzo(a)pyrene	0.00	0	0.0000	0.0000
89)	Perylene	0.00	0	0.0000	0.0000
82)	Indeno(1,2,3-c,d)pyrene	0.00	0	0.0000	0.0000
83)	Dibenzo(a,h)anthracene	0.00	0	0.0000	0.0000
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	0.00	0	0.0000	0.0000

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.08	16947	0.9717	1.0619
10)	1-Methylnaphthalene	16.38	7485	0.4573	0.4998
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	25.83	5130	0.2393	0.2615
36)	2/3-Methyldibenzothiophene	26.14	2053	0.0958	0.1047
37)	1-Methyldibenzothiophene	26.45	2259	0.1054	0.1152
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	0.00	0	0.0000	0.0000
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.77	336858	13.10	79.75
21)	Acenaphthene-d10	19.59	178144	12.27	74.72
32)	Phenanthrene-d10	24.68	347439	15.03	91.51
66)	Chrysene-d12	33.73	405896	13.29	80.94
88)	Perylene-d12	38.58	2646	0.09	0.54
90)	5(b)H-Cholane	34.16	79483	15.70	95.66
	Internal Standards				
1)	Fluorene-d10	21.37	241920	16.48	
31)	Pyrene-d10	29.57	473847	16.46	
73)	Benzo(a)pyrene-d12	38.31	390310	16.44	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1656.D
Acq On : 30 Aug 2013 3:02 pm
Operator : YM
Sample : SED-DA-007 (0.5-1.0)
Misc :
ALS Vial : 16 Sample Multiplier: 0.06566

Quant Time: Sep 02 16:02:44 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	241920m	251.05	0.00
31) Pyrene-d10	29.565	212	473847m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	390310m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.766	136	336858m	13.10	0.03
21) Acenaphthene-d10	19.588	164	178144m	12.27	0.00
32) Phenanthrene-d10	24.683	188	347439m	15.03	0.00
66) Chrysene-d12	33.731	240	405896m	13.29	0.00
88) Perylene-d12	38.580	264	2646m	0.09	-0.04
90) 5(b)H-Cholane	34.158	217	79483m	15.70	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	0.000		0	N.D. d	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	21131m	0.80	
9) 2-Methylnaphthalene	16.078	142	16947m	0.97	
10) 1-Methylnaphthalene	16.385	142	7485m	0.46	
11) 2,6-Dimethylnaphthalene	0.000		0	N.D. d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D. d	
13) C2-Naphthalenes	18.196	156	37418m	1.42	
14) C3-Naphthalenes	20.090	170	25379m	0.97	
15) C4-Naphthalenes	0.000		0	N.D. d	
16) Benzothiophene	0.000		0	N.D. d	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	0.000		0	N.D. d	
23) Acenaphthylene	0.000		0	N.D. d	
24) Acenaphthene	0.000		0	N.D. d	
25) Dibenzofuran	0.000		0	N.D. d	
26) Fluorene	21.483	166	23717m	1.26	
27) 1-Methylfluorene	0.000		0	N.D. d	
28) C1-Fluorenes	23.436	180	8770m	0.47	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	0.000		0	N.D. d	
34) Dibenzothiophene	24.337	184	7197m	0.29	
35) 4-Methyldibenzothiophene	25.826	198	5130m	0.24	
36) 2/3-Methyldibenzothiop...	26.137	198	2053m	0.10	
37) 1-Methyldibenzothiophene	26.449	198	2259m	0.11	
38) C2-Dibenzothiophenes	27.903	212	9618m	0.39	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	96032m	3.14	
42) Anthracene	0.000		0	N.D. d	
43) 3-Methylphenanthrene	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1656.D
Acq On : 30 Aug 2013 3:02 pm
Operator : YM
Sample : SED-DA-007 (0.5-1.0)
Misc :
ALS Vial : 16 Sample Multiplier: 0.06566

Quant Time: Sep 02 16:02:44 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	0.000		0	N.D. d	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D. d	
49) Retene	0.000		0	N.D. d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53) Naphthobenzothiophene	0.000		0	N.D. d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.838	202	10555m	0.32	
59) Pyrene	29.635	202	1330m	0.04	
60) 2-Methylfluoranthene	0.000		0	N.D. d	
61) Benzo(b)fluorene	0.000		0	N.D. d	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	0.000		0	N.D. d	
68) Chrysene/Triphenylene	0.000		0	N.D. d	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	0.000		0	N.D. d	
77) Benzo(b)fluoranthene	0.000		0	N.D. d	
78) Benzo(k,j)fluoranthene	0.000		0	N.D. d	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	0.000		0	N.D. d	
81) Benzo(a)pyrene	0.000		0	N.D. d	
82) Indeno(1,2,3-c,d)pyrene	0.000		0	N.D. d	
83) Dibenzo(a,h)anthracene	0.000		0	N.D. d	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	0.000		0	N.D. d	
89) Perylene	0.000		0	N.D. d	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D. d	
95) C28(20S)-TAS	0.000		0	N.D. d	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1656.D
Acq On : 30 Aug 2013 3:02 pm
Operator : YM
Sample : SED-DA-007 (0.5-1.0)
Misc :
ALS Vial : 16 Sample Multiplier: 0.06566

Quant Time: Sep 02 16:02:44 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

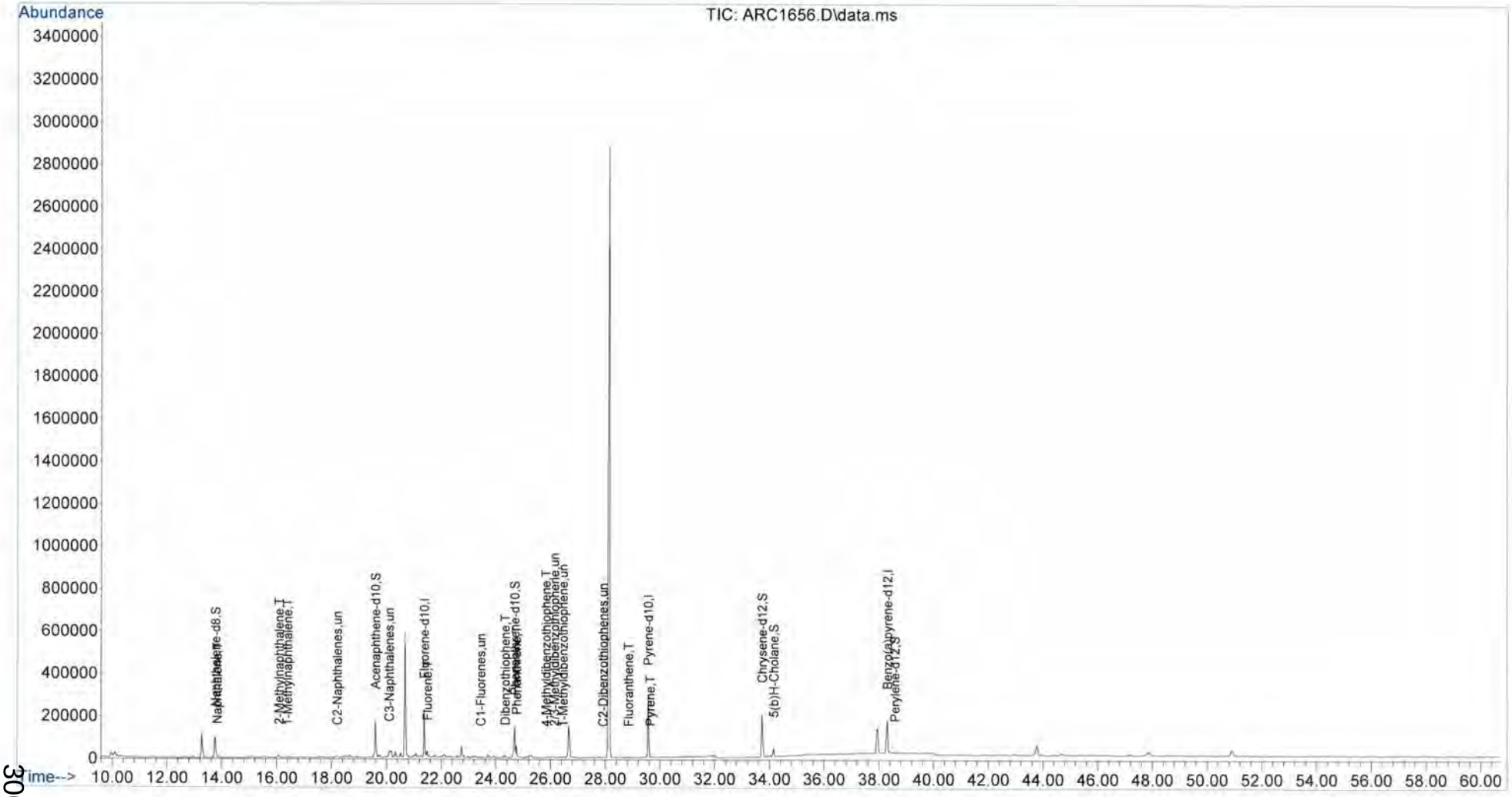
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1656.D
Acq On : 30 Aug 2013 3:02 pm
Operator : YM
Sample : SED-DA-007 (0.5-1.0)
Misc :
ALS Vial : 16 Sample Multiplier: 0.06566

Quant Time: Sep 02 16:02:44 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration



Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name ARC1657.D
Data File Path C:\msdchem\2\data\MS70060\
Operator YM
Date Acquired 8/30/2013 16:11
Acq. Method File PAH-2012.M
Sample Name SED-DA-007 (1.0-1.5)
Misc Info 0
Instrument Name GCMSD
Vial Number 17
Sample Multiplier 0.06575
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

ARC1657.D
SED-DA-007 (1.0-1.5)
8/30/2013
PAH-2012.M
15.20912548

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.82	48183	1.9739	2.0612
9)+10)	C1-Naphthalenes	16.22	118803	4.8671	5.0822
13)	C2-Naphthalenes	18.42	313485	12.8427	13.4104
14)	C3-Naphthalenes	20.79	495450	20.2973	21.1946
15)	C4-Naphthalenes	22.76	553579	22.6787	23.6812
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	19.11	5596	0.2425	0.2532
24)	Acenaphthene	19.70	2445	0.1713	0.1789
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.48	52069	2.9760	3.1076
28)	C1-Fluorenes	23.44	130949	7.4845	7.8153
29)	C2-Fluorenes	25.27	359362	20.5395	21.4475
30)	C3-Fluorenes	27.49	446951	25.5457	26.6750
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	0.00	0	0.0000	0.0000
41)	Phenanthrene	24.75	303489	9.8273	10.2618
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.65	687274	22.2547	23.2385
50)	C2-Phenanthrenes/Anthracenes	28.32	1340520	43.4074	45.3263
51)	C3-Phenanthrenes/Anthracenes	29.88	1244770	40.3071	42.0890
52)	C4-Phenanthrenes/Anthracenes	31.71	872881	28.2649	29.5144
34)	Dibenzothiophene	24.34	125984	5.0045	5.2257
35)+36)+37)	C1-Dibenzothiophenes	26.14	574595	22.8247	23.8337
38)	C2-Dibenzothiophenes	27.90	1103530	43.8355	45.7733
39)	C3-Dibenzothiophenes	28.73	1381350	54.8715	57.2972
40)	C4-Dibenzothiophenes	29.74	845991	33.6054	35.0910
58)	Fluoranthene	28.84	77507	2.3206	2.4232
59)	Pyrene	29.63	126220	3.6090	3.7686
62)	C1-Fluoranthenes/Pyrenes	31.12	248335	7.4354	7.7641
63)	C2-Fluoranthenes/Pyrenes	32.26	388465	11.6311	12.1453
64)	C3-Fluoranthenes/Pyrenes	33.93	207638	6.2169	6.4917
65)	C4-Fluoranthenes/Pyrenes	35.09	224280	6.7152	7.0120
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.69	31612	0.8992	0.9389
68)	Chrysene/Triphenylene	33.81	121145	3.8273	3.9965
69)	C1-Chrysenes	35.05	297963	9.4135	9.8296
70)	C2-Chrysenes	36.83	416958	13.1729	13.7553
71)	C3-Chrysenes	38.00	301971	9.5401	9.9619
72)	C4-Chrysenes	39.36	151521	4.7870	4.9986
77)	Benzo(b)fluoranthene	37.22	96351	2.6670	2.7849
78)	Benzo(k,j)fluoranthene	37.34	16741	0.4921	0.5139
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.19	86966	2.3866	2.4921
81)	Benzo(a)pyrene	38.39	21236	0.6266	0.6543
89)	Perylene	38.70	6274	0.1824	0.1904
82)	Indeno(1,2,3-c,d)pyrene	43.04	31338	0.8327	0.8695
83)	Dibenzo(a,h)anthracene	43.11	13273	0.4572	0.4774
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.41	57386	1.7076	1.7831

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	80456	4.9704	5.1901
10)	1-Methylnaphthalene	16.38	38347	2.5244	2.6360
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	25.83	251499	11.6054	12.1184
36)	2/3-Methyldibenzothiophene	26.14	177161	8.1751	8.5365
37)	1-Methyldibenzothiophene	26.45	145935	6.7342	7.0319
43)	3-Methylphenanthrene	26.41	141768	6.0107	6.2764
44)	2-Methylphenanthrene	26.52	151312	6.4154	6.6990
45)	2-Methylanthracene	26.66	68305	2.8960	3.0240
46)	4/9-Methylphenanthrene	26.80	179199	7.5977	7.9336
47)	1-Methylphenanthrene	26.86	146690	6.2194	6.4943
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.74	335051	14.04	85.34
21)	Acenaphthene-d10	19.59	200040	14.85	90.27
32)	Phenanthrene-d10	24.68	368098	15.75	95.77
66)	Chrysene-d12	33.73	406918	13.18	80.15
88)	Perylene-d12	38.62	10279	0.34	2.07
90)	5(b)H-Cholane	34.16	77972	15.30	93.09
	Internal Standards				
1)	Fluorene-d10	21.37	224846	16.51	
31)	Pyrene-d10	29.57	479723	16.48	
73)	Benzo(a)pyrene-d12	38.31	393450	16.46	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1657.D
Acq On : 30 Aug 2013 4:11 pm
Operator : YM
Sample : SED-DA-007 (1.0-1.5)
Misc :
ALS Vial : 17 Sample Multiplier: 0.06575

Quant Time: Sep 02 21:29:02 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	224846m	251.05	0.00
31) Pyrene-d10	29.566	212	479723m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	393450m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.739	136	335051m	14.04	0.00
21) Acenaphthene-d10	19.588	164	200040m	14.85	0.00
32) Phenanthrene-d10	24.683	188	368098m	15.75	0.00
66) Chrysene-d12	33.731	240	406918m	13.18	0.00
88) Perylene-d12	38.619	264	10279m	0.34	0.00
90) 5(b)H-Cholane	34.158	217	77972m	15.30	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	0.000		0	N.D. d	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	48183m	1.97	
9) 2-Methylnaphthalene	16.051	142	80456m	4.97	
10) 1-Methylnaphthalene	16.385	142	38347m	2.52	
11) 2,6-Dimethylnaphthalene	0.000		0	N.D. d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D. d	
13) C2-Naphthalenes	18.418	156	313485m	12.84	
14) C3-Naphthalenes	20.786	170	495450m	20.30	
15) C4-Naphthalenes	22.764	184	553579m	22.68	
16) Benzothiophene	0.000		0	N.D. d	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	0.000		0	N.D. d	
23) Acenaphthylene	19.115	152	5596m	0.24	
24) Acenaphthene	19.700	154	2445m	0.17	
25) Dibenzofuran	0.000		0	N.D. d	
26) Fluorene	21.483	166	52069m	2.98	
27) 1-Methylfluorene	0.000		0	N.D. d	
28) C1-Fluorenes	23.436	180	130949m	7.48	
29) C2-Fluorenes	25.272	194	359362m	20.54	
30) C3-Fluorenes	27.488	208	446951m	25.55	
33) Carbazole	0.000		0	N.D. d	
34) Dibenzothiophene	24.337	184	125984m	5.00	
35) 4-Methyldibenzothiophene	25.826	198	251499m	11.61	
36) 2/3-Methyldibenzothiop...	26.137	198	177161m	8.18	
37) 1-Methyldibenzothiophene	26.449	198	145935m	6.73	
38) C2-Dibenzothiophenes	27.903	212	1103527m	43.84	
39) C3-Dibenzothiophenes	28.734	226	1381351m	54.87	
40) C4-Dibenzothiophenes	29.739	240	845991m	33.61	
41) Phenanthrene	24.752	178	303489m	9.83	
42) Anthracene	0.000		0	N.D. d	
43) 3-Methylphenanthrene	26.414	192	141768m	6.01	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1657.D
Acq On : 30 Aug 2013 4:11 pm
Operator : YM
Sample : SED-DA-007 (1.0-1.5)
Misc :
ALS Vial : 17 Sample Multiplier: 0.06575

Quant Time: Sep 02 21:29:02 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units Dev(Min)
44) 2-Methylphenanthrene	26.518	192	151312m	6.42
45) 2-Methylanthracene	26.657	192	68305m	2.90
46) 4/9-Methylphenanthrene	26.795	192	179199m	7.60
47) 1-Methylphenanthrene	26.865	192	146690m	6.22
48) 3,6-Dimethylphenanthrene	0.000		0	N.D. d
49) Retene	0.000		0	N.D. d
50) C2-Phenanthrenes/Anthr...	28.319	206	1340515m	43.41
51) C3-Phenanthrenes/Anthr...	29.877	220	1244772m	40.31
52) C4-Phenanthrenes/Anthr...	31.712	234	872881m	28.26
53) Naphthobenzothiophene	0.000		0	N.D. d
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d
58) Fluoranthene	28.838	202	77507m	2.32
59) Pyrene	29.635	202	126220m	3.61
60) 2-Methylfluoranthene	0.000		0	N.D. d
61) Benzo(b)fluorene	0.000		0	N.D. d
62) C1-Fluoranthenes/Pyrenes	31.124	216	248335m	7.44
63) C2-Fluoranthenes/Pyrenes	32.257	230	388465m	11.63
64) C3-Fluoranthenes/Pyrenes	33.925	244	207638m	6.22
65) C4-Fluoranthenes/Pyrenes	35.089	258	224280m	6.72
67) Benz(a)anthracene	33.692	228	31612m	0.90
68) Chrysene/Triphenylene	33.809	228	121145m	3.83
69) C1-Chrysenes	35.050	242	297963m	9.41
70) C2-Chrysenes	36.835	256	416958m	13.17
71) C3-Chrysenes	37.999	270	301971m	9.54
72) C4-Chrysenes	39.356	284	151521m	4.79
74) C29-Hopane	0.000		0	N.D.
75) 18a-Oleanane	0.000		0	N.D. d
76) C30-Hopane	0.000		0	N.D. d
77) Benzo(b)fluoranthene	37.223	252	96351m	2.67
78) Benzo(k,j)fluoranthene	37.339	252	16741m	0.49
79) Benzo(a)fluoranthene	0.000		0	N.D. d
80) Benzo(e)pyrene	38.192	252	86966m	2.39
81) Benzo(a)pyrene	38.386	252	21236m	0.63
82) Indeno(1,2,3-c,d)pyrene	43.041	276	31338m	0.83
83) Dibenzo(a,h)anthracene	43.115	278	13273m	0.46
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d
87) Benzo(g,h,i)perylene	44.405	276	57386m	1.71
89) Perylene	38.697	252	6274m	0.18
91) C20-TAS	0.000		0	N.D. d
92) C21-TAS	0.000		0	N.D. d
93) C26(20S)-TAS	0.000		0	N.D. d
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D. d
95) C28(20S)-TAS	0.000		0	N.D. d
96) C27(20R)-TAS	0.000		0	N.D. d
97) C28(20R)-TAS	0.000		0	N.D. d

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1657.D
Acq On : 30 Aug 2013 4:11 pm
Operator : YM
Sample : SED-DA-007 (1.0-1.5)
Misc :
ALS Vial : 17 Sample Multiplier: 0.06575

Quant Time: Sep 02 21:29:02 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

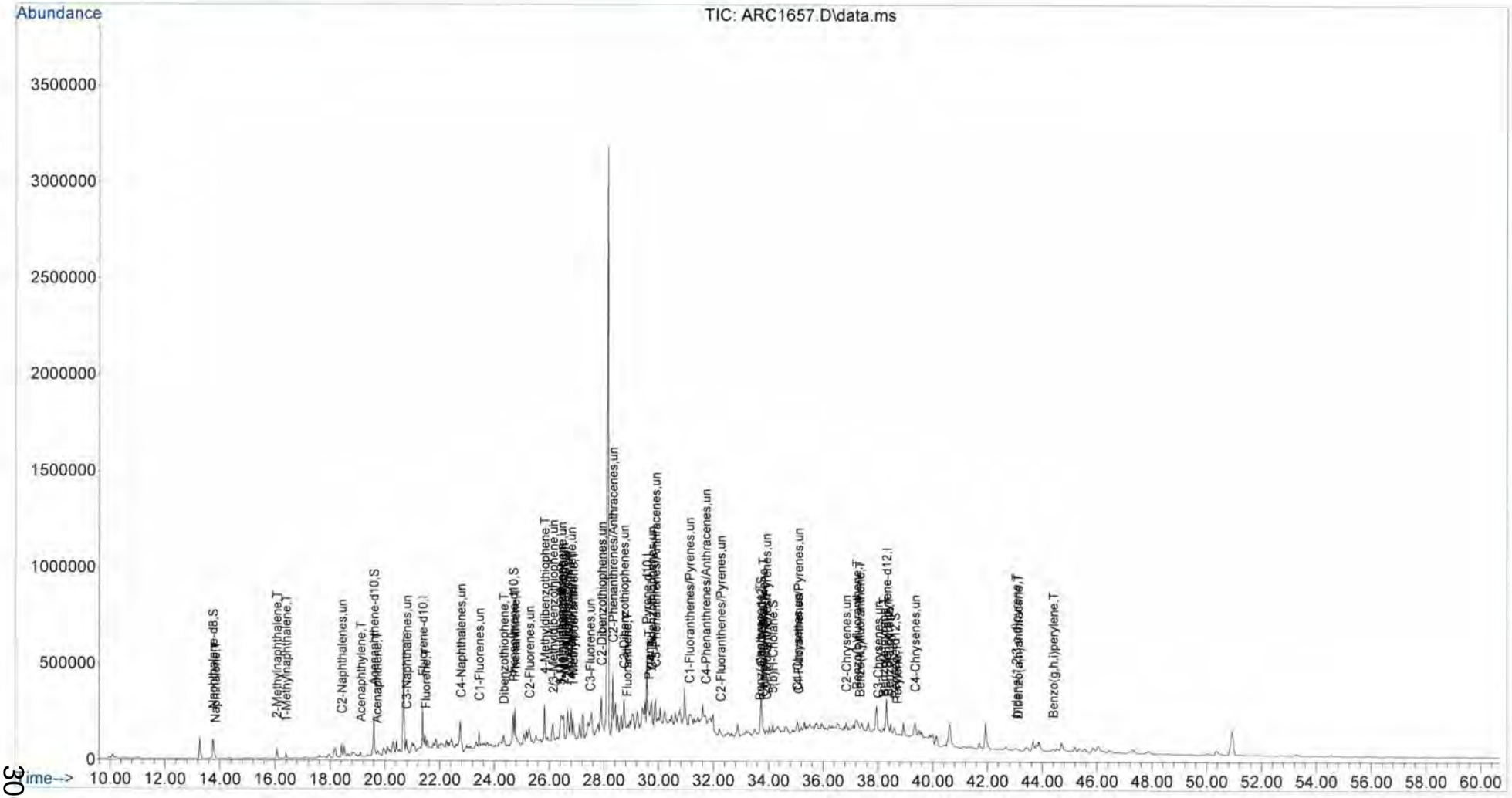
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1657.D
Acq On : 30 Aug 2013 4:11 pm
Operator : YM
Sample : SED-DA-007 (1.0-1.5)
Misc :
ALS Vial : 17 Sample Multiplier: 0.06575

Quant Time: Sep 02 21:29:02 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration



AR70060.M Sun Sep 15 18:35:01 2013

Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name ARC1658.D
Data File Path C:\msdchem\2\data\MS70060\
Operator YM
Date Acquired 8/30/2013 17:20
Acq. Method File PAH-2012.M
Sample Name SED-DA-006 (0.5-1.0)
Misc Info 0
Instrument Name GCMSD
Vial Number 18
Sample Multiplier 0.06658
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

ARC1658.D
SED-DA-006 (0.5-1.0)
8/30/2013
PAH-2012.M
15.01952538

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.82	135084	4.3499	4.6438
9)+10)	C1-Naphthalenes	16.22	374546	12.0609	12.8759
13)	C2-Naphthalenes	18.42	1226250	39.4871	42.1553
14)	C3-Naphthalenes	20.42	2695610	86.8023	92.6677
15)	C4-Naphthalenes	22.76	3287890	105.8749	113.0290
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	19.12	20240	0.6894	0.7360
24)	Acenaphthene	19.70	11034	0.6076	0.6487
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.48	141131	6.3404	6.7688
28)	C1-Fluorenes	23.44	566578	25.4539	27.1738
29)	C2-Fluorenes	25.27	1764180	79.2568	84.6124
30)	C3-Fluorenes	27.49	1993070	89.5394	95.5898
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.93	44308	1.4504	1.5484
41)	Phenanthrene	24.75	927109	27.9426	29.8308
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.66	2648759	79.8323	85.2268
50)	C2-Phenanthrenes/Anthracenes	28.32	4734940	142.7089	152.3520
51)	C3-Phenanthrenes/Anthracenes	29.88	5383420	162.2541	173.2179
52)	C4-Phenanthrenes/Anthracenes	31.71	3590810	108.2251	115.5381
34)	Dibenzothiophene	24.34	528993	19.5586	20.8802
35)+36)+37)	C1-Dibenzothiophenes	26.14	2426952	89.7324	95.7958
38)	C2-Dibenzothiophenes	27.90	4624840	170.9954	182.5499
39)	C3-Dibenzothiophenes	29.43	6202470	229.3255	244.8214
40)	C4-Dibenzothiophenes	30.22	2645550	97.8147	104.4242
58)	Fluoranthene	28.87	261898	7.2987	7.7919
59)	Pyrene	29.63	537522	14.3055	15.2722
62)	C1-Fluoranthenes/Pyrenes	31.12	1194510	33.2891	35.5385
63)	C2-Fluoranthenes/Pyrenes	32.26	1792160	49.9447	53.3196
64)	C3-Fluoranthenes/Pyrenes	33.96	1075770	29.9800	32.0058
65)	C4-Fluoranthenes/Pyrenes	35.09	1188630	33.1253	35.3637
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.69	83743	2.2171	2.3669
68)	Chrysene/Triphenylene	33.81	432254	12.7108	13.5697
69)	C1-Chrysenes	35.05	1231840	36.2233	38.6710
70)	C2-Chrysenes	36.52	1575520	46.3296	49.4602
71)	C3-Chrysenes	37.92	1091950	32.1099	34.2796
72)	C4-Chrysenes	39.36	546961	16.0839	17.1707
77)	Benzo(b)fluoranthene	37.26	296291	7.3191	7.8137
78)	Benzo(k,j)fluoranthene	37.34	86611	2.2721	2.4256
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.23	306209	7.4992	8.0060
81)	Benzo(a)pyrene	38.39	88757	2.3373	2.4952
89)	Perylene	38.70	32620	0.8462	0.9034
82)	Indeno(1,2,3-c,d)pyrene	43.08	93521	2.2177	2.3676
83)	Dibenzo(a,h)anthracene	43.11	45326	1.3933	1.4874
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.41	211154	5.6073	5.9861

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	248990	12.0907	12.9077
10)	1-Methylnaphthalene	16.39	125556	6.4968	6.9358
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	25.83	1101380	47.3051	50.5016
36)	2/3-Methyldibenzothiophene	26.14	778614	33.4419	35.7017
37)	1-Methyldibenzothiophene	26.45	546958	23.4922	25.0796
43)	3-Methylphenanthrene	26.41	591923	23.3592	24.9376
44)	2-Methylphenanthrene	26.52	653008	25.7698	27.5111
45)	2-Methylanthracene	26.69	105745	4.1730	4.4550
46)	4/9-Methylphenanthrene	26.80	769318	30.3597	32.4112
47)	1-Methylphenanthrene	26.86	528765	20.8668	22.2768
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	40.64	1132280	92.7905	99.0606
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	41.94	1583830	129.7950	138.5655
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.74	389612	12.83	77.03
21)	Acenaphthene-d10	19.59	223159	13.02	78.17
32)	Phenanthrene-d10	24.68	391702	15.60	93.67
66)	Chrysene-d12	33.77	420481	12.67	76.13
88)	Perylene-d12	38.62	35120	1.04	6.25
90)	5(b)H-Cholane	34.16	115272	20.19	121.29
	Internal Standards				
1)	Fluorene-d10	21.37	289666	16.71	
31)	Pyrene-d10	29.57	521908	16.69	
73)	Benzo(a)pyrene-d12	38.31	446439	16.67	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1658.D
Acq On : 30 Aug 2013 5:20 pm
Operator : YM
Sample : SED-DA-006 (0.5-1.0)
Misc :
ALS Vial : 18 Sample Multiplier: 0.06658

Quant Time: Sep 02 19:23:04 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	289666m	251.05	0.00
31) Pyrene-d10	29.566	212	521908m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	446439m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.739	136	389612m	12.83	0.00
21) Acenaphthene-d10	19.589	164	223159m	13.02	0.00
32) Phenanthrene-d10	24.683	188	391702m	15.60	0.00
66) Chrysene-d12	33.770	240	420481m	12.67	0.04
88) Perylene-d12	38.619	264	35120m	1.04	0.00
90) 5(b)H-Cholane	34.158	217	115272m	20.19	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	0.000		0	N.D. d	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	135084m	4.35	
9) 2-Methylnaphthalene	16.051	142	248990m	12.09	
10) 1-Methylnaphthalene	16.385	142	125556m	6.50	
11) 2,6-Dimethylnaphthalene	0.000		0	N.D. d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D. d	
13) C2-Naphthalenes	18.419	156	1226254m	39.49	
14) C3-Naphthalenes	20.424	170	2695608m	86.80	
15) C4-Naphthalenes	22.764	184	3287892m	105.87	
16) Benzothiophene	0.000		0	N.D. d	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	0.000		0	N.D. d	
23) Acenaphthylene	19.115	152	20240m	0.69	
24) Acenaphthene	19.700	154	11034m	0.61	
25) Dibenzofuran	0.000		0	N.D. d	
26) Fluorene	21.483	166	141131m	6.34	
27) 1-Methylfluorene	0.000		0	N.D. d	
28) C1-Fluorenes	23.436	180	566578m	25.45	
29) C2-Fluorenes	25.272	194	1764176m	79.26	
30) C3-Fluorenes	27.488	208	1993066m	89.54	
33) Carbazole	0.000		0	N.D. d	
34) Dibenzothiophene	24.337	184	528993m	19.56	
35) 4-Methyldibenzothiophene	25.826	198	1101384m	47.31	
36) 2/3-Methyldibenzothiop...	26.137	198	778614m	33.44	
37) 1-Methyldibenzothiophene	26.449	198	546958m	23.49	
38) C2-Dibenzothiophenes	27.903	212	4624839m	171.00	
39) C3-Dibenzothiophenes	29.427	226	6202467m	229.33	
40) C4-Dibenzothiophenes	30.224	240	2645545m	97.81	
41) Phenanthrene	24.752	178	927109m	27.94	
42) Anthracene	24.925	178	44308m	1.45	
43) 3-Methylphenanthrene	26.414	192	591923m	23.36	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1658.D
Acq On : 30 Aug 2013 5:20 pm
Operator : YM
Sample : SED-DA-006 (0.5-1.0)
Misc :
ALS Vial : 18 Sample Multiplier: 0.06658

Quant Time: Sep 02 19:23:04 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Methylphenanthrene	26.518	192	653008m	25.77	
45) 2-Methylanthracene	26.692	192	105745m	4.17	
46) 4/9-Methylphenanthrene	26.795	192	769318m	30.36	
47) 1-Methylphenanthrene	26.865	192	528765m	20.87	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D. d	
49) Retene	0.000		0	N.D. d	
50) C2-Phenanthrenes/Anthr...	28.319	206	4734938m	142.71	
51) C3-Phenanthrenes/Anthr...	29.877	220	5383423m	162.25	
52) C4-Phenanthrenes/Anthr...	31.713	234	3590811m	108.23	
53) Naphthobenzothiophene	0.000		0	N.D. d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.873	202	261898m	7.30	
59) Pyrene	29.635	202	537522m	14.31	
60) 2-Methylfluoranthene	0.000		0	N.D. d	
61) Benzo(b)fluorene	0.000		0	N.D. d	
62) C1-Fluoranthenes/Pyrenes	31.124	216	1194509m	33.29	
63) C2-Fluoranthenes/Pyrenes	32.257	230	1792159m	49.94	
64) C3-Fluoranthenes/Pyrenes	33.964	244	1075770m	29.98	
65) C4-Fluoranthenes/Pyrenes	35.089	258	1188633m	33.13	
67) Benz(a)anthracene	33.692	228	83743m	2.22	
68) Chrysene/Triphenylene	33.809	228	432254m	12.71	
69) C1-Chrysenes	35.050	242	1231838m	36.22	
70) C2-Chrysenes	36.524	256	1575522m	46.33	
71) C3-Chrysenes	37.921	270	1091953m	32.11	
72) C4-Chrysenes	39.356	284	546961m	16.08	
74) C29-Hopane	40.645	191	1132281m	92.79	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	41.935	191	1583832m	129.79	
77) Benzo(b)fluoranthene	37.261	252	296291m	7.32	
78) Benzo(k,j)fluoranthene	37.339	252	86611m	2.27	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.231	252	306209m	7.50	
81) Benzo(a)pyrene	38.387	252	88757m	2.34	
82) Indeno(1,2,3-c,d)pyrene	43.078	276	93521m	2.22	
83) Dibenzo(a,h)anthracene	43.115	278	45326m	1.39	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.405	276	211154m	5.61	
89) Perylene	38.697	252	32620m	0.85	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D. d	
95) C28(20S)-TAS	0.000		0	N.D. d	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1658.D
Acq On : 30 Aug 2013 5:20 pm
Operator : YM
Sample : SED-DA-006 (0.5-1.0)
Misc :
ALS Vial : 18 Sample Multiplier: 0.06658

Quant Time: Sep 02 19:23:04 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

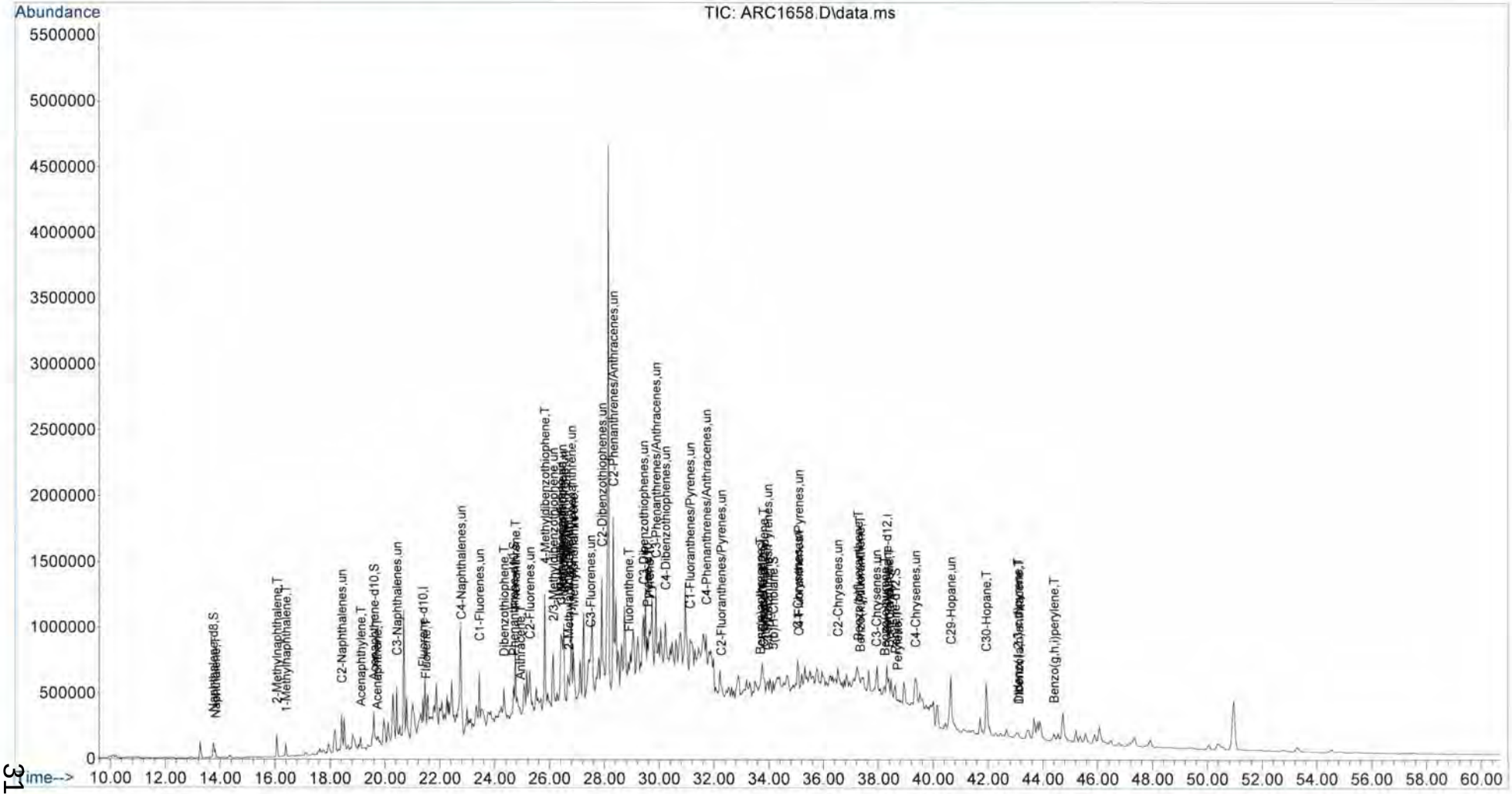
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1658.D
Acq On : 30 Aug 2013 5:20 pm
Operator : YM
Sample : SED-DA-006 (0.5-1.0)
Misc :
ALS Vial : 18 Sample Multiplier: 0.06658

Quant Time: Sep 02 19:23:04 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration



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Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name ARC1659.D
Data File Path C:\msdchem\2\data\MS70060\
Operator YM
Date Acquired 8/30/2013 18:28
Acq. Method File PAH-2012.M
Sample Name SED-DA-006 (1.0-1.5)
Misc Info 0
Instrument Name GCMSD
Vial Number 19
Sample Multiplier 0.06653
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

ARC1659.D
SED-DA-006 (1.0-1.5)
8/30/2013
PAH-2012.M
15.03081317

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.82	25608	0.9143	1.0627
9)+10)	C1-Naphthalenes	16.22	34206	1.2212	1.4195
13)	C2-Naphthalenes	18.20	50269	1.7947	2.0861
14)	C3-Naphthalenes	20.09	21332	0.7616	0.8853
15)	C4-Naphthalenes	0.00	0	0.0000	0.0000
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	0.00	0	0.0000	0.0000
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.48	28117	1.4005	1.6279
28)	C1-Fluorenes	23.44	9904	0.4933	0.5734
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	0.00	0	0.0000	0.0000
41)	Phenanthrene	24.75	118315	3.4762	4.0407
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	9464	0.3411	0.3965
35)+36)+37)	C1-Dibenzothiophenes	26.14	11078	0.3993	0.4641
38)	C2-Dibenzothiophenes	27.90	10752	0.3875	0.4505
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.84	13881	0.3771	0.4383
59)	Pyrene	29.57	1810	0.0470	0.0546
62)	C1-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	0.00	0	0.0000	0.0000
68)	Chrysene/Triphenylene	0.00	0	0.0000	0.0000
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	0.00	0	0.0000	0.0000
78)	Benzo(k,j)fluoranthene	0.00	0	0.0000	0.0000
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	0.00	0	0.0000	0.0000
81)	Benzo(a)pyrene	0.00	0	0.0000	0.0000
89)	Perylene	0.00	0	0.0000	0.0000
82)	Indeno(1,2,3-c,d)pyrene	0.00	0	0.0000	0.0000
83)	Dibenzo(a,h)anthracene	0.00	0	0.0000	0.0000
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	0.00	0	0.0000	0.0000

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	23813	1.2820	1.4902
10)	1-Methylnaphthalene	16.39	10393	0.5962	0.6931
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	25.83	6158	0.2578	0.2997
36)	2/3-Methyldibenzothiophene	26.14	2512	0.1052	0.1223
37)	1-Methyldibenzothiophene	26.45	2408	0.1008	0.1172
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	0.00	0	0.0000	0.0000
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.74	366536	13.38	80.41
21)	Acenaphthene-d10	19.59	171375	11.09	66.61
32)	Phenanthrene-d10	24.68	368765	14.32	86.03
66)	Chrysene-d12	33.73	441511	12.97	77.99
88)	Perylene-d12	38.58	717	0.02	0.13
90)	5(b)H-Cholane	34.16	87432	15.42	92.72
	Internal Standards				
1)	Fluorene-d10	21.37	261068	16.70	
31)	Pyrene-d10	29.57	534975	16.67	
73)	Benzo(a)pyrene-d12	38.31	442971	16.65	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1659.D
Acq On : 30 Aug 2013 6:28 pm
Operator : YM
Sample : SED-DA-006 (1.0-1.5)
Misc :
ALS Vial : 19 Sample Multiplier: 0.06653

Quant Time: Sep 02 19:30:06 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	261068m	251.05	0.00
31) Pyrene-d10	29.566	212	534975m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	442971m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.739	136	366536m	13.38	0.00
21) Acenaphthene-d10	19.589	164	171375m	11.09	0.00
32) Phenanthrene-d10	24.683	188	368765m	14.32	0.00
66) Chrysene-d12	33.731	240	441511m	12.97	0.00
88) Perylene-d12	38.581	264	717m	0.02	-0.04
90) 5(b)H-Cholane	34.158	217	87432m	15.42	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	0.000		0	N.D. d	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	25608m	0.91	
9) 2-Methylnaphthalene	16.051	142	23813m	1.28	
10) 1-Methylnaphthalene	16.385	142	10393m	0.60	
11) 2,6-Dimethylnaphthalene	0.000		0	N.D. d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D. d	
13) C2-Naphthalenes	18.196	156	50269m	1.79	
14) C3-Naphthalenes	20.090	170	21332m	0.76	
15) C4-Naphthalenes	0.000		0	N.D. d	
16) Benzothiophene	0.000		0	N.D. d	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	0.000		0	N.D. d	
23) Acenaphthylene	0.000		0	N.D. d	
24) Acenaphthene	0.000		0	N.D. d	
25) Dibenzofuran	0.000		0	N.D. d	
26) Fluorene	21.483	166	28117m	1.40	
27) 1-Methylfluorene	0.000		0	N.D. d	
28) C1-Fluorenes	23.436	180	9904m	0.49	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	0.000		0	N.D. d	
34) Dibenzothiophene	24.337	184	9464m	0.34	
35) 4-Methyldibenzothiophene	25.826	198	6158m	0.26	
36) 2/3-Methyldibenzothiop...	26.137	198	2512m	0.11	
37) 1-Methyldibenzothiophene	26.449	198	2408m	0.10	
38) C2-Dibenzothiophenes	27.903	212	10752m	0.39	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	118315m	3.48	
42) Anthracene	0.000		0	N.D. d	
43) 3-Methylphenanthrene	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1659.D
Acq On : 30 Aug 2013 6:28 pm
Operator : YM
Sample : SED-DA-006 (1.0-1.5)
Misc :
ALS Vial : 19 Sample Multiplier: 0.06653

Quant Time: Sep 02 19:30:06 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	0.000		0	N.D. d	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D. d	
49) Retene	0.000		0	N.D. d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53) Naphthobenzothiophene	0.000		0	N.D. d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.838	202	13881m	0.38	
59) Pyrene	29.566	202	1810m	0.05	
60) 2-Methylfluoranthene	0.000		0	N.D. d	
61) Benzo(b)fluorene	0.000		0	N.D. d	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	0.000		0	N.D. d	
68) Chrysene/Triphenylene	0.000		0	N.D. d	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	0.000		0	N.D. d	
77) Benzo(b)fluoranthene	0.000		0	N.D. d	
78) Benzo(k,j)fluoranthene	0.000		0	N.D. d	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	0.000		0	N.D. d	
81) Benzo(a)pyrene	0.000		0	N.D. d	
82) Indeno(1,2,3-c,d)pyrene	0.000		0	N.D. d	
83) Dibenzo(a,h)anthracene	0.000		0	N.D. d	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	0.000		0	N.D. d	
89) Perylene	0.000		0	N.D. d	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D. d	
95) C28(20S)-TAS	0.000		0	N.D. d	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1659.D
Acq On : 30 Aug 2013 6:28 pm
Operator : YM
Sample : SED-DA-006 (1.0-1.5)
Misc :
ALS Vial : 19 Sample Multiplier: 0.06653

Quant Time: Sep 02 19:30:06 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

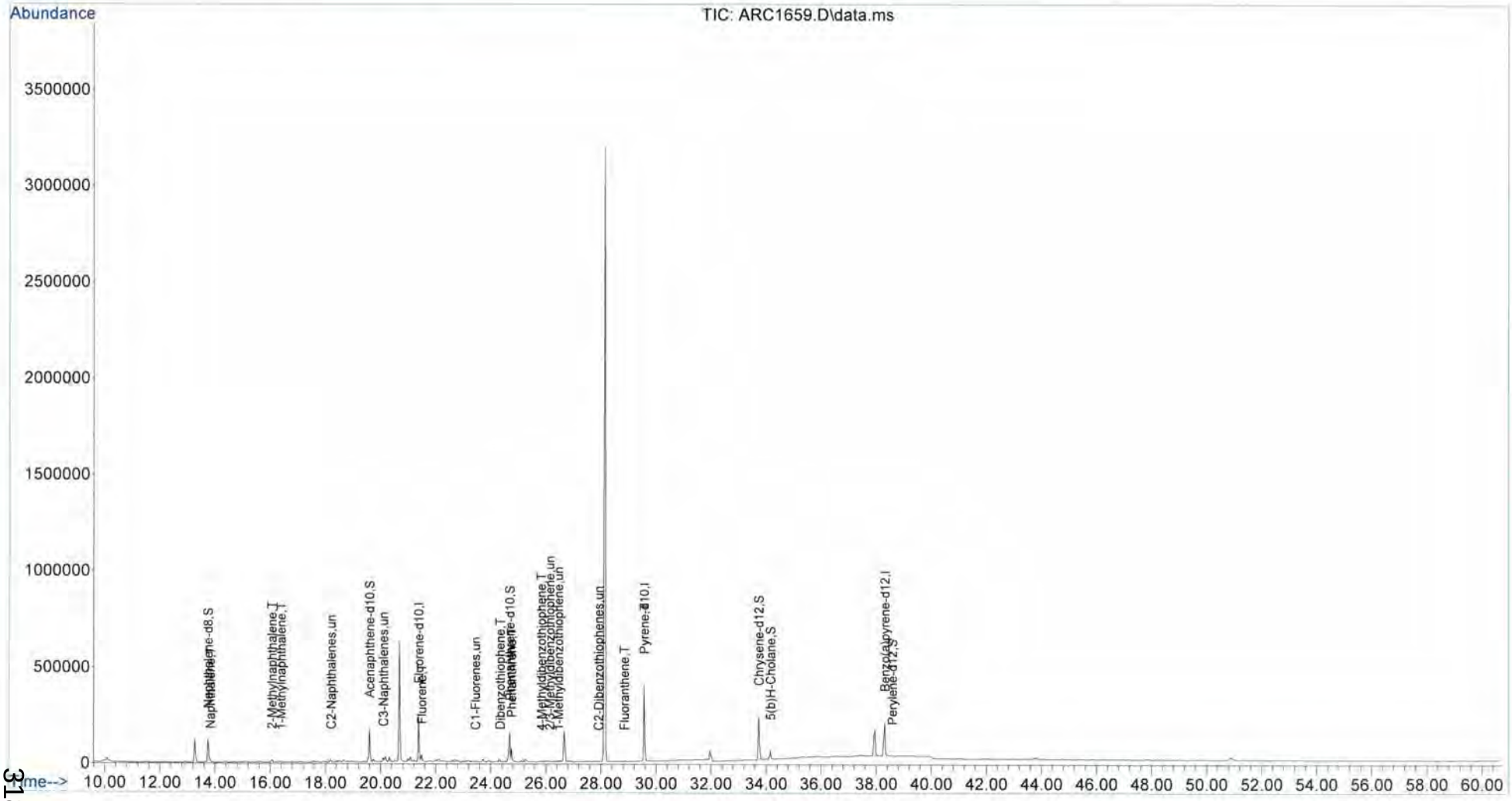
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1659.D
Acq On : 30 Aug 2013 6:28 pm
Operator : YM
Sample : SED-DA-006 (1.0-1.5)
Misc :
ALS Vial : 19 Sample Multiplier: 0.06653

Quant Time: Sep 02 19:30:06 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration



Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name ARC1660.D
Data File Path C:\GCMS7\MS70060\
Operator YM
Date Acquired 8/30/2013 20:45
Acq. Method File PAH-2012.M
Sample Name SED-DA-005 (0.5-1.0)
Misc Info 0
Instrument Name GCMSD
Vial Number 21
Sample Multiplier 0.06636
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

ARC1660.D
SED-DA-005 (0.5-1.0)
8/30/2013
PAH-2012.M
15.06931887

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.82	35415	1.0908	1.2620
9)+10)	C1-Naphthalenes	16.22	40795	1.2565	1.4538
13)	C2-Naphthalenes	18.20	57906	1.7835	2.0635
14)	C3-Naphthalenes	20.09	33149	1.0210	1.1813
15)	C4-Naphthalenes	0.00	0	0.0000	0.0000
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	19.12	1670	0.0544	0.0630
24)	Acenaphthene	19.64	1511	0.0796	0.0921
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.48	52167	2.2417	2.5936
28)	C1-Fluorenes	23.44	21417	0.9203	1.0648
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	0.00	0	0.0000	0.0000
41)	Phenanthrene	24.75	264798	6.8738	7.9531
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.65	137710	3.5748	4.1360
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	12834	0.4087	0.4729
35)+36)+37)	C1-Dibenzothiophenes	26.14	20613	0.6564	0.7595
38)	C2-Dibenzothiophenes	27.90	32017	1.0196	1.1796
39)	C3-Dibenzothiophenes	28.73	31699	1.0094	1.1679
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.84	53068	1.2738	1.4738
59)	Pyrene	29.63	20741	0.4754	0.5501
62)	C1-Fluoranthenes/Pyrenes	30.78	14963	0.3592	0.4155
63)	C2-Fluoranthenes/Pyrenes	33.73	17817	0.4277	0.4948
64)	C3-Fluoranthenes/Pyrenes	34.16	7795	0.1871	0.2165
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.69	16391	0.3738	0.4324
68)	Chrysene/Triphenylene	33.81	20302	0.5142	0.5949
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.22	30034	0.6861	0.7938
78)	Benzo(k,j)fluoranthene	37.26	11522	0.2795	0.3234
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.19	17052	0.3862	0.4468
81)	Benzo(a)pyrene	38.39	14545	0.3542	0.4098
89)	Perylene	38.70	4560	0.1094	0.1266
82)	Indeno(1,2,3-c,d)pyrene	43.04	12572	0.2757	0.3190
83)	Dibenzo(a,h)anthracene	43.12	3239	0.0921	0.1065
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.41	12488	0.3067	0.3548

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	28797	1.3375	1.5475
10)	1-Methylnaphthalene	16.39	11998	0.5938	0.6870
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	25.83	9676	0.3579	0.4141
36)	2/3-Methyldibenzothiophene	26.14	5724	0.2117	0.2450
37)	1-Methyldibenzothiophene	26.45	5213	0.1928	0.2231
43)	3-Methylphenanthrene	26.41	15714	0.5341	0.6180
44)	2-Methylphenanthrene	26.52	20337	0.6912	0.7998
45)	2-Methylanthracene	26.66	76041	2.5846	2.9904
46)	4/9-Methylphenanthrene	26.80	12867	0.4373	0.5060
47)	1-Methylphenanthrene	26.86	12751	0.4334	0.5014
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.74	394900	12.44	74.93
21)	Acenaphthene-d10	19.59	183953	10.27	61.84
32)	Phenanthrene-d10	24.68	418247	14.35	86.43
66)	Chrysene-d12	33.73	506244	13.14	79.21
88)	Perylene-d12	38.66	1557	0.04	0.26
90)	5(b)H-Cholane	34.16	93426	15.13	91.21
	Internal Standards				
1)	Fluorene-d10	21.37	301843	16.66	
31)	Pyrene-d10	29.57	603960	16.63	
73)	Benzo(a)pyrene-d12	38.31	481179	16.61	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1660.D
Acq On : 30 Aug 2013 8:45 pm
Operator : YM
Sample : SED-DA-005 (0.5-1.0)
Misc :
ALS Vial : 21 Sample Multiplier: 0.06636

Quant Time: Sep 02 19:41:56 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	301843m	251.05	0.00
31) Pyrene-d10	29.566	212	603960m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	481179m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.739	136	394900m	12.44	0.00
21) Acenaphthene-d10	19.589	164	183953m	10.27	0.00
32) Phenanthrene-d10	24.683	188	418247m	14.35	0.00
66) Chrysene-d12	33.731	240	506244m	13.14	0.00
88) Perylene-d12	38.658	264	1557m	0.04	0.04
90) 5(b)H-Cholane	34.158	217	93426m	15.13	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	0.000		0	N.D. d	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	35415m	1.09	
9) 2-Methylnaphthalene	16.051	142	28797m	1.34	
10) 1-Methylnaphthalene	16.385	142	11998m	0.59	
11) 2,6-Dimethylnaphthalene	0.000		0	N.D. d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D. d	
13) C2-Naphthalenes	18.196	156	57906m	1.78	
14) C3-Naphthalenes	20.090	170	33149m	1.02	
15) C4-Naphthalenes	0.000		0	N.D. d	
16) Benzothiophene	0.000		0	N.D. d	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	0.000		0	N.D. d	
23) Acenaphthylene	19.115	152	1670m	0.05	
24) Acenaphthene	19.644	154	1511m	0.08	
25) Dibenzofuran	0.000		0	N.D. d	
26) Fluorene	21.483	166	52167m	2.24	
27) 1-Methylfluorene	0.000		0	N.D. d	
28) C1-Fluorenes	23.437	180	21417m	0.92	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	0.000		0	N.D. d	
34) Dibenzothiophene	24.337	184	12834m	0.41	
35) 4-Methyldibenzothiophene	25.826	198	9676m	0.36	
36) 2/3-Methyldibenzothiop...	26.138	198	5724m	0.21	
37) 1-Methyldibenzothiophene	26.449	198	5213m	0.19	
38) C2-Dibenzothiophenes	27.904	212	32017m	1.02	
39) C3-Dibenzothiophenes	28.735	226	31699m	1.01	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	264798m	6.87	
42) Anthracene	0.000		0	N.D. d	
43) 3-Methylphenanthrene	26.415	192	15714m	0.53	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1660.D
Acq On : 30 Aug 2013 8:45 pm
Operator : YM
Sample : SED-DA-005 (0.5-1.0)
Misc :
ALS Vial : 21 Sample Multiplier: 0.06636

Quant Time: Sep 02 19:41:56 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Methylphenanthrene	26.518	192	20337m	0.69	
45) 2-Methylanthracene	26.657	192	76041m	2.58	
46) 4/9-Methylphenanthrene	26.795	192	12867m	0.44	
47) 1-Methylphenanthrene	26.865	192	12751m	0.43	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D. d	
49) Retene	0.000		0	N.D. d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53) Naphthobenzothiophene	0.000		0	N.D. d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.838	202	53068m	1.27	
59) Pyrene	29.635	202	20741m	0.48	
60) 2-Methylfluoranthene	0.000		0	N.D. d	
61) Benzo(b)fluorene	0.000		0	N.D. d	
62) C1-Fluoranthenes/Pyrenes	30.778	216	14963m	0.36	
63) C2-Fluoranthenes/Pyrenes	33.731	230	17817m	0.43	
64) C3-Fluoranthenes/Pyrenes	34.158	244	7795m	0.19	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	33.692	228	16391m	0.37	
68) Chrysene/Triphenylene	33.809	228	20302m	0.51	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	0.000		0	N.D. d	
77) Benzo(b)fluoranthene	37.223	252	30034m	0.69	
78) Benzo(k,j)fluoranthene	37.262	252	11522m	0.28	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.193	252	17052m	0.39	
81) Benzo(a)pyrene	38.387	252	14545m	0.35	
82) Indeno(1,2,3-c,d)pyrene	43.041	276	12572m	0.28	
83) Dibenzo(a,h)anthracene	43.115	278	3239m	0.09	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.405	276	12488m	0.31	
89) Perylene	38.697	252	4560m	0.11	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D. d	
95) C28(20S)-TAS	0.000		0	N.D. d	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1660.D
Acq On : 30 Aug 2013 8:45 pm
Operator : YM
Sample : SED-DA-005 (0.5-1.0)
Misc :
ALS Vial : 21 Sample Multiplier: 0.06636

Quant Time: Sep 02 19:41:56 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

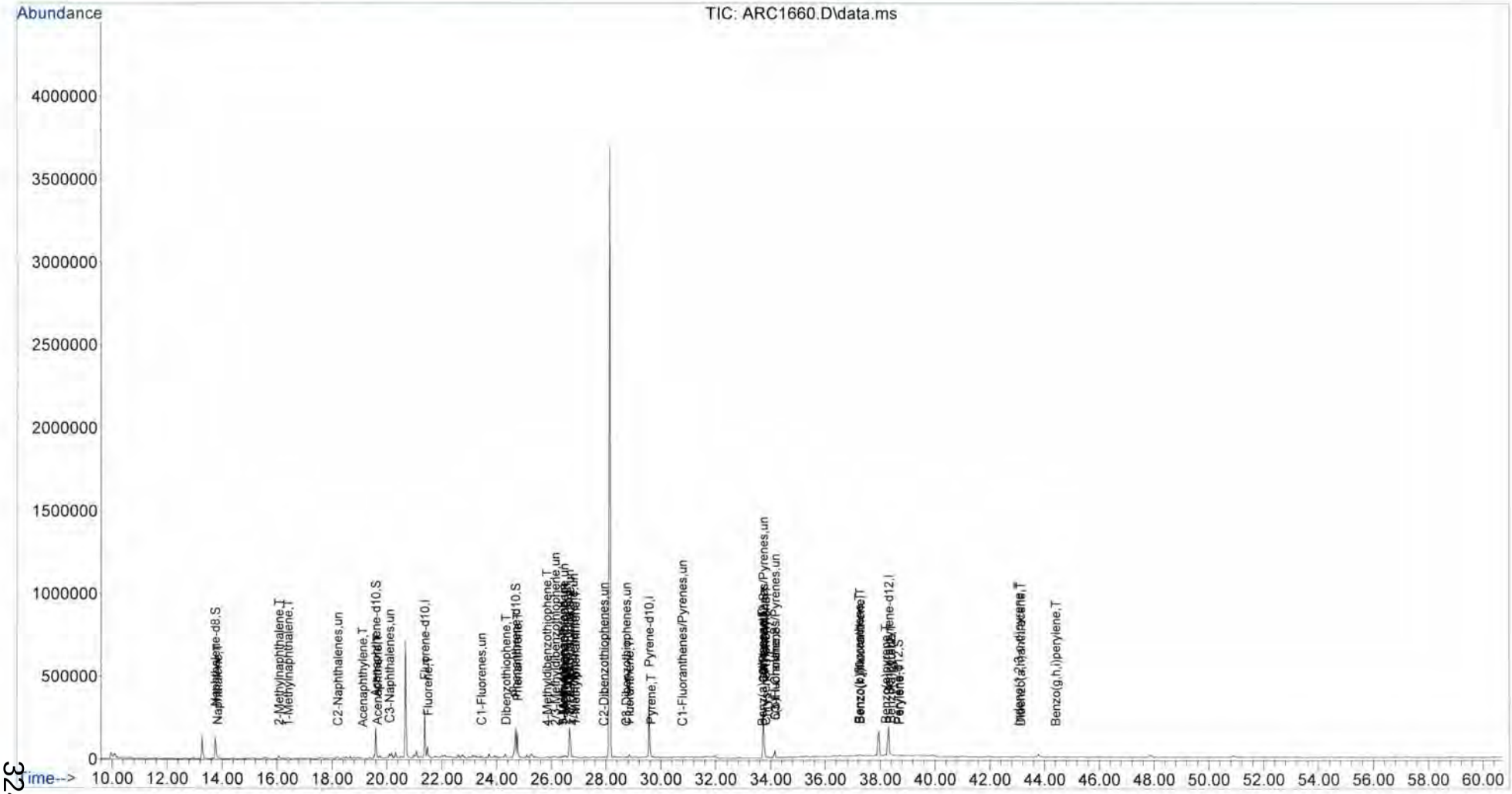
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1660.D
Acq On : 30 Aug 2013 8:45 pm
Operator : YM
Sample : SED-DA-005 (0.5-1.0)
Misc :
ALS Vial : 21 Sample Multiplier: 0.06636

Quant Time: Sep 02 19:41:56 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration



Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name ARC1661.D
Data File Path C:\msdchem\2\data\MS70060\
Operator YM
Date Acquired 8/30/2013 21:54
Acq. Method File PAH-2012.M
Sample Name SED-DA-005 (1.0-1.5)
Misc Info 0
Instrument Name GCMSD
Vial Number 22
Sample Multiplier 0.06627
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

ARC1661.D
SED-DA-005 (1.0-1.5)
8/30/2013
PAH-2012.M
15.08978422

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.82	23072	0.8433	0.9546
9)+10)	C1-Naphthalenes	16.22	24266	0.8870	1.0040
13)	C2-Naphthalenes	18.20	27281	0.9972	1.1288
14)	C3-Naphthalenes	20.09	21245	0.7765	0.8790
15)	C4-Naphthalenes	0.00	0	0.0000	0.0000
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	0.00	0	0.0000	0.0000
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.48	26651	1.3591	1.5385
28)	C1-Fluorenes	23.44	9541	0.4865	0.5508
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	0.00	0	0.0000	0.0000
41)	Phenanthrene	24.75	123217	3.8349	4.3410
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	6430	0.2455	0.2779
35)+36)+37)	C1-Dibenzothiophenes	26.14	6867	0.2622	0.2968
38)	C2-Dibenzothiophenes	27.90	7837	0.2992	0.3387
39)	C3-Dibenzothiophenes	29.43	4433	0.1692	0.1916
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.84	14124	0.4065	0.4601
59)	Pyrene	29.63	1263	0.0347	0.0393
62)	C1-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	0.00	0	0.0000	0.0000
68)	Chrysene/Triphenylene	0.00	0	0.0000	0.0000
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	0.00	0	0.0000	0.0000
78)	Benzo(k,j)fluoranthene	0.00	0	0.0000	0.0000
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	0.00	0	0.0000	0.0000
81)	Benzo(a)pyrene	0.00	0	0.0000	0.0000
89)	Perylene	0.00	0	0.0000	0.0000
82)	Indeno(1,2,3-c,d)pyrene	0.00	0	0.0000	0.0000
83)	Dibenzo(a,h)anthracene	0.00	0	0.0000	0.0000
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	0.00	0	0.0000	0.0000

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	17965	0.9902	1.1209
10)	1-Methylnaphthalene	16.39	6301	0.3701	0.4189
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	25.83	3100	0.1375	0.1556
36)	2/3-Methyldibenzothiophene	26.14	1540	0.0683	0.0773
37)	1-Methyldibenzothiophene	26.45	2227	0.0988	0.1118
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	0.00	0	0.0000	0.0000
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.74	354859	13.26	80.01
21)	Acenaphthene-d10	19.59	146555	9.71	58.55
32)	Phenanthrene-d10	24.68	356075	14.65	88.34
66)	Chrysene-d12	33.73	412092	12.83	77.41
88)	Perylene-d12	38.66	1522	0.05	0.30
90)	5(b)H-Cholane	34.16	76082	14.56	87.89
	Internal Standards				
1)	Fluorene-d10	21.37	254001	16.64	
31)	Pyrene-d10	29.57	503066	16.61	
73)	Benzo(a)pyrene-d12	38.31	406651	16.59	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1661.D
Acq On : 30 Aug 2013 9:54 pm
Operator : YM
Sample : SED-DA-005 (1.0-1.5)
Misc :
ALS Vial : 22 Sample Multiplier: 0.06627

Quant Time: Sep 02 19:50:32 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	254001m	251.05	0.00
31) Pyrene-d10	29.566	212	503066m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	406651m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.739	136	354859m	13.26	0.00
21) Acenaphthene-d10	19.589	164	146555m	9.71	0.00
32) Phenanthrene-d10	24.683	188	356075m	14.65	0.00
66) Chrysene-d12	33.731	240	412092m	12.83	0.00
88) Perylene-d12	38.658	264	1522m	0.05	0.04
90) 5(b)H-Cholane	34.158	217	76082m	14.56	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	0.000		0	N.D. d	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	23072m	0.84	
9) 2-Methylnaphthalene	16.051	142	17965m	0.99	
10) 1-Methylnaphthalene	16.385	142	6301m	0.37	
11) 2,6-Dimethylnaphthalene	0.000		0	N.D. d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D. d	
13) C2-Naphthalenes	18.196	156	27281m	1.00	
14) C3-Naphthalenes	20.090	170	21245m	0.78	
15) C4-Naphthalenes	0.000		0	N.D. d	
16) Benzothiophene	0.000		0	N.D. d	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	0.000		0	N.D. d	
23) Acenaphthylene	0.000		0	N.D. d	
24) Acenaphthene	0.000		0	N.D. d	
25) Dibenzofuran	0.000		0	N.D. d	
26) Fluorene	21.483	166	26651m	1.36	
27) 1-Methylfluorene	0.000		0	N.D. d	
28) C1-Fluorenes	23.437	180	9541m	0.49	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	0.000		0	N.D. d	
34) Dibenzothiophene	24.337	184	6430m	0.25	
35) 4-Methyldibenzothiophene	25.826	198	3100m	0.14	
36) 2/3-Methyldibenzothiop...	26.137	198	1540m	0.07	
37) 1-Methyldibenzothiophene	26.449	198	2227m	0.10	
38) C2-Dibenzothiophenes	27.904	212	7837m	0.30	
39) C3-Dibenzothiophenes	29.427	226	4433m	0.17	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	123217m	3.83	
42) Anthracene	0.000		0	N.D. d	
43) 3-Methylphenanthrene	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1661.D
Acq On : 30 Aug 2013 9:54 pm
Operator : YM
Sample : SED-DA-005 (1.0-1.5)
Misc :
ALS Vial : 22 Sample Multiplier: 0.06627

Quant Time: Sep 02 19:50:32 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	0.000		0	N.D. d	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D. d	
49) Retene	0.000		0	N.D. d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53) Naphthobenzothiophene	0.000		0	N.D. d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.838	202	14124m	0.41	
59) Pyrene	29.635	202	1263m	0.03	
60) 2-Methylfluoranthene	0.000		0	N.D. d	
61) Benzo(b)fluorene	0.000		0	N.D. d	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	0.000		0	N.D. d	
68) Chrysene/Triphenylene	0.000		0	N.D. d	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	0.000		0	N.D. d	
77) Benzo(b)fluoranthene	0.000		0	N.D. d	
78) Benzo(k,j)fluoranthene	0.000		0	N.D. d	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	0.000		0	N.D. d	
81) Benzo(a)pyrene	0.000		0	N.D. d	
82) Indeno(1,2,3-c,d)pyrene	0.000		0	N.D. d	
83) Dibenzo(a,h)anthracene	0.000		0	N.D. d	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	0.000		0	N.D. d	
89) Perylene	0.000		0	N.D. d	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D. d	
95) C28(20S)-TAS	0.000		0	N.D. d	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1661.D
Acq On : 30 Aug 2013 9:54 pm
Operator : YM
Sample : SED-DA-005 (1.0-1.5)
Misc :
ALS Vial : 22 Sample Multiplier: 0.06627

Quant Time: Sep 02 19:50:32 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

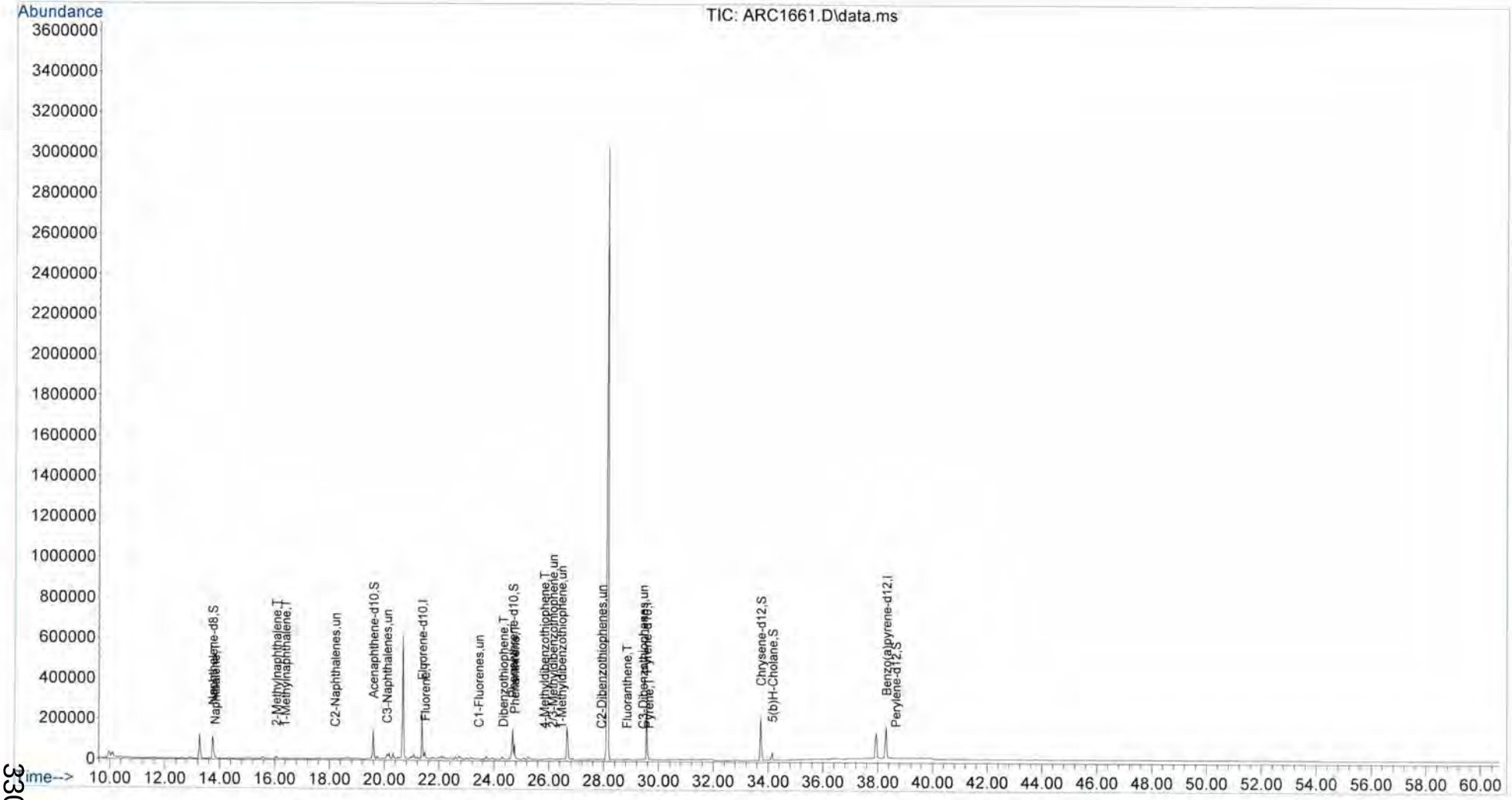
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1661.D
Acq On : 30 Aug 2013 9:54 pm
Operator : YM
Sample : SED-DA-005 (1.0-1.5)
Misc :
ALS Vial : 22 Sample Multiplier: 0.06627

Quant Time: Sep 02 19:50:32 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration



Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name ARC1666.D
Data File Path C:\GCMS7\MS70060\
Operator YM
Date Acquired 8/30/2013 23:03
Acq. Method File PAH-2012.M
Sample Name SED-DA-012 (0-0.5)
Misc Info 0
Instrument Name GCMSD
Vial Number 23
Sample Multiplier 0.06667
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

ARC1666.D
SED-DA-012 (0-0.5)
8/30/2013
PAH-2012.M
14.99925004

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.82	20394	0.8152	0.9034
9)+10)	C1-Naphthalenes	16.23	24647	0.9852	1.0918
13)	C2-Naphthalenes	18.42	43124	1.7237	1.9102
14)	C3-Naphthalenes	20.79	37886	1.5143	1.6782
15)	C4-Naphthalenes	21.48	33966	1.3577	1.5046
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.64	6287	0.3032	0.3360
23)	Acenaphthylene	19.11	1130	0.0478	0.0529
24)	Acenaphthene	19.64	528	0.0361	0.0400
25)	Dibenzofuran	20.31	19489	0.8643	0.9578
26)	Fluorene	21.48	20371	1.1360	1.2589
28)	C1-Fluorenes	23.44	8280	0.4617	0.5117
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	25.51	941	0.0425	0.0471
42)	Anthracene	0.00	0	0.0000	0.0000
41)	Phenanthrene	24.75	100265	3.3318	3.6924
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	9275	0.3781	0.4190
35)+36)+37)	C1-Dibenzothiophenes	26.14	8882	0.3621	0.4013
38)	C2-Dibenzothiophenes	27.90	9580	0.3905	0.4328
39)	C3-Dibenzothiophenes	29.43	6462	0.2634	0.2919
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.84	36495	1.1214	1.2427
59)	Pyrene	29.63	20547	0.6029	0.6681
62)	C1-Fluoranthenes/Pyrenes	30.78	6886	0.2116	0.2345
63)	C2-Fluoranthenes/Pyrenes	33.73	11676	0.3588	0.3976
64)	C3-Fluoranthenes/Pyrenes	34.16	4106	0.1262	0.1398
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	32.88	10803	0.3182	0.3526
54)	C1-Naphthobenzothiophenes	35.17	10309	0.3036	0.3365
55)	C2-Naphthobenzothiophenes	35.94	13859	0.4082	0.4524
56)	C3-Naphthobenzothiophenes	37.11	13128	0.3867	0.4285
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.69	6715	0.1960	0.2172
68)	Chrysene/Triphenylene	33.81	15318	0.4966	0.5504
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.22	23016	0.6723	0.7451
78)	Benzo(k,j)fluoranthene	37.26	8654	0.2685	0.2975
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.19	13126	0.3801	0.4213
81)	Benzo(a)pyrene	38.39	2293	0.0714	0.0791
89)	Perylene	38.70	293	0.0090	0.0100
82)	Indeno(1,2,3-c,d)pyrene	43.04	9326	0.2615	0.2898
83)	Dibenzo(a,h)anthracene	43.11	2075	0.0754	0.0836
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.41	7981	0.2506	0.2777

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.08	16790	1.0120	1.1215
10)	1-Methylnaphthalene	16.39	7857	0.5047	0.5593
11)	2,6-Dimethylnaphthalene	18.20	12225	0.8619	0.9552
12)	1,6,7-Trimethylnaphthalene	21.01	2235	0.1689	0.1872
27)	1-Methylfluorene	23.44	2965	0.2633	0.2918
35)	4-Methyldibenzothiophene	25.83	4043	0.1915	0.2122
36)	2/3-Methyldibenzothiophene	26.14	2140	0.1013	0.1123
37)	1-Methyldibenzothiophene	26.45	2699	0.1278	0.1416
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	0.00	0	0.0000	0.0000
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	30.40	931	0.0486	0.0538
61)	Benzo(b)fluorene	31.02	806	0.0400	0.0444
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.74	345272	14.11	84.62
21)	Acenaphthene-d10	19.59	175057	12.68	76.01
32)	Phenanthrene-d10	24.68	342707	15.05	90.24
66)	Chrysene-d12	33.73	416723	13.85	83.07
88)	Perylene-d12	38.58	4842	0.17	1.02
90)	5(b)H-Cholane	34.16	74276	15.38	92.29
	Internal Standards				
1)	Fluorene-d10	21.37	233676	16.74	
31)	Pyrene-d10	29.57	474004	16.71	
73)	Benzo(a)pyrene-d12	38.31	378044	16.69	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1666.D
Acq On : 30 Aug 2013 11:03 pm
Operator : YM
Sample : SED-DA-012 (0-0.5)
Misc :
ALS Vial : 23 Sample Multiplier: 0.06667

Quant Time: Sep 01 17:04:08 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	233676m	251.05	0.00
31) Pyrene-d10	29.566	212	474004m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	378044m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.739	136	345272m	14.11	0.00
21) Acenaphthene-d10	19.589	164	175057m	12.68	0.00
32) Phenanthrene-d10	24.683	188	342707m	15.05	0.00
66) Chrysene-d12	33.731	240	416723m	13.85	0.00
88) Perylene-d12	38.580	264	4842m	0.17	-0.04
90) 5(b)H-Cholane	34.158	217	74276m	15.38	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	0.000		0	N.D. d	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	20394m	0.82	
9) 2-Methylnaphthalene	16.079	142	16790m	1.01	
10) 1-Methylnaphthalene	16.385	142	7857m	0.50	
11) 2,6-Dimethylnaphthalene	18.196	156	12225m	0.86	
12) 1,6,7-Trimethylnaphtha...	21.009	170	2235m	0.17	
13) C2-Naphthalenes	18.419	156	43124m	1.72	
14) C3-Naphthalenes	20.786	170	37886m	1.51	
15) C4-Naphthalenes	21.483	184	33966m	1.36	
16) Benzothiophene	0.000		0	N.D. d	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.639	154	6287m	0.30	
23) Acenaphthylene	19.115	152	1130m	0.05	
24) Acenaphthene	19.644	154	528m	0.04	
25) Dibenzofuran	20.313	168	19489m	0.86	
26) Fluorene	21.483	166	20371m	1.14	
27) 1-Methylfluorene	23.436	180	2965m	0.26	
28) C1-Fluorenes	23.436	180	8280m	0.46	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.514	167	941m	0.04	
34) Dibenzothiophene	24.337	184	9275m	0.38	
35) 4-Methyldibenzothiophene	25.826	198	4043m	0.19	
36) 2/3-Methyldibenzothiop...	26.137	198	2140m	0.10	
37) 1-Methyldibenzothiophene	26.449	198	2699m	0.13	
38) C2-Dibenzothiophenes	27.903	212	9580m	0.39	
39) C3-Dibenzothiophenes	29.427	226	6462m	0.26	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	100265m	3.33	
42) Anthracene	0.000		0	N.D. d	
43) 3-Methylphenanthrene	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1666.D
Acq On : 30 Aug 2013 11:03 pm
Operator : YM
Sample : SED-DA-012 (0-0.5)
Misc :
ALS Vial : 23 Sample Multiplier: 0.06667

Quant Time: Sep 01 17:04:08 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	0.000		0	N.D. d	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D. d	
49) Retene	0.000		0	N.D. d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53) Naphthobenzothiophene	32.878	234	10803m	0.32	
54) C1-Naphthobenzothiophenes	35.166	248	10309m	0.30	
55) C2-Naphthobenzothiophenes	35.942	262	13859m	0.41	
56) C3-Naphthobenzothiophenes	37.106	276	13128m	0.39	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.838	202	36495m	1.12	
59) Pyrene	29.635	202	20547m	0.60	
60) 2-Methylfluoranthene	30.397	216	931m	0.05	
61) Benzo(b)fluorene	31.020	216	806m	0.04	
62) C1-Fluoranthenes/Pyrenes	30.778	216	6886m	0.21	
63) C2-Fluoranthenes/Pyrenes	33.731	230	11676m	0.36	
64) C3-Fluoranthenes/Pyrenes	34.158	244	4106m	0.13	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	33.692	228	6715m	0.20	
68) Chrysene/Triphenylene	33.809	228	15318m	0.50	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	0.000		0	N.D. d	
77) Benzo(b)fluoranthene	37.223	252	23016m	0.67	
78) Benzo(k,j)fluoranthene	37.261	252	8654m	0.27	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.193	252	13126m	0.38	
81) Benzo(a)pyrene	38.386	252	2293m	0.07	
82) Indeno(1,2,3-c,d)pyrene	43.041	276	9326m	0.26	
83) Dibenzo(a,h)anthracene	43.115	278	2075m	0.08	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.405	276	7981m	0.25	
89) Perylene	38.697	252	293m	0.01	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D. d	
95) C28(20S)-TAS	0.000		0	N.D. d	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1666.D
Acq On : 30 Aug 2013 11:03 pm
Operator : YM
Sample : SED-DA-012 (0-0.5)
Misc :
ALS Vial : 23 Sample Multiplier: 0.06667

Quant Time: Sep 01 17:04:08 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

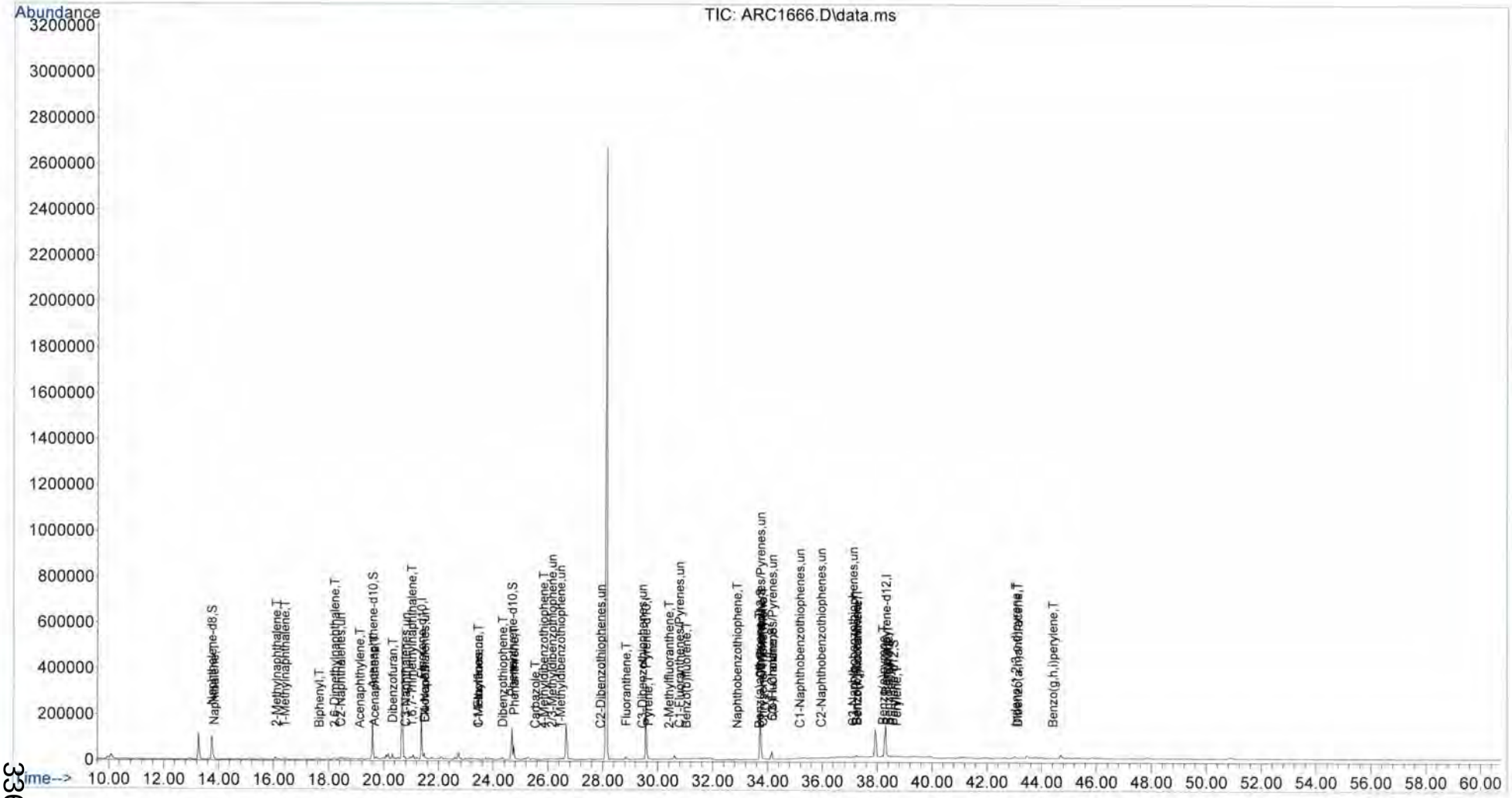
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1666.D
Acq On : 30 Aug 2013 11:03 pm
Operator : YM
Sample : SED-DA-012 (0-0.5)
Misc :
ALS Vial : 23 Sample Multiplier: 0.06667

Quant Time: Sep 01 17:04:08 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration



Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name ARC1669.D
Data File Path C:\msdchem\2\data\MS70060\
Operator YM
Date Acquired 8/31/2013 0:11
Acq. Method File PAH-2012.M
Sample Name SED-DA-013 (0-0.5)
Misc Info 0
Instrument Name GCMSD
Vial Number 24
Sample Multiplier 0.06583
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

ARC1669.D
SED-DA-013 (0-0.5)
8/31/2013
PAH-2012.M
15.19064256

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.82	29233	1.1484	1.3188
9)+10)	C1-Naphthalenes	16.23	26931	1.0579	1.2149
13)	C2-Naphthalenes	18.42	60359	2.3711	2.7230
14)	C3-Naphthalenes	20.79	57732	2.2679	2.6044
15)	C4-Naphthalenes	0.00	0	0.0000	0.0000
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.64	5285	0.2505	0.2877
23)	Acenaphthylene	0.00	0	0.0000	0.0000
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	20.31	16334	0.7119	0.8176
26)	Fluorene	21.48	19772	1.0836	1.2444
28)	C1-Fluorenes	23.44	8442	0.4627	0.5313
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	25.51	860	0.0381	0.0437
42)	Anthracene	24.93	1172	0.0414	0.0476
41)	Phenanthrene	24.75	79198	2.5783	2.9609
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	7428	0.2966	0.3407
35)+36)+37)	C1-Dibenzothiophenes	26.14	9458	0.3777	0.4338
38)	C2-Dibenzothiophenes	27.90	9698	0.3873	0.4448
39)	C3-Dibenzothiophenes	29.43	10931	0.4365	0.5013
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.84	14247	0.4289	0.4925
59)	Pyrene	29.63	14914	0.4287	0.4923
62)	C1-Fluoranthenes/Pyrenes	30.60	10413	0.3134	0.3600
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	32.84	11110	0.3206	0.3681
54)	C1-Naphthobenzothiophenes	34.04	11475	0.3311	0.3802
55)	C2-Naphthobenzothiophenes	35.94	19536	0.5637	0.6473
56)	C3-Naphthobenzothiophenes	37.11	14404	0.4156	0.4773
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.69	2563	0.0733	0.0842
68)	Chrysene/Triphenylene	33.81	4722	0.1500	0.1722
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.22	7872	0.2248	0.2582
78)	Benzo(k,j)fluoranthene	37.26	2314	0.0702	0.0806
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.19	4604	0.1304	0.1497
81)	Benzo(a)pyrene	38.39	1406	0.0428	0.0492
89)	Perylene	38.70	29960	0.8985	1.0319
82)	Indeno(1,2,3-c,d)pyrene	43.04	2756	0.0756	0.0868
83)	Dibenzo(a,h)anthracene	43.11	843	0.0300	0.0344
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.41	2741	0.0841	0.0966

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.08	17700	1.0485	1.2041
10)	1-Methylnaphthalene	16.39	9231	0.5827	0.6692
11)	2,6-Dimethylnaphthalene	18.20	14301	0.9909	1.1380
12)	1,6,7-Trimethylnaphthalene	21.01	3789	0.2814	0.3232
27)	1-Methylfluorene	23.44	3272	0.2856	0.3280
35)	4-Methyldibenzothiophene	25.83	3792	0.1759	0.2020
36)	2/3-Methyldibenzothiophene	26.14	2705	0.1255	0.1441
37)	1-Methyldibenzothiophene	26.45	2961	0.1374	0.1578
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	0.00	0	0.0000	0.0000
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	30.40	544	0.0278	0.0319
61)	Benzo(b)fluorene	31.02	515	0.0251	0.0288
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.74	334023	13.42	81.49
21)	Acenaphthene-d10	19.59	194307	13.83	83.98
32)	Phenanthrene-d10	24.68	333321	14.34	87.08
66)	Chrysene-d12	33.73	418648	13.63	82.81
88)	Perylene-d12	38.58	37026	1.27	7.70
90)	5(b)H-Cholane	34.16	73985	14.98	91.02
	Internal Standards				
1)	Fluorene-d10	21.37	234772	16.53	
31)	Pyrene-d10	29.57	477746	16.50	
73)	Benzo(a)pyrene-d12	38.31	381816	16.48	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1669.D
Acq On : 31 Aug 2013 12:11 am
Operator : YM
Sample : SED-DA-013 (0-0.5)
Misc :
ALS Vial : 24 Sample Multiplier: 0.06583

Quant Time: Sep 02 19:58:42 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	234772m	251.05	0.00
31) Pyrene-d10	29.566	212	477746m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	381816m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.739	136	334023m	13.42	0.00
21) Acenaphthene-d10	19.589	164	194307m	13.83	0.00
32) Phenanthrene-d10	24.683	188	333321m	14.34	0.00
66) Chrysene-d12	33.731	240	418648m	13.63	0.00
88) Perylene-d12	38.581	264	37026m	1.27	-0.04
90) 5(b)H-Cholane	34.158	217	73985m	14.98	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	0.000		0	N.D. d	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	29233m	1.15	
9) 2-Methylnaphthalene	16.079	142	17700m	1.05	
10) 1-Methylnaphthalene	16.385	142	9231m	0.58	
11) 2,6-Dimethylnaphthalene	18.196	156	14301m	0.99	
12) 1,6,7-Trimethylnaphtha...	21.009	170	3789m	0.28	
13) C2-Naphthalenes	18.419	156	60359m	2.37	
14) C3-Naphthalenes	20.786	170	57732m	2.27	
15) C4-Naphthalenes	0.000		0	N.D. d	
16) Benzothiophene	0.000		0	N.D. d	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.639	154	5285m	0.25	
23) Acenaphthylene	0.000		0	N.D. d	
24) Acenaphthene	0.000		0	N.D. d	
25) Dibenzofuran	20.313	168	16334m	0.71	
26) Fluorene	21.483	166	19772m	1.08	
27) 1-Methylfluorene	23.436	180	3272m	0.29	
28) C1-Fluorenes	23.436	180	8442m	0.46	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.514	167	860m	0.04	
34) Dibenzothiophene	24.337	184	7428m	0.30	
35) 4-Methyldibenzothiophene	25.826	198	3792m	0.18	
36) 2/3-Methyldibenzothiop...	26.137	198	2705m	0.13	
37) 1-Methyldibenzothiophene	26.449	198	2961m	0.14	
38) C2-Dibenzothiophenes	27.903	212	9698m	0.39	
39) C3-Dibenzothiophenes	29.427	226	10931m	0.44	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	79198m	2.58	
42) Anthracene	24.925	178	1172m	0.04	
43) 3-Methylphenanthrene	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1669.D
Acq On : 31 Aug 2013 12:11 am
Operator : YM
Sample : SED-DA-013 (0-0.5)
Misc :
ALS Vial : 24 Sample Multiplier: 0.06583

Quant Time: Sep 02 19:58:42 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	0.000		0	N.D. d	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D. d	
49) Retene	0.000		0	N.D. d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53) Naphthobenzothiophene	32.839	234	11110m	0.32	
54) C1-Naphthobenzothiophenes	34.042	248	11475m	0.33	
55) C2-Naphthobenzothiophenes	35.942	262	19536m	0.56	
56) C3-Naphthobenzothiophenes	37.106	276	14404m	0.42	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.838	202	14247m	0.43	
59) Pyrene	29.635	202	14914m	0.43	
60) 2-Methylfluoranthene	30.397	216	544m	0.03	
61) Benzo(b)fluorene	31.020	216	515m	0.03	
62) C1-Fluoranthenes/Pyrenes	30.604	216	10413m	0.31	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	33.692	228	2563m	0.07	
68) Chrysene/Triphenylene	33.809	228	4722m	0.15	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	0.000		0	N.D. d	
77) Benzo(b)fluoranthene	37.223	252	7872m	0.22	
78) Benzo(k,j)fluoranthene	37.261	252	2314m	0.07	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.193	252	4604m	0.13	
81) Benzo(a)pyrene	38.387	252	1406m	0.04	
82) Indeno(1,2,3-c,d)pyrene	43.041	276	2756m	0.08	
83) Dibenzo(a,h)anthracene	43.115	278	843m	0.03	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.405	276	2741m	0.08	
89) Perylene	38.697	252	29960m	0.90	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D. d	
95) C28(20S)-TAS	0.000		0	N.D. d	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1669.D
Acq On : 31 Aug 2013 12:11 am
Operator : YM
Sample : SED-DA-013 (0-0.5)
Misc :
ALS Vial : 24 Sample Multiplier: 0.06583

Quant Time: Sep 02 19:58:42 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

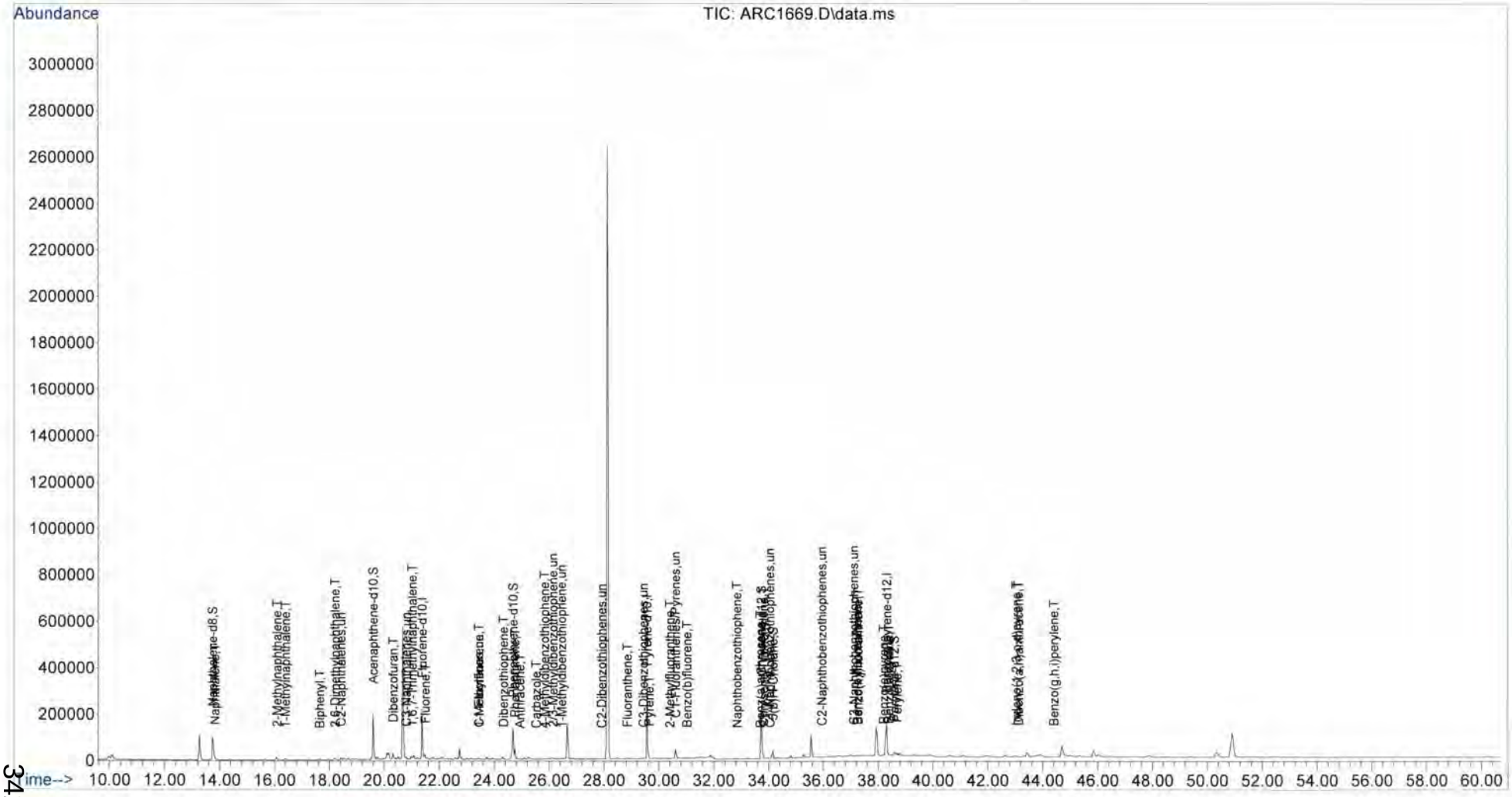
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1669.D
Acq On : 31 Aug 2013 12:11 am
Operator : YM
Sample : SED-DA-013 (0-0.5)
Misc :
ALS Vial : 24 Sample Multiplier: 0.06583

Quant Time: Sep 02 19:58:42 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration



Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name ARC1670.D
Data File Path C:\msdchem\1\DATA\MS70060\
Operator YM
Date Acquired 8/31/2013 1:20
Acq. Method File PAH-2012.M
Sample Name SED-DA-014 (0-0.5)
Misc Info 0
Instrument Name GCMSD
Vial Number 25
Sample Multiplier 0.06636
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

ARC1670.D
SED-DA-014 (0-0.5)
8/31/2013
PAH-2012.M
15.06931887

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.82	17305	0.6623	0.7128
9)+10)	C1-Naphthalenes	16.23	16253	0.6220	0.6695
13)	C2-Naphthalenes	18.42	38280	1.4650	1.5768
14)	C3-Naphthalenes	20.09	65863	2.5206	2.7129
15)	C4-Naphthalenes	21.48	36655	1.4028	1.5098
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.64	5024	0.2320	0.2497
23)	Acenaphthylene	19.11	916	0.0371	0.0399
24)	Acenaphthene	19.70	725	0.0474	0.0511
25)	Dibenzofuran	20.31	18669	0.7927	0.8532
26)	Fluorene	21.48	20174	1.0771	1.1593
28)	C1-Fluorenes	23.44	8581	0.4582	0.4931
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	25.51	1112	0.0505	0.0543
42)	Anthracene	24.93	769	0.0279	0.0300
41)	Phenanthrene	24.75	94501	3.1535	3.3941
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	7930	0.3246	0.3494
35)+36)+37)	C1-Dibenzothiophenes	26.14	8910	0.3647	0.3926
38)	C2-Dibenzothiophenes	27.90	13708	0.5612	0.6040
39)	C3-Dibenzothiophenes	28.73	16574	0.6785	0.7303
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.84	12312	0.3799	0.4089
59)	Pyrene	29.63	9220	0.2717	0.2924
62)	C1-Fluoranthenes/Pyrenes	31.44	7992	0.2466	0.2654
63)	C2-Fluoranthenes/Pyrenes	33.73	11121	0.3431	0.3693
64)	C3-Fluoranthenes/Pyrenes	34.31	8328	0.2570	0.2766
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	32.88	7252	0.2145	0.2309
54)	C1-Naphthobenzothiophenes	35.17	9914	0.2932	0.3156
55)	C2-Naphthobenzothiophenes	35.94	19347	0.5722	0.6159
56)	C3-Naphthobenzothiophenes	37.11	12835	0.3796	0.4086
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.73	1834	0.0538	0.0579
68)	Chrysene/Triphenylene	33.73	2504	0.0815	0.0877
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.22	3820	0.1090	0.1173
78)	Benzo(k,j)fluoranthene	37.26	1057	0.0320	0.0345
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.19	2942	0.0832	0.0896
81)	Benzo(a)pyrene	38.39	1313	0.0399	0.0430
89)	Perylene	38.70	60899	1.8246	1.9638
82)	Indeno(1,2,3-c,d)pyrene	43.04	1836	0.0503	0.0541
83)	Dibenzo(a,h)anthracene	43.11	423	0.0150	0.0162
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.37	2420	0.0742	0.0799

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.08	10324	0.5958	0.6413
10)	1-Methylnaphthalene	16.38	5929	0.3646	0.3924
11)	2,6-Dimethylnaphthalene	18.20	9239	0.6237	0.6713
12)	1,6,7-Trimethylnaphthalene	21.01	2868	0.2075	0.2234
27)	1-Methylfluorene	23.44	3538	0.3009	0.3238
35)	4-Methyldibenzothiophene	25.83	4228	0.2011	0.2164
36)	2/3-Methyldibenzothiophene	26.14	1944	0.0924	0.0995
37)	1-Methyldibenzothiophene	26.45	2738	0.1302	0.1401
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	0.00	0	0.0000	0.0000
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	30.40	413	0.0216	0.0233
61)	Benzo(b)fluorene	31.02	642	0.0320	0.0345
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.74	349912	13.69	82.50
21)	Acenaphthene-d10	19.59	211360	14.66	88.28
32)	Phenanthrene-d10	24.68	349752	15.43	92.91
66)	Chrysene-d12	33.73	444516	14.83	89.40
88)	Perylene-d12	38.58	406131	13.89	83.69
90)	5(b)H-Cholane	34.16	76084	15.39	92.77
	Internal Standards				
1)	Fluorene-d10	21.37	242926	16.66	
31)	Pyrene-d10	29.57	469827	16.63	
73)	Benzo(a)pyrene-d12	38.31	385270	16.61	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1670.D
Acq On : 31 Aug 2013 1:20 am
Operator : YM
Sample : SED-DA-014 (0-0.5)
Misc :
ALS Vial : 25 Sample Multiplier: 0.06636

Quant Time: Sep 05 15:51:08 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	242926m	251.05	0.00
31) Pyrene-d10	29.565	212	469827m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	385270m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.738	136	349912m	13.69	0.00
21) Acenaphthene-d10	19.588	164	211360m	14.66	0.00
32) Phenanthrene-d10	24.683	188	349752m	15.43	0.00
66) Chrysene-d12	33.731	240	444516m	14.83	0.00
88) Perylene-d12	38.580	264	406131m	13.89	-0.04
90) 5(b)H-Cholane	34.158	217	76084m	15.39	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	0.000		0	N.D. d	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	17305m	0.66	
9) 2-Methylnaphthalene	16.078	142	10324m	0.60	
10) 1-Methylnaphthalene	16.385	142	5929m	0.36	
11) 2,6-Dimethylnaphthalene	18.196	156	9239m	0.62	
12) 1,6,7-Trimethylnaphtha...	21.009	170	2868m	0.21	
13) C2-Naphthalenes	18.418	156	38280m	1.46	
14) C3-Naphthalenes	20.090	170	65863m	2.52	
15) C4-Naphthalenes	21.483	184	36655m	1.40	
16) Benzothiophene	0.000		0	N.D. d	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.638	154	5024m	0.23	
23) Acenaphthylene	19.115	152	916m	0.04	
24) Acenaphthene	19.700	154	725m	0.05	
25) Dibenzofuran	20.313	168	18669m	0.79	
26) Fluorene	21.483	166	20174m	1.08	
27) 1-Methylfluorene	23.436	180	3538m	0.30	
28) C1-Fluorenes	23.436	180	8581m	0.46	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.514	167	1112m	0.05	
34) Dibenzothiophene	24.337	184	7930m	0.32	
35) 4-Methyldibenzothiophene	25.826	198	4228m	0.20	
36) 2/3-Methyldibenzothiop...	26.137	198	1944m	0.09	
37) 1-Methyldibenzothiophene	26.449	198	2738m	0.13	
38) C2-Dibenzothiophenes	27.903	212	13708m	0.56	
39) C3-Dibenzothiophenes	28.734	226	16574m	0.68	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	94501m	3.15	
42) Anthracene	24.925	178	769m	0.03	
43) 3-Methylphenanthrene	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1670.D
Acq On : 31 Aug 2013 1:20 am
Operator : YM
Sample : SED-DA-014 (0-0.5)
Misc :
ALS Vial : 25 Sample Multiplier: 0.06636

Quant Time: Sep 05 15:51:08 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	0.000		0	N.D. d	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D. d	
49) Retene	0.000		0	N.D. d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53) Naphthobenzothiophene	32.877	234	7252m	0.21	
54) C1-Naphthobenzothiophenes	35.166	248	9914m	0.29	
55) C2-Naphthobenzothiophenes	35.942	262	19347m	0.57	
56) C3-Naphthobenzothiophenes	37.106	276	12835m	0.38	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.838	202	12312m	0.38	
59) Pyrene	29.635	202	9220m	0.27	
60) 2-Methylfluoranthene	30.396	216	413m	0.02	
61) Benzo(b)fluorene	31.020	216	642m	0.03	
62) C1-Fluoranthenes/Pyrenes	31.435	216	7992m	0.25	
63) C2-Fluoranthenes/Pyrenes	33.731	230	11121m	0.34	
64) C3-Fluoranthenes/Pyrenes	34.313	244	8328m	0.26	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	33.731	228	1834m	0.05	
68) Chrysene/Triphenylene	33.731	228	2504m	0.08	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	0.000		0	N.D. d	
77) Benzo(b)fluoranthene	37.222	252	3820m	0.11	
78) Benzo(k,j)fluoranthene	37.261	252	1057m	0.03	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.192	252	2942m	0.08	
81) Benzo(a)pyrene	38.386	252	1313m	0.04	
82) Indeno(1,2,3-c,d)pyrene	43.041	276	1836m	0.05	
83) Dibenzo(a,h)anthracene	43.115	278	423m	0.02	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.368	276	2420m	0.07	
89) Perylene	38.697	252	60899m	1.82	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D. d	
95) C28(20S)-TAS	0.000		0	N.D. d	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1670.D
Acq On : 31 Aug 2013 1:20 am
Operator : YM
Sample : SED-DA-014 (0-0.5)
Misc :
ALS Vial : 25 Sample Multiplier: 0.06636

Quant Time: Sep 05 15:51:08 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

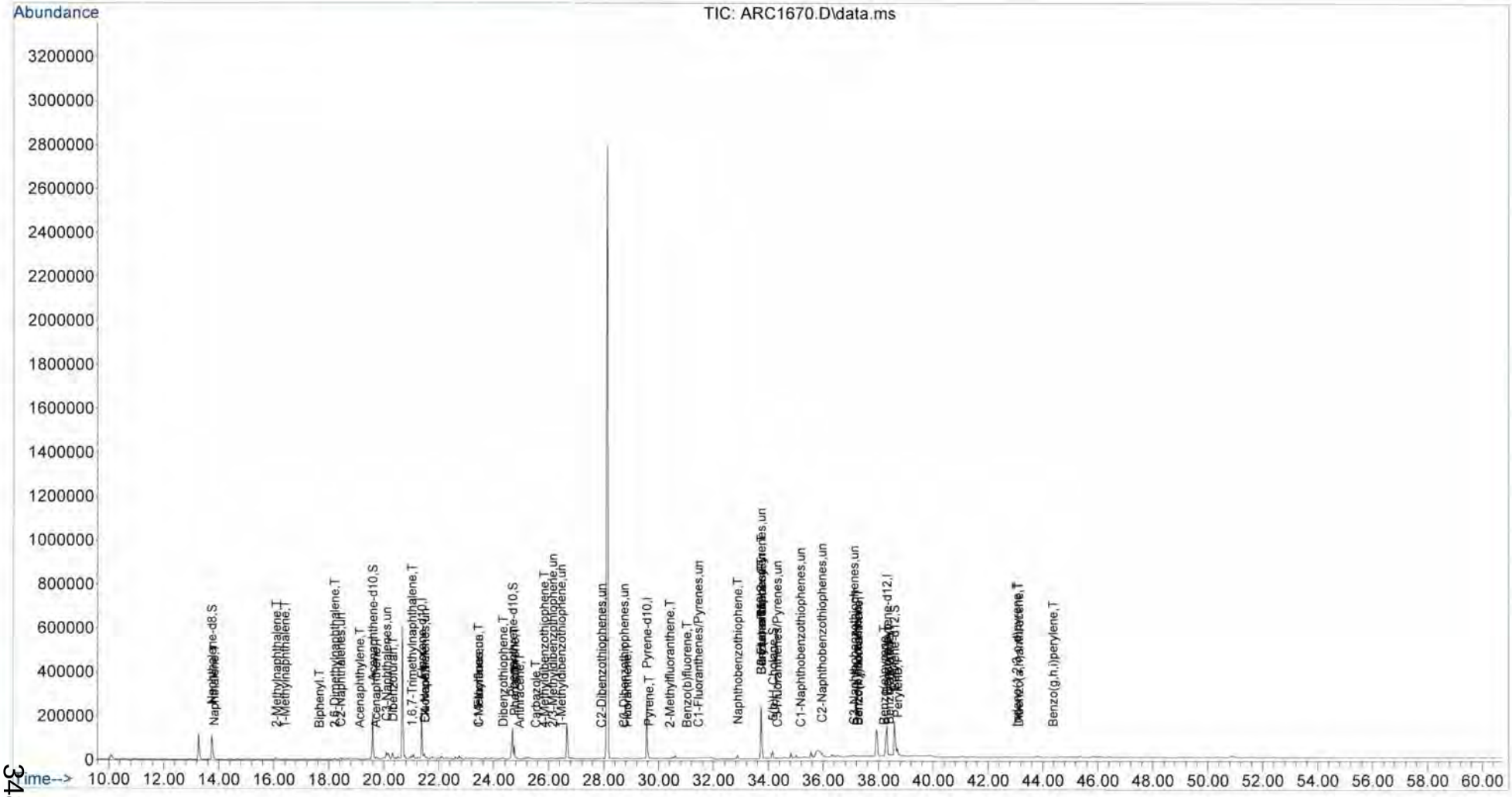
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1670.D
Acq On : 31 Aug 2013 1:20 am
Operator : YM
Sample : SED-DA-014 (0-0.5)
Misc :
ALS Vial : 25 Sample Multiplier: 0.06636

Quant Time: Sep 05 15:51:08 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration



Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name ARC1671.D
Data File Path C:\msdchem\2\data\MS70060\
Operator YM
Date Acquired 8/31/2013 2:29
Acq. Method File PAH-2012.M
Sample Name SED-DA-015 (0-0.5)
Misc Info 0
Instrument Name GCMSD
Vial Number 26
Sample Multiplier 0.06627
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

ARC1671.D
SED-DA-015 (0-0.5)
8/31/2013
PAH-2012.M
15.08978422

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.82	1257510	30.6123	32.2958
9)+10)	C1-Naphthalenes	16.22	10299300	250.7219	264.5101
13)	C2-Naphthalenes	18.53	40075100	975.5673	1029.2179
14)	C3-Naphthalenes	20.45	59155700	1440.0604	1519.2554
15)	C4-Naphthalenes	22.79	51814200	1261.3434	1330.7101
16)	Benzothiophene	14.02	164338	5.1850	5.4701
17)	C1-Benzothiophenes	16.36	1709600	53.9388	56.9051
18)	C2-Benzothiophenes	18.31	3404280	107.4071	113.3139
19)	C3-Benzothiophenes	20.56	14208800	448.2940	472.9476
20)	C4-Benzothiophenes	21.59	18158400	572.9061	604.4127
22)	Biphenyl	17.64	1296310	38.0789	40.1730
23)	Acenaphthylene	19.11	434055	11.1773	11.7920
24)	Acenaphthene	19.73	372415	15.5033	16.3559
25)	Dibenzofuran	20.31	1206090	32.5753	34.3667
26)	Fluorene	21.48	2205510	74.9056	79.0250
28)	C1-Fluorenes	23.47	8859390	300.8897	317.4369
29)	C2-Fluorenes	25.31	20616100	700.1823	738.6883
30)	C3-Fluorenes	27.28	19928600	676.8288	714.0505
33)	Carbazole	25.55	278260	10.0972	10.6524
42)	Anthracene	24.93	789256	22.8680	24.1256
41)	Phenanthrene	24.79	11745500	313.3345	330.5661
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.70	32919188	878.1846	926.4797
50)	C2-Phenanthrenes/Anthracenes	28.39	49961700	1332.8289	1406.1268
51)	C3-Phenanthrenes/Anthracenes	31.02	61940500	1652.3894	1743.2614
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.37	8202330	268.4266	283.1886
35)+36)+37)	C1-Dibenzothiophenes	26.18	30538260	999.3846	1054.3450
38)	C2-Dibenzothiophenes	27.28	54230800	1774.7371	1872.3375
39)	C3-Dibenzothiophenes	28.80	60298500	1973.3085	2081.8292
40)	C4-Dibenzothiophenes	29.81	43049200	1408.8140	1486.2907
58)	Fluoranthene	28.91	2381740	58.7501	61.9810
59)	Pyrene	29.70	4357420	102.6449	108.2898
62)	C1-Fluoranthenes/Pyrenes	31.19	12606000	310.9508	328.0513
63)	C2-Fluoranthenes/Pyrenes	32.92	26378700	650.6793	686.4629
64)	C3-Fluoranthenes/Pyrenes	34.00	17606500	434.2971	458.1810
65)	C4-Fluoranthenes/Pyrenes	35.13	16710100	412.1861	434.8540
53)	Naphthobenzothiophene	32.96	7631170	180.4347	190.3575
54)	C1-Naphthobenzothiophenes	34.70	20492500	484.5338	511.1803
55)	C2-Naphthobenzothiophenes	35.83	30723900	726.4451	766.3954
56)	C3-Naphthobenzothiophenes	37.18	23071400	545.5095	575.5093
57)	C4-Naphthobenzothiophenes	38.19	14110200	333.6264	351.9739
67)	Benz(a)anthracene	33.77	1083860	25.3989	26.7957
68)	Chrysene/Triphenylene	33.89	4274180	111.2468	117.3647
69)	C1-Chrysenes	35.13	12393600	322.5752	340.3150
70)	C2-Chrysenes	36.60	14433700	375.6740	396.3339
71)	C3-Chrysenes	38.00	9528630	248.0082	261.6472
72)	C4-Chrysenes	39.43	6203170	161.4543	170.3333
77)	Benzo(b)fluoranthene	37.34	2237600	52.8804	55.7885
78)	Benzo(k,j)fluoranthene	37.42	552432	13.8645	14.6270
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.31	2193660	51.3972	54.2238
81)	Benzo(a)pyrene	38.50	1139240	28.7011	30.2795
89)	Perylene	38.77	1177000	29.2107	30.8171
82)	Indeno(1,2,3-c,d)pyrene	43.19	655850	14.8791	15.6973
83)	Dibenzo(a,h)anthracene	43.26	257334	7.5675	7.9837
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.55	1214660	30.8586	32.5557

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	6022320	221.0767	233.2347
10)	1-Methylnaphthalene	16.38	4276980	167.3059	176.5068
11)	2,6-Dimethylnaphthalene	18.17	10344800	444.2018	468.6304
12)	1,6,7-Trimethylnaphthalene	21.04	4086800	188.1120	198.4571
27)	1-Methylfluorene	23.47	3730670	201.8034	212.9014
35)	4-Methyldibenzothiophene	25.86	12633200	480.2666	506.6786
36)	2/3-Methyldibenzothiophene	26.17	10832400	411.8084	434.4555
37)	1-Methyldibenzothiophene	26.52	7072660	268.8766	283.6633
43)	3-Methylphenanthrene	26.45	6468840	225.9535	238.3797
44)	2-Methylphenanthrene	26.55	8918420	311.5167	328.6483
45)	2-Methylanthracene	26.73	747908	26.1241	27.5608
46)	4/9-Methylphenanthrene	26.83	10471100	365.7521	385.8663
47)	1-Methylphenanthrene	26.93	6312920	220.5075	232.6341
48)	3,6-Dimethylphenanthrene	28.01	2568330	109.9161	115.9608
49)	Retene	30.67	1149280	119.7598	126.3459
60)	2-Methylfluoranthene	30.47	519716	21.7599	22.9566
61)	Benzo(b)fluorene	31.05	1031330	41.1226	43.3841
74)	C29-Hopane	40.76	9813390	769.3748	811.6860
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	42.05	10909100	855.2806	902.3161
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.74	515597	12.83	77.43
21)	Acenaphthene-d10	19.62	338479	14.93	90.05
32)	Phenanthrene-d10	24.72	445734	15.72	94.79
66)	Chrysene-d12	33.81	621876	16.59	100.12
88)	Perylene-d12	38.70	491025	13.91	83.93
90)	5(b)H-Cholane	34.20	171877	28.80	173.83
	Internal Standards				
1)	Fluorene-d10	21.34	381383	16.64	
31)	Pyrene-d10	29.63	586903	16.61	
73)	Benzo(a)pyrene-d12	38.39	464477	16.59	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1671.D
Acq On : 31 Aug 2013 2:29 am
Operator : YM
Sample : SED-DA-015 (0-0.5)
Misc :
ALS Vial : 26 Sample Multiplier: 0.06627

Quant Time: Sep 02 20:05:08 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.343	176	381383m	251.05	-0.03
31) Pyrene-d10	29.635	212	586903m	250.63	0.07
73) Benzo(a)pyrene-d12	38.386	264	464477m	250.32	0.08
System Monitoring Compounds					
2) Naphthalene-d8	13.739	136	515597m	12.83	0.00
21) Acenaphthene-d10	19.616	164	338479m	14.93	0.03
32) Phenanthrene-d10	24.718	188	445734m	15.72	0.03
66) Chrysene-d12	33.809	240	621876m	16.59	0.08
88) Perylene-d12	38.697	264	491025m	13.91	0.08
90) 5(b)H-Cholane	34.197	217	171877m	28.80	0.04
Target Compounds					Qvalue
3) cis/trans Decalin	0.000		0	N.D. d	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	1257511m	30.61	
9) 2-Methylnaphthalene	16.051	142	6022321m	221.08	
10) 1-Methylnaphthalene	16.385	142	4276977m	167.31	
11) 2,6-Dimethylnaphthalene	18.168	156	10344756m	444.20	
12) 1,6,7-Trimethylnaphtha...	21.037	170	4086801m	188.11	
13) C2-Naphthalenes	18.530	156	40075078m	975.57	
14) C3-Naphthalenes	20.452	170	59155663m	1440.06	
15) C4-Naphthalenes	22.792	184	51814180m	1261.34	
16) Benzothiophene	14.017	134	164338m	5.18	
17) C1-Benzothiophenes	16.357	148	1709601m	53.94	
18) C2-Benzothiophenes	18.307	162	3404282m	107.41	
19) C3-Benzothiophenes	20.563	176	14208753m	448.29	
20) C4-Benzothiophenes	21.594	190	18158353m	572.91	
22) Biphenyl	17.639	154	1296313m	38.08	
23) Acenaphthylene	19.115	152	434055m	11.18	
24) Acenaphthene	19.728	154	372415m	15.50	
25) Dibenzofuran	20.313	168	1206088m	32.58	
26) Fluorene	21.483	166	2205511m	74.91	
27) 1-Methylfluorene	23.471	180	3730667m	201.80	
28) C1-Fluorenes	23.471	180	8859387m	300.89	
29) C2-Fluorenes	25.306	194	20616083m	700.18	
30) C3-Fluorenes	27.280	208	19928613m	676.83	
33) Carbazole	25.549	167	278260m	10.10	
34) Dibenzothiophene	24.371	184	8202334m	268.43	
35) 4-Methyldibenzothiophene	25.860	198	12633175m	480.27	
36) 2/3-Methyldibenzothiop...	26.172	198	10832416m	411.81	
37) 1-Methyldibenzothiophene	26.518	198	7072658m	268.88	
38) C2-Dibenzothiophenes	27.280	212	54230811m	1774.74	
39) C3-Dibenzothiophenes	28.804	226	60298507m	1973.31	
40) C4-Dibenzothiophenes	29.808	240	43049212m	1408.81	
41) Phenanthrene	24.787	178	11745479m	313.33	
42) Anthracene	24.925	178	789256m	22.87	
43) 3-Methylphenanthrene	26.449	192	6468838m	225.95	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1671.D
Acq On : 31 Aug 2013 2:29 am
Operator : YM
Sample : SED-DA-015 (0-0.5)
Misc :
ALS Vial : 26 Sample Multiplier: 0.06627

Quant Time: Sep 02 20:05:08 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Methylphenanthrene	26.553	192	8918424m	311.52	
45) 2-Methylanthracene	26.726	192	747908m	26.12	
46) 4/9-Methylphenanthrene	26.830	192	10471122m	365.75	
47) 1-Methylphenanthrene	26.934	192	6312916m	220.51	
48) 3,6-Dimethylphenanthrene	28.007	206	2568328m	109.92	
49) Retene	30.674	234	1149281m	119.76	
50) C2-Phenanthrenes/Anthr...	28.388	206	49961704m	1332.83	
51) C3-Phenanthrenes/Anthr...	31.020	220	61940471m	1652.39	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d
53) Naphthobenzothiophene	32.955	234	7631165m	180.43	
54) C1-Naphthobenzothiophenes	34.701	248	20492528m	484.53	
55) C2-Naphthobenzothiophenes	35.826	262	30723890m	726.45	
56) C3-Naphthobenzothiophenes	37.184	276	23071392m	545.51	
57) C4-Naphthobenzothiophenes	38.192	290	14110154m	333.63	
58) Fluoranthene	28.908	202	2381741m	58.75	
59) Pyrene	29.704	202	4357420m	102.64	
60) 2-Methylfluoranthene	30.466	216	519716m	21.76	
61) Benzo(b)fluorene	31.055	216	1031333m	41.12	
62) C1-Fluoranthenes/Pyrenes	31.193	216	12606018m	310.95	
63) C2-Fluoranthenes/Pyrenes	32.916	230	26378704m	650.68	
64) C3-Fluoranthenes/Pyrenes	34.003	244	17606499m	434.30	
65) C4-Fluoranthenes/Pyrenes	35.128	258	16710115m	412.19	
67) Benz(a)anthracene	33.770	228	1083861m	25.40	
68) Chrysene/Triphenylene	33.886	228	4274177m	111.25	
69) C1-Chrysenes	35.128	242	12393556m	322.58	
70) C2-Chrysenes	36.602	256	14433656m	375.67	
71) C3-Chrysenes	37.999	270	9528630m	248.01	
72) C4-Chrysenes	39.434	284	6203172m	161.45	
74) C29-Hopane	40.755	191	9813388m	769.38	
75) 18a-Oleanane	0.000		0	N.D.	d
76) C30-Hopane	42.046	191	10909136m	855.28	
77) Benzo(b)fluoranthene	37.339	252	2237598m	52.88	
78) Benzo(k,j)fluoranthene	37.417	252	552432m	13.86	
79) Benzo(a)fluoranthene	0.000		0	N.D.	d
80) Benzo(e)pyrene	38.309	252	2193662m	51.40	
81) Benzo(a)pyrene	38.503	252	1139237m	28.70	
82) Indeno(1,2,3-c,d)pyrene	43.189	276	655850m	14.88	
83) Dibenzo(a,h)anthracene	43.262	278	257334m	7.57	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d
87) Benzo(g,h,i)perylene	44.553	276	1214659m	30.86	
89) Perylene	38.774	252	1177001m	29.21	
91) C20-TAS	0.000		0	N.D.	d
92) C21-TAS	0.000		0	N.D.	d
93) C26(20S)-TAS	0.000		0	N.D.	d
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d
95) C28(20S)-TAS	0.000		0	N.D.	d
96) C27(20R)-TAS	0.000		0	N.D.	d
97) C28(20R)-TAS	0.000		0	N.D.	d

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1671.D
Acq On : 31 Aug 2013 2:29 am
Operator : YM
Sample : SED-DA-015 (0-0.5)
Misc :
ALS Vial : 26 Sample Multiplier: 0.06627

Quant Time: Sep 02 20:05:08 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

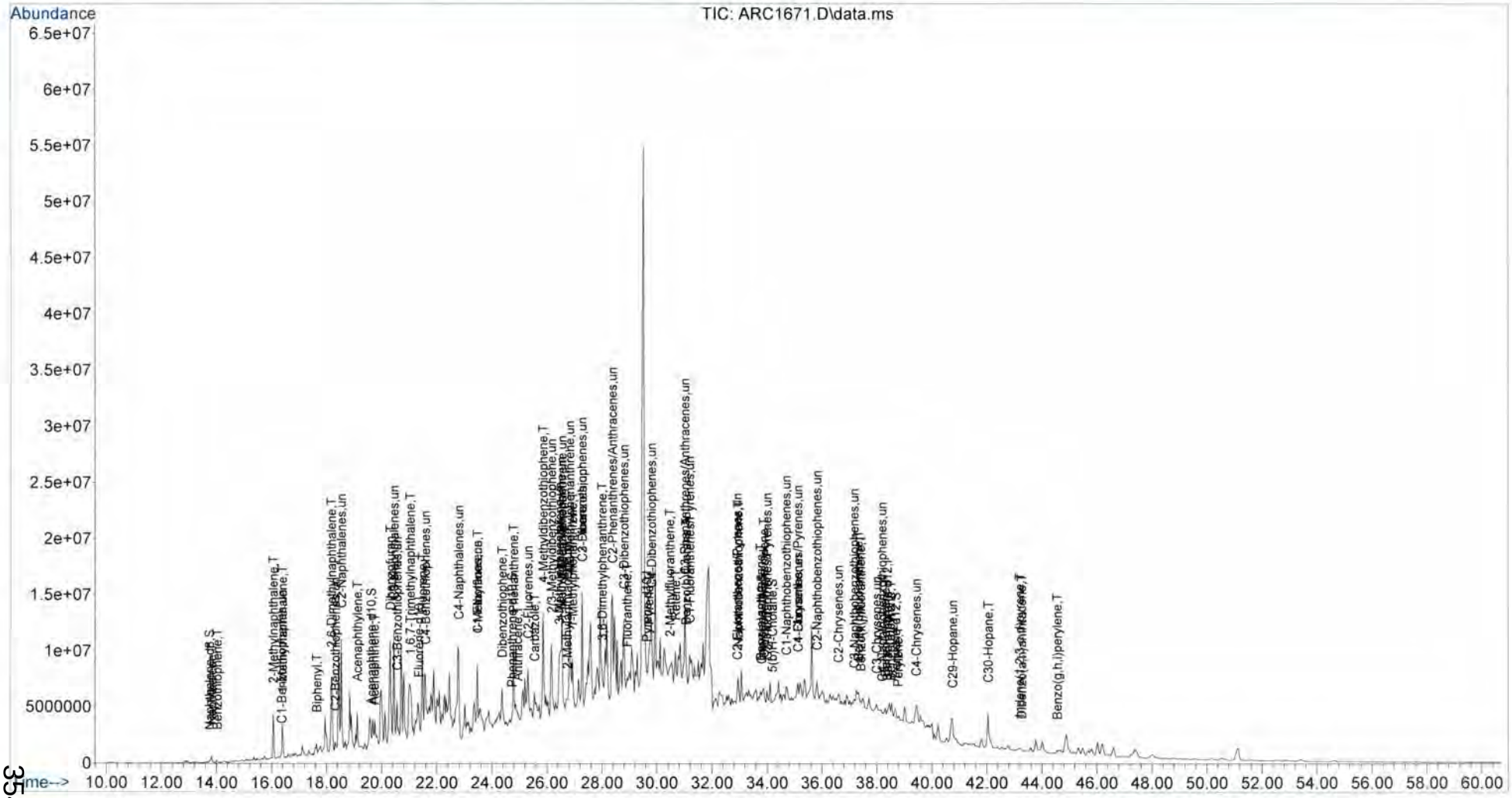
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1671.D
Acq On : 31 Aug 2013 2:29 am
Operator : YM
Sample : SED-DA-015 (0-0.5)
Misc :
ALS Vial : 26 Sample Multiplier: 0.06627

Quant Time: Sep 02 20:05:08 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration



Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name ARC1672.D
Data File Path C:\msdchem\2\data\MS70060\
Operator YM
Date Acquired 8/31/2013 3:38
Acq. Method File PAH-2012.M
Sample Name SED-DA-016 (0-0.5)
Misc Info 0
Instrument Name GCMSD
Vial Number 27
Sample Multiplier 0.06645
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

ARC1672.D
SED-DA-016 (0-0.5)
8/31/2013
PAH-2012.M
15.04890895

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.82	353258	12.4639	12.5856
9)+10)	C1-Naphthalenes	16.22	480039	16.9371	17.1025
13)	C2-Naphthalenes	18.42	1485790	52.4228	52.9348
14)	C3-Naphthalenes	20.31	769298	27.1430	27.4081
15)	C4-Naphthalenes	22.76	2430890	85.7683	86.6060
16)	Benzothiophene	13.99	28138	1.2867	1.2993
17)	C1-Benzothiophenes	16.33	257414	11.7712	11.8861
18)	C2-Benzothiophenes	17.55	1348930	61.6843	62.2868
19)	C3-Benzothiophenes	21.37	834543	38.1623	38.5350
20)	C4-Benzothiophenes	22.46	915879	41.8816	42.2907
22)	Biphenyl	17.64	158519	6.7489	6.8148
23)	Acenaphthylene	19.11	100467	3.7497	3.7863
24)	Acenaphthene	19.70	1193650	72.0198	72.7233
25)	Dibenzofuran	20.31	1374050	53.7888	54.3142
26)	Fluorene	21.48	1961930	96.5751	97.5184
28)	C1-Fluorenes	23.44	257092	12.6553	12.7789
29)	C2-Fluorenes	25.31	353747	17.4131	17.5832
30)	C3-Fluorenes	27.52	379346	18.6732	18.8556
33)	Carbazole	25.51	35185	1.6879	1.7044
42)	Anthracene	24.93	241732	9.2596	9.3500
41)	Phenanthrene	24.75	4886510	172.3387	174.0220
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.65	770514	27.1747	27.4401
50)	C2-Phenanthrenes/Anthracenes	28.15	846594	29.8579	30.1495
51)	C3-Phenanthrenes/Anthracenes	29.88	634922	22.3926	22.6113
52)	C4-Phenanthrenes/Anthracenes	30.64	514787	18.1557	18.3330
34)	Dibenzothiophene	24.34	323786	14.0086	14.1454
35)+36)+37)	C1-Dibenzothiophenes	26.14	204727	8.8575	8.9440
38)	C2-Dibenzothiophenes	27.56	226234	9.7880	9.8836
39)	C3-Dibenzothiophenes	28.73	322918	13.9710	14.1074
40)	C4-Dibenzothiophenes	30.15	127285	5.5070	5.5608
58)	Fluoranthene	28.84	1204010	39.2636	39.6471
59)	Pyrene	29.63	1007510	31.3766	31.6830
62)	C1-Fluoranthenes/Pyrenes	30.78	554705	18.0894	18.2660
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	33.42	189937	5.9372	5.9952
54)	C1-Naphthobenzothiophenes	34.31	244364	7.6386	7.7132
55)	C2-Naphthobenzothiophenes	35.36	393181	12.2905	12.4105
56)	C3-Naphthobenzothiophenes	36.83	240475	7.5170	7.5904
57)	C4-Naphthobenzothiophenes	38.00	527128	16.4775	16.6384
67)	Benz(a)anthracene	33.69	191888	5.9448	6.0028
68)	Chrysene/Triphenylene	33.85	327582	11.2720	11.3821
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.26	458508	23.7276	23.9593
78)	Benzo(k,j)fluoranthene	37.34	138998	7.6388	7.7134
79)	Benzo(a)fluoranthene	37.57	72544	3.9868	4.0257
80)	Benzo(e)pyrene	38.23	240489	12.3384	12.4589
81)	Benzo(a)pyrene	38.39	87967	4.8529	4.9002
89)	Perylene	38.70	943070	51.2510	51.7515
82)	Indeno(1,2,3-c,d)pyrene	43.23	111577	5.5429	5.5971
83)	Dibenzo(a,h)anthracene	43.23	128943	8.3032	8.3843
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.41	238911	13.2908	13.4206

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	234700	12.4874	12.6093
10)	1-Methylnaphthalene	16.38	245339	13.9097	14.0456
11)	2,6-Dimethylnaphthalene	18.17	314027	19.5437	19.7346
12)	1,6,7-Trimethylnaphthalene	21.01	49660	3.3130	3.3453
27)	1-Methylfluorene	23.44	65931	5.1691	5.2195
35)	4-Methyldibenzothiophene	25.83	68382	3.4368	3.4704
36)	2/3-Methyldibenzothiophene	26.14	106880	5.3717	5.4242
37)	1-Methyldibenzothiophene	26.45	29465	1.4809	1.4954
43)	3-Methylphenanthrene	26.41	215601	9.9561	10.0534
44)	2-Methylphenanthrene	26.52	214354	9.8985	9.9952
45)	2-Methylanthracene	26.66	96127	4.4390	4.4824
46)	4/9-Methylphenanthrene	26.80	126765	5.8538	5.9110
47)	1-Methylphenanthrene	26.86	117667	5.4337	5.4868
48)	3,6-Dimethylphenanthrene	27.97	42316	2.3942	2.4176
49)	Retene	30.64	51906	7.1507	7.2205
60)	2-Methylfluoranthene	30.43	61405	3.3989	3.4321
61)	Benzo(b)fluorene	31.02	62110	3.2741	3.3061
74)	C29-Hopane	40.64	482311	82.8020	83.6107
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	41.94	470625	80.7959	81.5850
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.77	411383	14.84	89.30
21)	Acenaphthene-d10	19.59	199953	12.78	76.89
32)	Phenanthrene-d10	24.68	353212	16.46	99.03
66)	Chrysene-d12	33.77	365976	12.91	77.69
88)	Perylene-d12	38.62	129139	8.01	48.21
90)	5(b)H-Cholane	34.16	91368	33.52	201.80
	Internal Standards				
1)	Fluorene-d10	21.37	263852	16.68	
31)	Pyrene-d10	29.57	445141	16.65	
73)	Benzo(a)pyrene-d12	38.31	212691	16.63	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1672.D
Acq On : 31 Aug 2013 3:38 am
Operator : YM
Sample : SED-DA-016 (0-0.5)
Misc :
ALS Vial : 27 Sample Multiplier: 0.06645

Quant Time: Sep 02 20:22:16 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	263852m	251.05	0.00
31) Pyrene-d10	29.565	212	445141m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	212691m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.766	136	411383m	14.84	0.03
21) Acenaphthene-d10	19.588	164	199953m	12.78	0.00
32) Phenanthrene-d10	24.683	188	353212m	16.46	0.00
66) Chrysene-d12	33.770	240	365976m	12.91	0.04
88) Perylene-d12	38.619	264	129139m	8.01	0.00
90) 5(b)H-Cholane	34.158	217	91368m	33.52	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	0.000		0	N.D. d	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	353258m	12.46	
9) 2-Methylnaphthalene	16.051	142	234700m	12.49	
10) 1-Methylnaphthalene	16.385	142	245339m	13.91	
11) 2,6-Dimethylnaphthalene	18.168	156	314027m	19.54	
12) 1,6,7-Trimethylnaphtha...	21.009	170	49660m	3.31	
13) C2-Naphthalenes	18.418	156	1485791m	52.42	
14) C3-Naphthalenes	20.313	170	769298m	27.14	
15) C4-Naphthalenes	22.764	184	2430891m	85.77	
16) Benzothiophene	13.989	134	28138m	1.29	
17) C1-Benzothiophenes	16.329	148	257414m	11.77	
18) C2-Benzothiophenes	17.555	162	1348929m	61.68	
19) C3-Benzothiophenes	21.371	176	834543m	38.16	
20) C4-Benzothiophenes	22.458	190	915879m	41.88	
22) Biphenyl	17.638	154	158519m	6.75	
23) Acenaphthylene	19.115	152	100467m	3.75	
24) Acenaphthene	19.700	154	1193647m	72.02	
25) Dibenzofuran	20.313	168	1374053m	53.79	
26) Fluorene	21.483	166	1961931m	96.58	
27) 1-Methylfluorene	23.436	180	65931m	5.17	
28) C1-Fluorenes	23.436	180	257092m	12.66	
29) C2-Fluorenes	25.306	194	353747m	17.41	
30) C3-Fluorenes	27.522	208	379346m	18.67	
33) Carbazole	25.514	167	35185m	1.69	
34) Dibenzothiophene	24.337	184	323786m	14.01	
35) 4-Methyldibenzothiophene	25.826	198	68382m	3.44	
36) 2/3-Methyldibenzothiop...	26.137	198	106880m	5.37	
37) 1-Methyldibenzothiophene	26.449	198	29465m	1.48	
38) C2-Dibenzothiophenes	27.557	212	226234m	9.79	
39) C3-Dibenzothiophenes	28.734	226	322918m	13.97	
40) C4-Dibenzothiophenes	30.154	240	127285m	5.51	
41) Phenanthrene	24.752	178	4886513m	172.34	
42) Anthracene	24.925	178	241732m	9.26	
43) 3-Methylphenanthrene	26.414	192	215601m	9.96	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1672.D
Acq On : 31 Aug 2013 3:38 am
Operator : YM
Sample : SED-DA-016 (0-0.5)
Misc :
ALS Vial : 27 Sample Multiplier: 0.06645

Quant Time: Sep 02 20:22:16 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units Dev(Min)
44) 2-Methylphenanthrene	26.518	192	214354m	9.90
45) 2-Methylanthracene	26.657	192	96127m	4.44
46) 4/9-Methylphenanthrene	26.795	192	126765m	5.85
47) 1-Methylphenanthrene	26.865	192	117667m	5.43
48) 3,6-Dimethylphenanthrene	27.973	206	42316m	2.39
49) Retene	30.639	234	51906m	7.15
50) C2-Phenanthrenes/Anthr...	28.146	206	846594m	29.86
51) C3-Phenanthrenes/Anthr...	29.877	220	634922m	22.39
52) C4-Phenanthrenes/Anthr...	30.639	234	514787m	18.16
53) Naphthobenzothiophene	33.421	234	189937m	5.94
54) C1-Naphthobenzothiophenes	34.313	248	244364m	7.64
55) C2-Naphthobenzothiophenes	35.360	262	393181m	12.29
56) C3-Naphthobenzothiophenes	36.835	276	240475m	7.52
57) C4-Naphthobenzothiophenes	37.998	290	527128m	16.48
58) Fluoranthene	28.838	202	1204008m	39.26
59) Pyrene	29.635	202	1007513m	31.38
60) 2-Methylfluoranthene	30.431	216	61405m	3.40
61) Benzo(b)fluorene	31.020	216	62110m	3.27
62) C1-Fluoranthenes/Pyrenes	30.777	216	554705m	18.09
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d
67) Benz(a)anthracene	33.692	228	191888m	5.94
68) Chrysene/Triphenylene	33.847	228	327582m	11.27
69) C1-Chrysenes	0.000		0	N.D. d
70) C2-Chrysenes	0.000		0	N.D. d
71) C3-Chrysenes	0.000		0	N.D. d
72) C4-Chrysenes	0.000		0	N.D. d
74) C29-Hopane	40.645	191	482311m	82.80
75) 18a-Oleanane	0.000		0	N.D. d
76) C30-Hopane	41.935	191	470625m	80.80
77) Benzo(b)fluoranthene	37.261	252	458508m	23.73
78) Benzo(k,j)fluoranthene	37.339	252	138998m	7.64
79) Benzo(a)fluoranthene	37.572	252	72544m	3.99
80) Benzo(e)pyrene	38.231	252	240489m	12.34
81) Benzo(a)pyrene	38.386	252	87967m	4.85
82) Indeno(1,2,3-c,d)pyrene	43.225	276	111577m	5.54
83) Dibenzo(a,h)anthracene	43.225	278	128943m	8.30
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d
87) Benzo(g,h,i)perylene	44.405	276	238911m	13.29
89) Perylene	38.697	252	943070m	51.25
91) C20-TAS	0.000		0	N.D. d
92) C21-TAS	0.000		0	N.D. d
93) C26(20S)-TAS	0.000		0	N.D. d
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D. d
95) C28(20S)-TAS	0.000		0	N.D. d
96) C27(20R)-TAS	0.000		0	N.D. d
97) C28(20R)-TAS	0.000		0	N.D. d

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1672.D
Acq On : 31 Aug 2013 3:38 am
Operator : YM
Sample : SED-DA-016 (0-0.5)
Misc :
ALS Vial : 27 Sample Multiplier: 0.06645

Quant Time: Sep 02 20:22:16 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

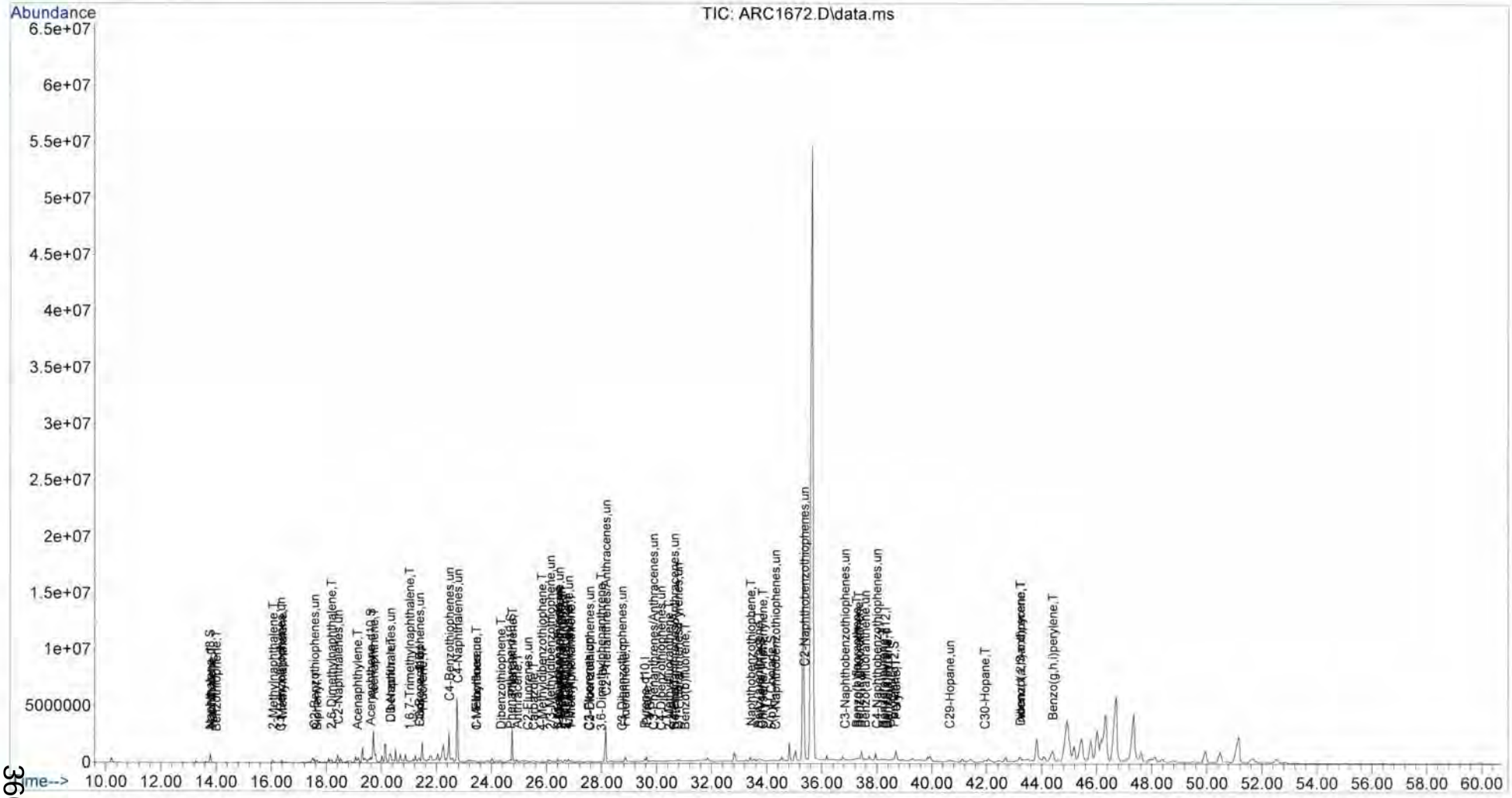
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1672.D
Acq On : 31 Aug 2013 3:38 am
Operator : YM
Sample : SED-DA-016 (0-0.5)
Misc :
ALS Vial : 27 Sample Multiplier: 0.06645

Quant Time: Sep 02 20:22:16 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration



Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name ARC1673.D
Data File Path C:\GCMS7\MS70060\
Operator YM
Date Acquired 8/31/2013 4:46
Acq. Method File PAH-2012.M
Sample Name SED-DA-017 (0-0.5)
Misc Info 0
Instrument Name GCMSD
Vial Number 28
Sample Multiplier 0.06653
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

ARC1673.D
SED-DA-017 (0-0.5)
8/31/2013
PAH-2012.M
15.03081317

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.12	31558	4.2897	4.4503
4)	C1-Decalins	12.62	55635	7.5625	7.8457
5)	C2-Decalins	14.66	156361	21.2543	22.0501
6)	C3-Decalins	16.61	589053	80.0709	83.0686
7)	C4-Decalins	18.03	1069200	145.3374	150.7787
8)	Naphthalene	13.82	401610	8.8541	9.1856
9)+10)	C1-Naphthalenes	16.22	3003740	66.2218	68.7011
13)	C2-Naphthalenes	18.53	13752500	303.1932	314.5445
14)	C3-Naphthalenes	20.45	24901300	548.9849	569.5384
15)	C4-Naphthalenes	22.76	21339300	470.4543	488.0676
16)	Benzothiophene	13.99	45631	1.3038	1.3526
17)	C1-Benzothiophenes	16.08	528459	15.0998	15.6652
18)	C2-Benzothiophenes	18.31	2054860	58.7143	60.9125
19)	C3-Benzothiophenes	20.26	5509750	157.4319	163.3260
20)	C4-Benzothiophenes	21.57	8246860	235.6406	244.4628
22)	Biphenyl	17.64	435561	11.5872	12.0210
23)	Acenaphthylene	19.11	167772	3.9126	4.0591
24)	Acenaphthene	19.70	108333	4.0843	4.2372
25)	Dibenzofuran	20.31	577564	14.1274	14.6564
26)	Fluorene	21.48	1065050	32.7589	33.9854
28)	C1-Fluorenes	23.47	3792210	116.6404	121.0073
29)	C2-Fluorenes	25.20	9905550	304.6748	316.0815
30)	C3-Fluorenes	27.52	10673200	328.2863	340.5770
33)	Carbazole	25.55	184081	7.2044	7.4741
42)	Anthracene	24.96	124942	3.9044	4.0506
41)	Phenanthrene	24.79	4727430	136.0193	141.1117
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.68	15539869	447.1185	463.8582
50)	C2-Phenanthrenes/Anthracenes	28.35	28200900	811.4065	841.7849
51)	C3-Phenanthrenes/Anthracenes	29.91	27804600	800.0033	829.9547
52)	C4-Phenanthrenes/Anthracenes	31.75	20542400	591.0519	613.1803
34)	Dibenzothiophene	24.34	3886310	137.1716	142.3071
35)+36)+37)	C1-Dibenzothiophenes	26.16	15780770	556.9995	577.8531
38)	C2-Dibenzothiophenes	27.94	27830800	982.3155	1019.0925
39)	C3-Dibenzothiophenes	29.46	38058600	1343.3205	1393.6132
40)	C4-Dibenzothiophenes	29.77	22754000	803.1235	833.1918
58)	Fluoranthene	28.91	1388930	36.9514	38.3348
59)	Pyrene	29.67	2734350	69.4700	72.0709
62)	C1-Fluoranthenes/Pyrenes	30.81	6791290	180.6775	187.4419
63)	C2-Fluoranthenes/Pyrenes	32.88	11136600	296.2814	307.3739
64)	C3-Fluoranthenes/Pyrenes	34.00	8107720	215.6996	223.7752
65)	C4-Fluoranthenes/Pyrenes	35.13	9410200	250.3511	259.7240
53)	Naphthobenzothiophene	32.92	4500840	114.7782	119.0754
54)	C1-Naphthobenzothiophenes	34.70	12201600	311.1588	322.8083
55)	C2-Naphthobenzothiophenes	35.79	19164500	488.7234	507.0208
56)	C3-Naphthobenzothiophenes	37.18	15171000	386.8846	401.3692
57)	C4-Naphthobenzothiophenes	38.15	7089650	180.7966	187.5655
67)	Benz(a)anthracene	33.73	429899	10.8653	11.2721
68)	Chrysene/Triphenylene	33.85	2246990	63.0772	65.4388
69)	C1-Chrysenes	35.09	6453130	181.1519	187.9340
70)	C2-Chrysenes	36.56	7556050	212.1129	220.0543
71)	C3-Chrysenes	38.00	6616030	185.7251	192.6785
72)	C4-Chrysenes	39.40	3050970	85.6467	88.8533
77)	Benzo(b)fluoranthene	37.30	1555050	46.6373	48.3833
78)	Benzo(k,j)fluoranthene	37.38	414728	13.2089	13.7035
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.27	1381540	41.0781	42.6160
81)	Benzo(a)pyrene	38.46	727738	23.2668	24.1379
89)	Perylene	38.77	518974	16.3451	16.9570
82)	Indeno(1,2,3-c,d)pyrene	43.04	35512	1.0224	1.0607
83)	Dibenzo(a,h)anthracene	43.19	174793	6.5231	6.7673
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.52	832368	26.8358	27.8405

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	1856410	61.7173	64.0279
10)	1-Methylnaphthalene	16.38	1147330	40.6458	42.1676
11)	2,6-Dimethylnaphthalene	18.20	3590980	139.6458	144.8740
12)	1,6,7-Trimethylnaphthalene	21.01	1766530	73.6394	76.3964
27)	1-Methylfluorene	23.47	1878930	92.0469	95.4931
35)	4-Methyldibenzothiophene	25.86	7140320	292.7693	303.7303
36)	2/3-Methyldibenzothiophene	26.14	4809520	197.2009	204.5839
37)	1-Methyldibenzothiophene	26.48	3830930	157.0767	162.9575
43)	3-Methylphenanthrene	26.45	3520320	132.6209	137.5861
44)	2-Methylphenanthrene	26.55	3644860	137.3133	142.4541
45)	2-Methylanthracene	26.69	204289	7.6962	7.9843
46)	4/9-Methylphenanthrene	26.83	4791070	180.4939	187.2514
47)	1-Methylphenanthrene	26.90	3379330	127.3098	132.0762
48)	3,6-Dimethylphenanthrene	28.01	748134	34.5324	35.8253
49)	Retene	30.67	574761	64.5964	67.0149
60)	2-Methylfluoranthene	30.43	424679	19.1773	19.8953
61)	Benzo(b)fluorene	31.05	499176	21.4670	22.2707
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.74	383006	8.63	51.89
21)	Acenaphthene-d10	19.59	221959	8.87	53.27
32)	Phenanthrene-d10	24.72	421916	16.04	96.39
66)	Chrysene-d12	33.81	450671	12.97	77.95
88)	Perylene-d12	38.66	382403	13.74	82.63
90)	5(b)H-Cholane	34.20	131346	27.93	167.92
	Internal Standards				
1)	Fluorene-d10	21.43	422773	16.70	
31)	Pyrene-d10	29.60	546298	16.67	
73)	Benzo(a)pyrene-d12	38.39	367441	16.65	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1673.D
Acq On : 31 Aug 2013 4:46 am
Operator : YM
Sample : SED-DA-017 (0-0.5)
Misc :
ALS Vial : 28 Sample Multiplier: 0.06653

Quant Time: Sep 02 20:38:52 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.427	176	422773m	251.05	0.06
31) Pyrene-d10	29.600	212	546298m	250.63	0.03
73) Benzo(a)pyrene-d12	38.386	264	367441m	250.32	0.08
System Monitoring Compounds					
2) Naphthalene-d8	13.739	136	383006m	8.63	0.00
21) Acenaphthene-d10	19.588	164	221959m	8.87	0.00
32) Phenanthrene-d10	24.718	188	421916m	16.04	0.03
66) Chrysene-d12	33.809	240	450671m	12.97	0.08
88) Perylene-d12	38.658	264	382403m	13.74	0.04
90) 5(b)H-Cholane	34.197	217	131346m	27.93	0.04
Target Compounds					Qvalue
3) cis/trans Decalin	11.120	138	31558m	4.29	
4) C1-Decalins	12.624	152	55635m	7.56	
5) C2-Decalins	14.658	166	156361m	21.25	
6) C3-Decalins	16.608	180	589053m	80.07	
7) C4-Decalins	18.029	194	1069198m	145.34	
8) Naphthalene	13.822	128	401610m	8.85	
9) 2-Methylnaphthalene	16.051	142	1856406m	61.72	
10) 1-Methylnaphthalene	16.385	142	1147329m	40.65	
11) 2,6-Dimethylnaphthalene	18.196	156	3590978m	139.65	
12) 1,6,7-Trimethylnaphtha...	21.009	170	1766531m	73.64	
13) C2-Naphthalenes	18.530	156	13752470m	303.19	
14) C3-Naphthalenes	20.452	170	24901289m	548.98	
15) C4-Naphthalenes	22.764	184	21339260m	470.45	
16) Benzothiophene	13.989	134	45631m	1.30	
17) C1-Benzothiophenes	16.079	148	528459m	15.10	
18) C2-Benzothiophenes	18.307	162	2054861m	58.71	
19) C3-Benzothiophenes	20.257	176	5509753m	157.43	
20) C4-Benzothiophenes	21.566	190	8246857m	235.64	
22) Biphenyl	17.639	154	435561m	11.59	
23) Acenaphthylene	19.115	152	167772m	3.91	
24) Acenaphthene	19.700	154	108333m	4.08	
25) Dibenzofuran	20.313	168	577564m	14.13	
26) Fluorene	21.483	166	1065053m	32.76	
27) 1-Methylfluorene	23.471	180	1878934m	92.05	
28) C1-Fluorenes	23.471	180	3792205m	116.64	
29) C2-Fluorenes	25.202	194	9905552m	304.67	
30) C3-Fluorenes	27.523	208	10673209m	328.29	
33) Carbazole	25.549	167	184081m	7.20	
34) Dibenzothiophene	24.337	184	3886313m	137.17	
35) 4-Methyldibenzothiophene	25.860	198	7140321m	292.77	
36) 2/3-Methyldibenzothiop...	26.137	198	4809518m	197.20	
37) 1-Methyldibenzothiophene	26.484	198	3830933m	157.08	
38) C2-Dibenzothiophenes	27.938	212	27830842m	982.32	
39) C3-Dibenzothiophenes	29.462	226	38058583m	1343.32	
40) C4-Dibenzothiophenes	29.773	240	22754015m	803.13	
41) Phenanthrene	24.787	178	4727425m	136.02	
42) Anthracene	24.960	178	124942m	3.90	
43) 3-Methylphenanthrene	26.449	192	3520317m	132.62	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1673.D
Acq On : 31 Aug 2013 4:46 am
Operator : YM
Sample : SED-DA-017 (0-0.5)
Misc :
ALS Vial : 28 Sample Multiplier: 0.06653

Quant Time: Sep 02 20:38:52 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Methylphenanthrene	26.553	192	3644864m	137.31	
45) 2-Methylanthracene	26.691	192	204289m	7.70	
46) 4/9-Methylphenanthrene	26.830	192	4791067m	180.49	
47) 1-Methylphenanthrene	26.899	192	3379327m	127.31	
48) 3,6-Dimethylphenanthrene	28.007	206	748134m	34.53	
49) Retene	30.674	234	574761m	64.60	
50) C2-Phenanthrenes/Anthr...	28.354	206	28200921m	811.41	
51) C3-Phenanthrenes/Anthr...	29.912	220	27804558m	800.00	
52) C4-Phenanthrenes/Anthr...	31.747	234	20542366m	591.05	
53) Naphthobenzothiophene	32.916	234	4500843m	114.78	
54) C1-Naphthobenzothiophenes	34.701	248	12201603m	311.16	
55) C2-Naphthobenzothiophenes	35.787	262	19164494m	488.72	
56) C3-Naphthobenzothiophenes	37.184	276	15171048m	386.88	
57) C4-Naphthobenzothiophenes	38.154	290	7089645m	180.80	
58) Fluoranthene	28.908	202	1388926m	36.95	
59) Pyrene	29.669	202	2734347m	69.47	
60) 2-Methylfluoranthene	30.431	216	424679m	19.18	
61) Benzo(b)fluorene	31.055	216	499176m	21.47	
62) C1-Fluoranthenes/Pyrenes	30.812	216	6791294m	180.68	
63) C2-Fluoranthenes/Pyrenes	32.878	230	11136620m	296.28	
64) C3-Fluoranthenes/Pyrenes	34.003	244	8107716m	215.70	
65) C4-Fluoranthenes/Pyrenes	35.128	258	9410199m	250.35	
67) Benz(a)anthracene	33.731	228	429899m	10.87	
68) Chrysene/Triphenylene	33.847	228	2246986m	63.08	
69) C1-Chrysenes	35.089	242	6453125m	181.15	
70) C2-Chrysenes	36.563	256	7556047m	212.11	
71) C3-Chrysenes	37.999	270	6616033m	185.72	
72) C4-Chrysenes	39.395	284	3050969m	85.65	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	0.000		0	N.D. d	
77) Benzo(b)fluoranthene	37.300	252	1555046m	46.64	
78) Benzo(k,j)fluoranthene	37.378	252	414728m	13.21	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.270	252	1381539m	41.08	
81) Benzo(a)pyrene	38.464	252	727738m	23.27	
82) Indeno(1,2,3-c,d)pyrene	43.041	276	35512m	1.02	
83) Dibenzo(a,h)anthracene	43.189	278	174793m	6.52	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.516	276	832368m	26.84	
89) Perylene	38.774	252	518974m	16.35	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D. d	
95) C28(20S)-TAS	0.000		0	N.D. d	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1673.D
Acq On : 31 Aug 2013 4:46 am
Operator : YM
Sample : SED-DA-017 (0-0.5)
Misc :
ALS Vial : 28 Sample Multiplier: 0.06653

Quant Time: Sep 02 20:38:52 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

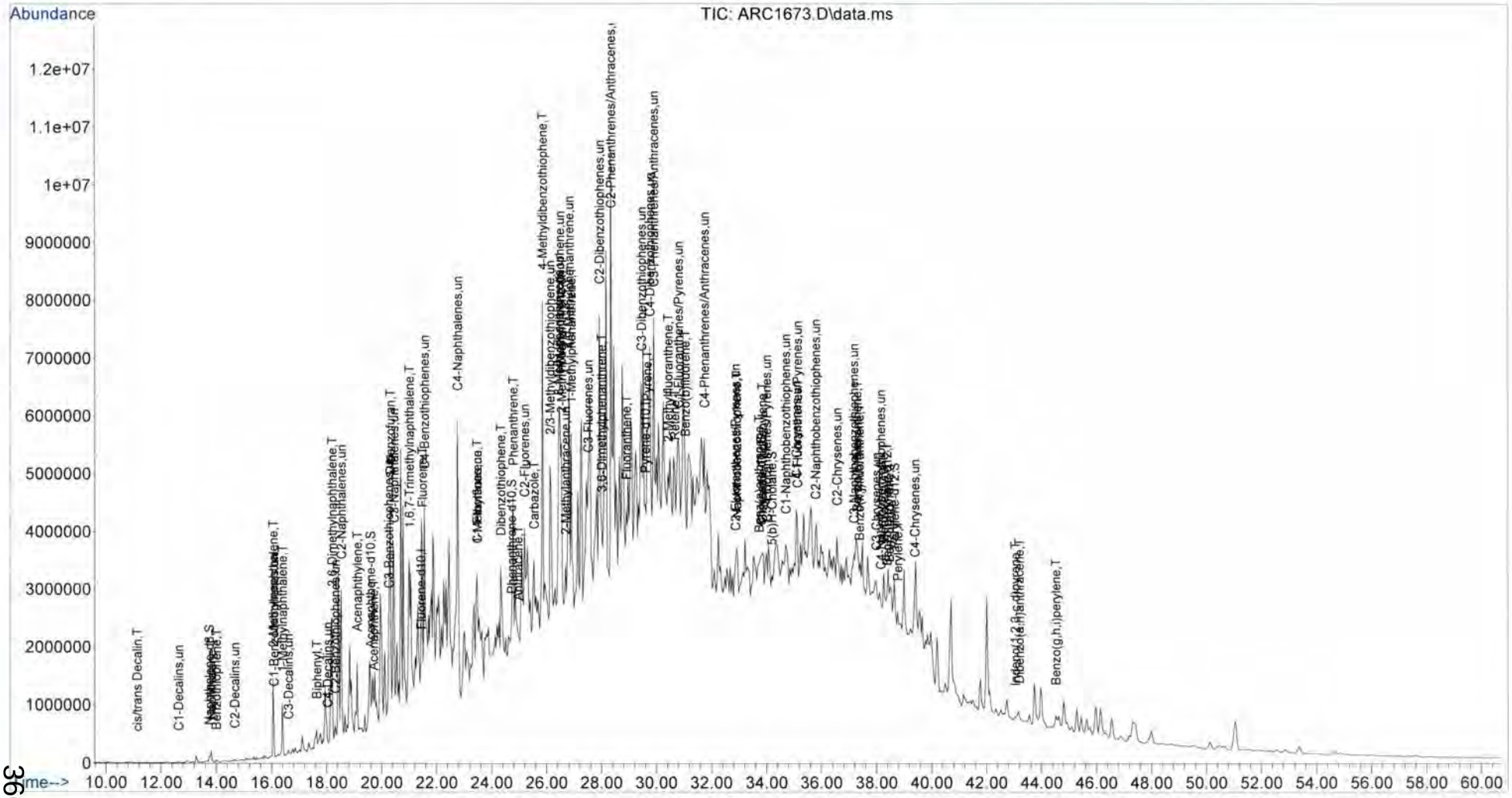
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70060\
Data File : ARC1673.D
Acq On : 31 Aug 2013 4:46 am
Operator : YM
Sample : SED-DA-017 (0-0.5)
Misc :
ALS Vial : 28 Sample Multiplier: 0.06653

Quant Time: Sep 02 20:38:52 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration



Sequence Name: C:\msdchem\1\data\MS70061\MS70061.s
Comment: Arcadis-Mayflower AR-Sediments-PAH (08/31/13)
Operator: YM
Data Path: C:\MSDCHEM\1\DATA\MS70061\
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

Sequence Barcode Options
( ) On Mismatch, Inject Anyway
( ) On Mismatch, Don't Inject
(X) Barcode Disabled

Line			Sample Name/Misc Info		
1)	Sample	1	MS70061A	PAH-2012	Solvent rinse
2)	Sample	2	MS70061B	PAH-2012	AR-WKC1-020-030
3)	Sample	3	MS70061C	PAH-2012	AR-WKC2-100-030
4)	Sample	4	MS70061D	PAH-2012	AR-WKC3-250-030
5)	Sample	5	MS70061E	PAH-2012	AR-WKC4-500-030
6)	Sample	6	MS70061F	PAH-2012	AR-WKC5-1000-030
7)	Sample	7	MS70061G	PAH-2012	AR-WKC6-5000-030
8)	Sample	8	MS70061H	PAH-2012	AR-WKISSU-250-002
9)	Sample	9	MS70061I	PAH-2012	AR-WKICV-250-004
10)	Sample	10	MS70061J	PAH-2012	AR-WKCC-250-038
11)	Sample	11	MS70061K	PAH-2012	AR-SRM2779-WK4.0-002
12)	Sample	12	ENV3090A	PAH-2012	7 In separate folder
13)	Sample	13	ENV3090B	PAH-2012	
14)	Sample	38	ARC1652	PAH-2012	5x
15)	Sample	14	ENV3090C	PAH-2012	
16)	Sample	15	ENV3090D	PAH-2012	
17)	Sample	16	ENV3090E	PAH-2012	
18)	Sample	17	ARC1750	PAH-2012	
19)	Sample	18	ARC1751	PAH-2012	
20)	Sample	19	ARC1755	PAH-2012	
21)	Sample	20	MS70061L	PAH-2012	AR-WKCC-250-038
22)	Sample	21	ARC1756	PAH-2012	
23)	Sample	22	ARC1757	PAH-2012	
24)	Sample	23	ARC1758	PAH-2012	In separate folder
25)	Sample	24	ARC1759	PAH-2012	
26)	Sample	25	ARC1760	PAH-2012	
27)	Sample	26	ARC1761	PAH-2012	
28)	Sample	27	ARC1773	PAH-2012	
29)	Sample	39	ARC1687	PAH-2012	
30)	Sample	28	MS70061M	PAH-2012	AR-WKCC-250-038
31)	Sample	29	ARC1766	PAH-2012	
32)	Sample	30	ARC1777	PAH-2012	
33)	Sample	31	ARC1778	PAH-2012	
34)	Sample	32	ARC1779	PAH-2012	
35)	Sample	33	ARC1780	PAH-2012	
36)	Sample	34	ARC1781	PAH-2012	
37)	Sample	35	ARC1782	PAH-2012	
38)	Sample	36	ARC1783	PAH-2012	
39)	Sample	37	MS70061N	PAH-2012	AR-WKCC-250-038

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70061\
Data File : MS70061J.D
Acq On : 1 Sep 2013 12:19 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 01 21:13:22 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorene-d10	1.000	1.000	0.0	84	0.00
2	S	Naphthalene-d8	1.621	1.586	2.2	88	0.00
3	T	cis/trans Decalin	0.271	0.273	-0.7	89	0.03
4	un	C1-Decalins	0.271	0.000	100.0#	0#	-12.48#
5	un	C2-Decalins	0.271	0.000	100.0#	0#	-13.46#
6	un	C3-Decalins	0.271	0.000	100.0#	0#	-15.74#
7	un	C4-Decalins	0.271	0.000	100.0#	0#	-18.33#
8	T	Naphthalene	1.747	1.702	2.6	89	0.00
9	T	2-Methylnaphthalene	1.154	1.126	2.4	88	0.00
10	T	1-Methylnaphthalene	1.099	1.066	3.0	87	0.00
11	T	2,6-Dimethylnaphthalene	1.002	0.947	5.5	87	0.03
12	T	1,6,7-Trimethylnaphthalene	0.961	0.884	8.0	85	0.00
13	un	C2-Naphthalenes	1.747	0.000	100.0#	0#	-18.84#
14	un	C3-Naphthalenes	1.747	0.000	100.0#	0#	-20.28#
15	un	C4-Naphthalenes	1.747	0.000	100.0#	0#	-22.07#
16	T	Benzothiophene	1.406	1.372	2.4	89	0.00
17	un	C1-Benzothiophenes	1.406	0.000	100.0#	0#	-15.41#
18	un	C2-Benzothiophenes	1.406	0.000	100.0#	0#	-17.83#
19	un	C3-Benzothiophenes	1.406	0.000	100.0#	0#	-20.26#
20	un	C4-Benzothiophenes	1.406	0.000	100.0#	0#	-22.18#
21	S	Acenaphthene-d10	0.953	0.900	5.6	86	0.00
22	T	Biphenyl	1.447	1.400	3.2	89	0.03
23	T	Acenaphthylene	1.738	1.552	10.7	84	0.00
24	T	Acenaphthene	1.064	0.993	6.7	85	0.00
25	T	Dibenzofuran	1.639	1.563	4.6	86	0.00
26	T	Fluorene	1.288	1.209	6.1	86	0.00
27	T	1-Methylfluorene	0.856	0.745	13.0	80	0.00
28	un	C1-Fluorenes	1.288	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.288	0.000	100.0#	0#	-24.82#
30	un	C3-Fluorenes	1.288	0.000	100.0#	0#	-27.21#
31	I	Pyrene-d10	1.000	1.000	0.0	83	0.00
32	S	Phenanthrene-d10	0.833	0.754	9.5	84	0.00
33	T	Carbazole	0.836	0.730	12.7	82	0.00
34	T	Dibenzothiophene	0.909	0.863	5.1	87	0.00
35	T	4-Methyldibenzothiophene	0.795	0.741	6.8	85	0.00
36	un	2/3-Methyldibenzothiophene	0.795	0.000	100.0#	0#	-26.14#
37	un	1-Methyldibenzothiophene	0.795	0.000	100.0#	0#	-26.45#
38	un	C2-Dibenzothiophenes	0.909	0.000	100.0#	0#	-27.97#
39	un	C3-Dibenzothiophenes	0.909	0.000	100.0#	0#	-28.73#
40	un	C4-Dibenzothiophenes	0.909	0.000	100.0#	0#	-30.81#
41	T	Phenanthrene	1.127	1.033	8.3	84	0.00
42	T	Anthracene	1.056	0.958	9.3	84	0.00
43	un	3-Methylphenanthrene	0.777	0.000	100.0#	0#	-26.86#
44	un	2-Methylphenanthrene	0.777	0.000	100.0#	0#	-26.86#
45	un	2-Methylanthracene	0.777	0.000	100.0#	0#	-26.86#
46	un	4/9-Methylphenanthrene	0.777	0.000	100.0#	0#	-26.86#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70061\
Data File : MS70061J.D
Acq On : 1 Sep 2013 12:19 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 01 21:13:22 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
47	T	1-Methylphenanthrene	0.777	0.745	4.1	87	0.00
48	T	3,6-Dimethylphenanthrene	0.627	0.601	4.1	88	0.00
49	T	Retene	0.288	0.255	11.5	83	0.00
50	un	C2-Phenanthrenes/Anthracene	1.127	0.000	100.0#	0#	-28.49#
51	un	C3-Phenanthrenes/Anthracene	1.127	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.127	0.000	100.0#	0#	-31.99#
53	T	Naphthobenzothiophene	1.140	1.153	-1.1	89	0.00
54	un	C1-Naphthobenzothiophenes	1.140	0.000	100.0#	0#	-34.16#
55	un	C2-Naphthobenzothiophenes	1.140	0.000	100.0#	0#	-35.94#
56	un	C3-Naphthobenzothiophenes	1.140	0.000	100.0#	0#	-37.34#
57	un	C4-Naphthobenzothiophenes	1.140	0.000	100.0#	0#	-37.34#
58	T	Fluoranthene	1.091	1.056	3.2	88	0.00
59	T	Pyrene	1.293	1.161	10.2	83	0.00
60	T	2-Methylfluoranthene	0.744	0.634	14.8	82	0.00
61	T	Benzo(b)fluorene	0.696	0.631	9.3	85	-0.03
62	un	C1-Fluoranthenes/Pyrenes	1.091	0.000	100.0#	0#	-30.60#
63	un	C2-Fluoranthenes/Pyrenes	1.091	0.000	100.0#	0#	-32.10#
64	un	C3-Fluoranthenes/Pyrenes	1.091	0.000	100.0#	0#	-34.16#
65	un	C4-Fluoranthenes/Pyrenes	1.091	0.000	100.0#	0#	-35.24#
66	S	Chrysene-d12	0.970	1.022	-5.4	93	-0.04
67	T	Benz(a)anthracene	1.159	1.127	2.8	86	0.00
68	T	Chrysene/Triphenylene	1.004	1.038	-3.4	94	-0.04
69	un	C1-Chrysenes	1.004	0.000	100.0#	0#	-35.36#
70	un	C2-Chrysenes	1.004	0.000	100.0#	0#	-37.42#
71	un	C3-Chrysenes	1.004	0.000	100.0#	0#	-38.04#
72	un	C4-Chrysenes	1.004	0.000	100.0#	0#	-39.59#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	82	0.00
74	un	C29-Hopane	0.399	0.000	100.0#	0#	-40.42#
75	un	18a-Oleanane	0.399	0.000	100.0#	0#	-42.45#
76	T	C30-Hopane	0.399	0.368	7.8	84	0.00
77	T	Benzo(b)fluoranthene	1.396	1.359	2.7	87	0.00
78	T	Benzo(k,j)fluoranthene	1.211	1.252	-3.4	88	-0.04
79	un	Benzo(a)fluoranthene	1.211	0.000	100.0#	0#	-37.22#
80	T	Benzo(e)pyrene	1.363	1.365	-0.1	88	0.00
81	T	Benzo(a)pyrene	1.373	1.264	7.9	82	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.610	1.520	5.6	84	0.00
83	T	Dibenzo(a,h)anthracene	1.272	1.212	4.7	85	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.272	0.000	100.0#	0#	-48.46#
85	un	C2-Dibenzo(a,h)anthracenes	1.272	0.000	100.0#	0#	-50.23#
86	un	C3-Dibenzo(a,h)anthracenes	1.272	0.000	100.0#	0#	-50.82#
87	T	Benzo(g,h,i)perylene	1.395	1.339	4.0	84	-0.04
88	S	Perylene-d12	1.128	1.079	4.3	87	-0.04
89	T	Perylene	1.348	1.269	5.9	85	0.00
90	S	5(b)H-Cholane	0.191	0.172	9.9	82	0.00
91	un	C20-TAS	1.552	0.000	100.0#	0#	-33.58#
92	un	C21-TAS	1.552	0.000	100.0#	0#	-34.16#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70061\
Data File : MS70061J.D
Acq On : 1 Sep 2013 12:19 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 01 21:13:22 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
93 un	C26(20S)-TAS	1.552	0.000	100.0#	0#	-38.62#
94 T	C26(20R)/C27(20S)-TAS	1.552	1.384	10.8	80	0.00
95 un	C28(20S)-TAS	1.552	0.000	100.0#	0#	-39.74#
96 un	C27(20R)-TAS	1.552	0.000	100.0#	0#	-41.31#
97 un	C28(20R)-TAS	1.552	0.000	100.0#	0#	-41.31#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061J.D
Acq On : 1 Sep 2013 12:19 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 01 21:13:22 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	337162m	251.05	0.00
31) Pyrene-d10	29.565	212	653617m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	602929m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.738	136	532671m	244.72	0.00
21) Acenaphthene-d10	19.588	164	302488m	236.31	0.00
32) Phenanthrene-d10	24.683	188	492184m	226.51	0.00
66) Chrysene-d12	33.731	240	666155m	263.32	-0.04
88) Perylene-d12	38.580	264	649498m	239.00	-0.04
90) 5(b)H-Cholane	34.158	217	103504m	224.91	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.120	138	90800m	249.54	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	571580m	243.56	
9) 2-Methylnaphthalene	16.051	142	378275m	244.18	
10) 1-Methylnaphthalene	16.385	142	357689m	242.35	
11) 2,6-Dimethylnaphthalene	18.168	156	317847m	236.22	
12) 1,6,7-Trimethylnaphtha...	21.009	170	296887m	230.05	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.989	134	457773m	242.45	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.638	154	465690m	239.58	
23) Acenaphthylene	19.115	152	516957m	221.50	
24) Acenaphthene	19.700	154	333956m	233.60	
25) Dibenzofuran	20.285	168	522065m	237.23	
26) Fluorene	21.483	166	406825m	235.21	
27) 1-Methylfluorene	23.436	180	252041m	219.24	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.514	167	471466m	216.34	
34) Dibenzothiophene	24.337	184	554801m	234.06	
35) 4-Methyldibenzothiophene	25.826	198	487208m	235.07	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	667234m	227.09	
42) Anthracene	24.925	178	626188m	227.46	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061J.D
Acq On : 1 Sep 2013 12:19 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 01 21:13:22 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43)	3-Methylphenanthrene	0.000		0	N.D. d	
44)	2-Methylphenanthrene	0.000		0	N.D. d	
45)	2-Methylanthracene	0.000		0	N.D. d	
46)	4/9-Methylphenanthrene	0.000		0	N.D. d	
47)	1-Methylphenanthrene	26.864	192	480068m	237.03	
48)	3,6-Dimethylphenanthrene	27.938	206	392263m	239.77	
49)	Retene	30.639	234	148507m	197.58	
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51)	C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52)	C4-Phenanthrenes/Anthr...	0.000		0	N.D.	
53)	Naphthobenzothiophene	32.877	234	756130m	254.23	
54)	C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55)	C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56)	C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57)	C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58)	Fluoranthene	28.838	202	689175m	242.18	
59)	Pyrene	29.635	202	756754m	224.39	
60)	2-Methylfluoranthene	30.396	216	416470m	214.67	
61)	Benzo(b)fluorene	30.985	216	415229m	228.60	
62)	C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63)	C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64)	C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65)	C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67)	Benz(a)anthracene	33.692	228	733390m	242.58	
68)	Chrysene/Triphenylene	33.809	228	672774m	256.98	
69)	C1-Chrysenes	0.000		0	N.D. d	
70)	C2-Chrysenes	0.000		0	N.D. d	
71)	C3-Chrysenes	0.000		0	N.D. d	
72)	C4-Chrysenes	0.000		0	N.D. d	
74)	C29-Hopane	0.000		0	N.D. d	
75)	18a-Oleanane	0.000		0	N.D. d	
76)	C30-Hopane	42.635	191	221727m	230.69	
77)	Benzo(b)fluoranthene	37.222	252	819783m	243.85	
78)	Benzo(k,j)fluoranthene	37.300	252	750935m	257.48	
79)	Benzo(a)fluoranthene	0.000		0	N.D. d	
80)	Benzo(e)pyrene	38.192	252	818875m	249.50	
81)	Benzo(a)pyrene	38.386	252	759328m	229.64	
82)	Indeno(1,2,3-c,d)pyrene	43.041	276	899565m	231.98	
83)	Dibenzo(a,h)anthracene	43.115	278	723071m	236.02	
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87)	Benzo(g,h,i)perylene	44.368	276	798907m	237.73	
89)	Perylene	38.697	252	764784m	235.58	
91)	C20-TAS	0.000		0	N.D. d	
92)	C21-TAS	0.000		0	N.D. d	
93)	C26(20S)-TAS	0.000		0	N.D. d	
94)	C26(20R)/C27(20S)-TAS	39.317	231	833528m	223.05	
95)	C28(20S)-TAS	0.000		0	N.D. d	
96)	C27(20R)-TAS	0.000		0	N.D. d	
97)	C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061J.D
Acq On : 1 Sep 2013 12:19 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 01 21:13:22 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

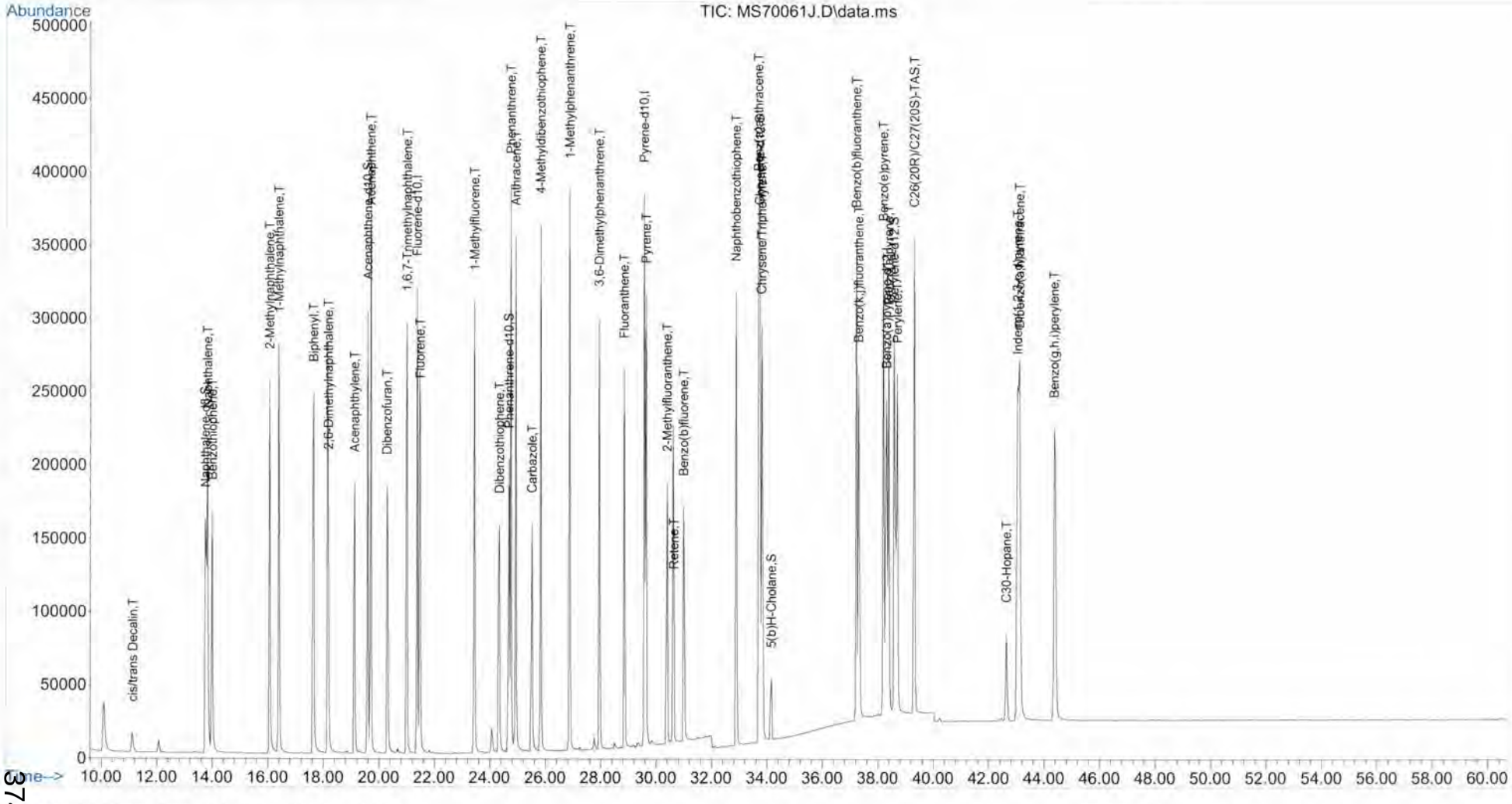
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061J.D
Acq On : 1 Sep 2013 12:19 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 01 21:13:22 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70061\
Data File : MS70061L.D
Acq On : 1 Sep 2013 12:54 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 01 21:19:11 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorene-d10	1.000	1.000	0.0	79	0.00
2	S	Naphthalene-d8	1.621	1.499	7.5	78	0.00
3	T	cis/trans Decalin	0.271	0.259	4.4	79	0.03
4	un	C1-Decalins	0.271	0.000	100.0#	0#	-12.48#
5	un	C2-Decalins	0.271	0.000	100.0#	0#	-13.46#
6	un	C3-Decalins	0.271	0.000	100.0#	0#	-15.74#
7	un	C4-Decalins	0.271	0.000	100.0#	0#	-18.33#
8	T	Naphthalene	1.747	1.582	9.4	77	0.00
9	T	2-Methylnaphthalene	1.154	1.083	6.2	80	0.00
10	T	1-Methylnaphthalene	1.099	1.022	7.0	79	0.00
11	T	2,6-Dimethylnaphthalene	1.002	0.935	6.7	80	0.00
12	T	1,6,7-Trimethylnaphthalene	0.961	0.881	8.3	79	0.00
13	un	C2-Naphthalenes	1.747	0.000	100.0#	0#	-18.84#
14	un	C3-Naphthalenes	1.747	0.000	100.0#	0#	-20.28#
15	un	C4-Naphthalenes	1.747	0.000	100.0#	0#	-22.07#
16	T	Benzothiophene	1.406	1.279	9.0	78	0.00
17	un	C1-Benzothiophenes	1.406	0.000	100.0#	0#	-15.41#
18	un	C2-Benzothiophenes	1.406	0.000	100.0#	0#	-17.83#
19	un	C3-Benzothiophenes	1.406	0.000	100.0#	0#	-20.26#
20	un	C4-Benzothiophenes	1.406	0.000	100.0#	0#	-22.18#
21	S	Acenaphthene-d10	0.953	0.890	6.6	79	0.00
22	T	Biphenyl	1.447	1.346	7.0	81	0.03
23	T	Acenaphthylene	1.738	1.626	6.4	82	0.00
24	T	Acenaphthene	1.064	0.966	9.2	78	0.00
25	T	Dibenzofuran	1.639	1.543	5.9	80	0.00
26	T	Fluorene	1.288	1.214	5.7	81	-0.03
27	T	1-Methylfluorene	0.856	0.765	10.6	77	0.00
28	un	C1-Fluorenes	1.288	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.288	0.000	100.0#	0#	-24.82#
30	un	C3-Fluorenes	1.288	0.000	100.0#	0#	-27.21#
31	I	Pyrene-d10	1.000	1.000	0.0	79	0.00
32	S	Phenanthrene-d10	0.833	0.739	11.3	78	0.00
33	T	Carbazole	0.836	0.763	8.7	82	0.00
34	T	Dibenzothiophene	0.909	0.845	7.0	81	0.00
35	T	4-Methyldibenzothiophene	0.795	0.731	8.1	80	0.00
36	un	2/3-Methyldibenzothiophene	0.795	0.000	100.0#	0#	-26.14#
37	un	1-Methyldibenzothiophene	0.795	0.000	100.0#	0#	-26.45#
38	un	C2-Dibenzothiophenes	0.909	0.000	100.0#	0#	-27.97#
39	un	C3-Dibenzothiophenes	0.909	0.000	100.0#	0#	-28.73#
40	un	C4-Dibenzothiophenes	0.909	0.000	100.0#	0#	-30.81#
41	T	Phenanthrene	1.127	0.990	12.2	77	0.00
42	T	Anthracene	1.056	0.973	7.9	81	0.00
43	un	3-Methylphenanthrene	0.777	0.000	100.0#	0#	-26.86#
44	un	2-Methylphenanthrene	0.777	0.000	100.0#	0#	-26.86#
45	un	2-Methylanthracene	0.777	0.000	100.0#	0#	-26.86#
46	un	4/9-Methylphenanthrene	0.777	0.000	100.0#	0#	-26.86#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70061\
Data File : MS70061L.D
Acq On : 1 Sep 2013 12:54 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 01 21:19:11 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
47	T	1-Methylphenanthrene	0.777	0.784	-0.9	87	0.00
48	T	3,6-Dimethylphenanthrene	0.627	0.652	-4.0	91	0.00
49	T	Retene	0.288	0.284	1.4	88	-0.03
50	un	C2-Phenanthrenes/Anthracene	1.127	0.000	100.0#	0#	-28.49#
51	un	C3-Phenanthrenes/Anthracene	1.127	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.127	0.000	100.0#	0#	-31.99#
53	T	Naphthobenzothiophene	1.140	1.195	-4.8	88	0.00
54	un	C1-Naphthobenzothiophenes	1.140	0.000	100.0#	0#	-34.16#
55	un	C2-Naphthobenzothiophenes	1.140	0.000	100.0#	0#	-35.94#
56	un	C3-Naphthobenzothiophenes	1.140	0.000	100.0#	0#	-37.34#
57	un	C4-Naphthobenzothiophenes	1.140	0.000	100.0#	0#	-37.34#
58	T	Fluoranthene	1.091	1.104	-1.2	88	0.00
59	T	Pyrene	1.293	1.144	11.5	78	0.00
60	T	2-Methylfluoranthene	0.744	0.684	8.1	84	0.00
61	T	Benzo(b)fluorene	0.696	0.727	-4.5	93	-0.03
62	un	C1-Fluoranthenes/Pyrenes	1.091	0.000	100.0#	0#	-30.60#
63	un	C2-Fluoranthenes/Pyrenes	1.091	0.000	100.0#	0#	-32.10#
64	un	C3-Fluoranthenes/Pyrenes	1.091	0.000	100.0#	0#	-34.16#
65	un	C4-Fluoranthenes/Pyrenes	1.091	0.000	100.0#	0#	-35.24#
66	S	Chrysene-d12	0.970	1.001	-3.2	87	-0.04
67	T	Benz(a)anthracene	1.159	1.234	-6.5	90	0.00
68	T	Chrysene/Triphenylene	1.004	1.023	-1.9	88	-0.04
69	un	C1-Chrysenes	1.004	0.000	100.0#	0#	-35.36#
70	un	C2-Chrysenes	1.004	0.000	100.0#	0#	-37.42#
71	un	C3-Chrysenes	1.004	0.000	100.0#	0#	-38.04#
72	un	C4-Chrysenes	1.004	0.000	100.0#	0#	-39.59#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	82	0.00
74	un	C29-Hopane	0.399	0.000	100.0#	0#	-40.42#
75	un	18a-Oleanane	0.399	0.000	100.0#	0#	-42.45#
76	T	C30-Hopane	0.399	0.364	8.8	83	0.00
77	T	Benzo(b)fluoranthene	1.396	1.334	4.4	86	0.00
78	T	Benzo(k,j)fluoranthene	1.211	1.189	1.8	84	-0.04
79	un	Benzo(a)fluoranthene	1.211	0.000	100.0#	0#	-37.22#
80	T	Benzo(e)pyrene	1.363	1.301	4.5	84	0.00
81	T	Benzo(a)pyrene	1.373	1.253	8.7	82	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.610	1.473	8.5	82	0.00
83	T	Dibenzo(a,h)anthracene	1.272	1.183	7.0	83	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.272	0.000	100.0#	0#	-48.46#
85	un	C2-Dibenzo(a,h)anthracenes	1.272	0.000	100.0#	0#	-50.23#
86	un	C3-Dibenzo(a,h)anthracenes	1.272	0.000	100.0#	0#	-50.82#
87	T	Benzo(g,h,i)perylene	1.395	1.226	12.1	78	0.00
88	S	Perylene-d12	1.128	1.061	5.9	86	-0.04
89	T	Perylene	1.348	1.229	8.8	83	0.00
90	S	5(b)H-Cholane	0.191	0.179	6.3	86	0.00
91	un	C20-TAS	1.552	0.000	100.0#	0#	-33.58#
92	un	C21-TAS	1.552	0.000	100.0#	0#	-34.16#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70061\
Data File : MS70061L.D
Acq On : 1 Sep 2013 12:54 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 01 21:19:11 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
93	un	C26(20S)-TAS	1.552	0.000	100.0#	0#	-38.62#
94	T	C26(20R)/C27(20S)-TAS	1.552	1.467	5.5	86	0.00
95	un	C28(20S)-TAS	1.552	0.000	100.0#	0#	-39.74#
96	un	C27(20R)-TAS	1.552	0.000	100.0#	0#	-41.31#
97	un	C28(20R)-TAS	1.552	0.000	100.0#	0#	-41.31#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061L.D
Acq On : 1 Sep 2013 12:54 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 01 21:19:11 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	316025m	251.05	0.00
31) Pyrene-d10	29.566	212	621854m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	605278m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.739	136	471826m	231.26	0.00
21) Acenaphthene-d10	19.588	164	280305m	233.63	0.00
32) Phenanthrene-d10	24.683	188	458872m	221.97	0.00
66) Chrysene-d12	33.731	240	621031m	258.02	-0.04
88) Perylene-d12	38.580	264	641242m	235.05	-0.04
90) 5(b)H-Cholane	34.158	217	108139m	234.07	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.120	138	80497m	236.02	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	497914m	226.36	
9) 2-Methylnaphthalene	16.051	142	341155m	234.94	
10) 1-Methylnaphthalene	16.385	142	321317m	232.27	
11) 2,6-Dimethylnaphthalene	18.140	156	294360m	233.39	
12) 1,6,7-Trimethylnaphtha...	21.009	170	277148m	229.12	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.989	134	399960m	226.00	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.638	154	419652m	230.33	
23) Acenaphthylene	19.115	152	507475m	231.98	
24) Acenaphthene	19.700	154	304621m	227.33	
25) Dibenzofuran	20.285	168	483246m	234.28	
26) Fluorene	21.455	166	382869m	236.17	
27) 1-Methylfluorene	23.436	180	242486m	225.03	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.514	167	468923m	226.16	
34) Dibenzothiophene	24.337	184	516996m	229.25	
35) 4-Methyldibenzothiophene	25.826	198	457103m	231.81	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	608537m	217.70	
42) Anthracene	24.925	178	605106m	231.03	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061L.D
Acq On : 1 Sep 2013 12:54 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 01 21:19:11 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43)	3-Methylphenanthrene	0.000		0	N.D. d	
44)	2-Methylphenanthrene	0.000		0	N.D. d	
45)	2-Methylanthracene	0.000		0	N.D. d	
46)	4/9-Methylphenanthrene	0.000		0	N.D. d	
47)	1-Methylphenanthrene	26.865	192	480674m	249.45	
48)	3,6-Dimethylphenanthrene	27.938	206	404669m	259.99	
49)	Retene	30.604	234	157288m	219.95	
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51)	C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52)	C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53)	Naphthobenzothiophene	32.878	234	745885m	263.59	
54)	C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55)	C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56)	C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57)	C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58)	Fluoranthene	28.838	202	685757m	253.29	
59)	Pyrene	29.635	202	709545m	221.13	
60)	2-Methylfluoranthene	30.397	216	427474m	231.60	
61)	Benzo(b)fluorene	30.985	216	454795m	263.17	
62)	C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63)	C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64)	C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65)	C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67)	Benz(a)anthracene	33.692	228	764224m	265.70	
68)	Chrysene/Triphenylene	33.809	228	630592m	253.17	
69)	C1-Chrysenes	0.000		0	N.D. d	
70)	C2-Chrysenes	0.000		0	N.D. d	
71)	C3-Chrysenes	0.000		0	N.D. d	
72)	C4-Chrysenes	0.000		0	N.D. d	
74)	C29-Hopane	0.000		0	N.D. d	
75)	18a-Oleanane	0.000		0	N.D. d	
76)	C30-Hopane	42.636	191	219762m	227.75	
77)	Benzo(b)fluoranthene	37.223	252	807717m	239.33	
78)	Benzo(k,j)fluoranthene	37.300	252	716116m	244.59	
79)	Benzo(a)fluoranthene	0.000		0	N.D. d	
80)	Benzo(e)pyrene	38.192	252	783390m	237.76	
81)	Benzo(a)pyrene	38.386	252	755648m	227.64	
82)	Indeno(1,2,3-c,d)pyrene	43.041	276	875249m	224.83	
83)	Dibenzo(a,h)anthracene	43.115	278	708573m	230.39	
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87)	Benzo(g,h,i)perylene	44.405	276	734511m	217.72	
89)	Perylene	38.697	252	743849m	228.24	
91)	C20-TAS	0.000		0	N.D. d	
92)	C21-TAS	0.000		0	N.D. d	
93)	C26(20S)-TAS	0.000		0	N.D. d	
94)	C26(20R)/C27(20S)-TAS	39.318	231	887010m	236.44	
95)	C28(20S)-TAS	0.000		0	N.D.	
96)	C27(20R)-TAS	0.000		0	N.D. d	
97)	C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061L.D
Acq On : 1 Sep 2013 12:54 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 01 21:19:11 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

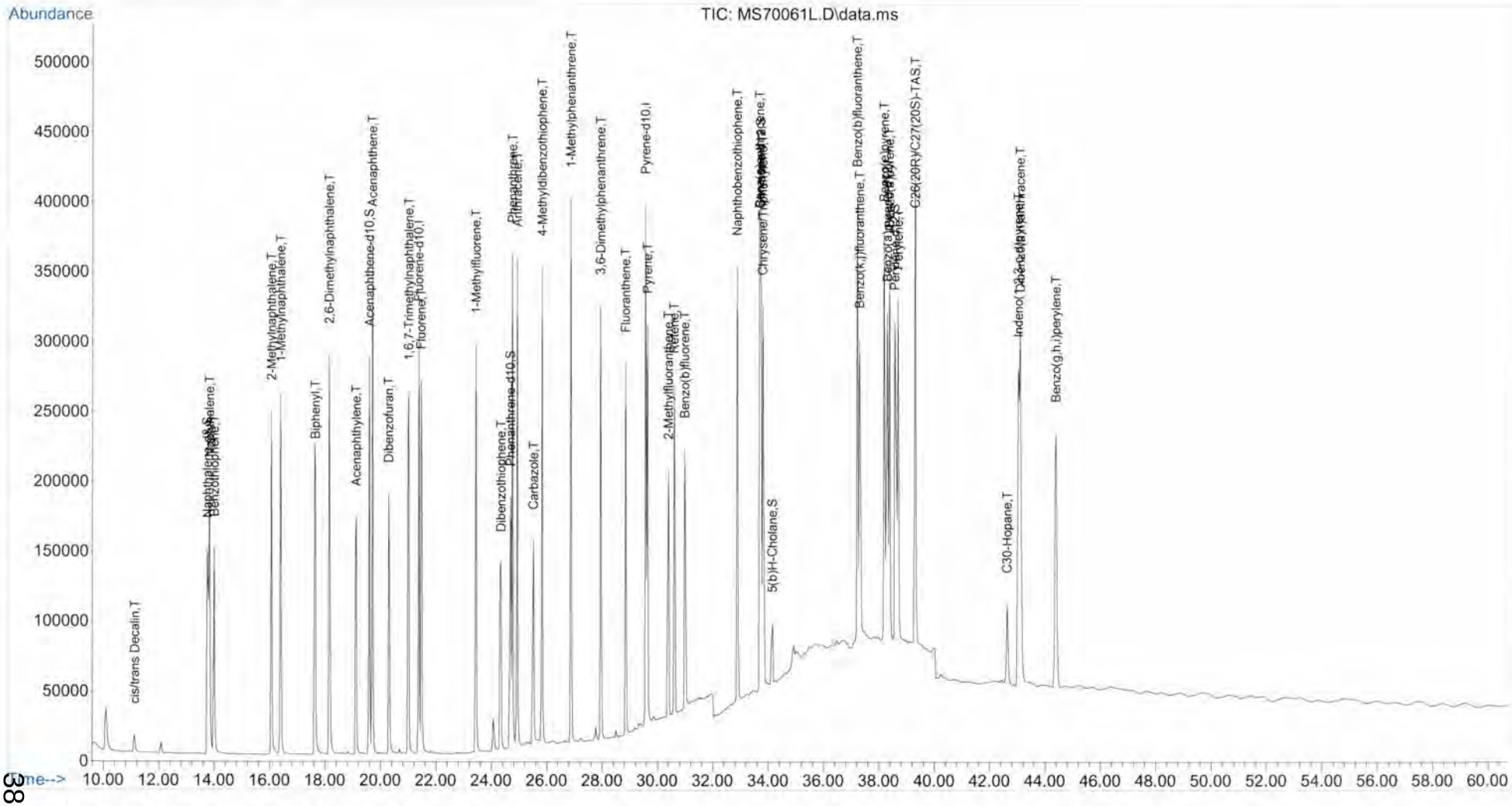
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061L.D
Acq On : 1 Sep 2013 12:54 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 01 21:19:11 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration



Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name MS70061H.D
Data File Path C:\GCMS7\MS70061\
Operator YM
Date Acquired 8/31/2013 22:02
Acq. Method File PAH-2012.M
Sample Name AR-WKISSU-250-002
Misc Info 0
Instrument Name GCMSD
Vial Number 8
Sample Multiplier 1
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

MS70061H.D
AR-WKISSU-250-002
8/31/2013
PAH-2012.M
1

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	0.00	0	0.0000	0.0000
9)+10)	C1-Naphthalenes	0.00	0	0.0000	0.0000
13)	C2-Naphthalenes	0.00	0	0.0000	0.0000
14)	C3-Naphthalenes	0.00	0	0.0000	0.0000
15)	C4-Naphthalenes	0.00	0	0.0000	0.0000
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	0.00	0	0.0000	0.0000
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	0.00	0	0.0000	0.0000
28)	C1-Fluorenes	0.00	0	0.0000	0.0000
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	0.00	0	0.0000	0.0000
41)	Phenanthrene	0.00	0	0.0000	0.0000
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	0.00	0	0.0000	0.0000
35)+36)+37)	C1-Dibenzothiophenes	0.00	0	0.0000	0.0000
38)	C2-Dibenzothiophenes	0.00	0	0.0000	0.0000
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	0.00	0	0.0000	0.0000
59)	Pyrene	0.00	0	0.0000	0.0000
62)	C1-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	0.00	0	0.0000	0.0000
68)	Chrysene/Triphenylene	0.00	0	0.0000	0.0000
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	0.00	0	0.0000	0.0000
78)	Benzo(k,j)fluoranthene	0.00	0	0.0000	0.0000
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	0.00	0	0.0000	0.0000
81)	Benzo(a)pyrene	0.00	0	0.0000	0.0000
89)	Perylene	0.00	0	0.0000	0.0000
82)	Indeno(1,2,3-c,d)pyrene	0.00	0	0.0000	0.0000
83)	Dibenzo(a,h)anthracene	0.00	0	0.0000	0.0000
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	0.00	0	0.0000	0.0000

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	0.00	0	0.0000	0.0000
10)	1-Methylnaphthalene	0.00	0	0.0000	0.0000
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	0.00	0	0.0000	0.0000
36)	2/3-Methyldibenzothiophene	0.00	0	0.0000	0.0000
37)	1-Methyldibenzothiophene	0.00	0	0.0000	0.0000
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	0.00	0	0.0000	0.0000
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.74	540988	240.92	96.32
21)	Acenaphthene-d10	19.59	307782	233.07	93.17
32)	Phenanthrene-d10	24.68	501549	225.44	90.10
66)	Chrysene-d12	33.73	637064	245.94	98.36
88)	Perylene-d12	38.58	664021	237.33	94.92
90)	5(b)H-Cholane	34.16	112896	238.27	95.31
	Internal Standards				
1)	Fluorene-d10	21.37	347829	251.05	
31)	Pyrene-d10	29.57	669235	250.63	
73)	Benzo(a)pyrene-d12	38.31	620758	250.33	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70061\
Data File : MS70061H.D
Acq On : 31 Aug 2013 10:02 pm
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 01 21:01:42 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	347829m	251.05	0.00
31) Pyrene-d10	29.566	212	669235m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	620758m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.739	136	540988m	240.92	0.00
21) Acenaphthene-d10	19.588	164	307782m	233.07	0.00
32) Phenanthrene-d10	24.683	188	501549m	225.44	0.00
66) Chrysene-d12	33.731	240	637064m	245.94	-0.04
88) Perylene-d12	38.580	264	664021m	237.33	-0.04
90) 5(b)H-Cholane	34.158	217	112896m	238.27	0.00

Target Compounds				Qvalue
3) cis/trans Decalin	0.000	0	N.D. d	
4) C1-Decalins	0.000	0	N.D. d	
5) C2-Decalins	0.000	0	N.D. d	
6) C3-Decalins	0.000	0	N.D. d	
7) C4-Decalins	0.000	0	N.D. d	
8) Naphthalene	0.000	0	N.D. d	
9) 2-Methylnaphthalene	0.000	0	N.D. d	
10) 1-Methylnaphthalene	0.000	0	N.D. d	
11) 2,6-Dimethylnaphthalene	0.000	0	N.D. d	
12) 1,6,7-Trimethylnaphtha...	0.000	0	N.D. d	
13) C2-Naphthalenes	0.000	0	N.D. d	
14) C3-Naphthalenes	0.000	0	N.D. d	
15) C4-Naphthalenes	0.000	0	N.D.	
16) Benzothiophene	0.000	0	N.D.	
17) C1-Benzothiophenes	0.000	0	N.D. d	
18) C2-Benzothiophenes	0.000	0	N.D. d	
19) C3-Benzothiophenes	0.000	0	N.D. d	
20) C4-Benzothiophenes	0.000	0	N.D. d	
22) Biphenyl	0.000	0	N.D. d	
23) Acenaphthylene	0.000	0	N.D. d	
24) Acenaphthene	0.000	0	N.D. d	
25) Dibenzofuran	0.000	0	N.D. d	
26) Fluorene	0.000	0	N.D. d	
27) 1-Methylfluorene	0.000	0	N.D. d	
28) C1-Fluorenes	0.000	0	N.D. d	
29) C2-Fluorenes	0.000	0	N.D. d	
30) C3-Fluorenes	0.000	0	N.D. d	
33) Carbazole	0.000	0	N.D. d	
34) Dibenzothiophene	0.000	0	N.D. d	
35) 4-Methyldibenzothiophene	0.000	0	N.D. d	
36) 2/3-Methyldibenzothiop...	0.000	0	N.D. d	
37) 1-Methyldibenzothiophene	0.000	0	N.D. d	
38) C2-Dibenzothiophenes	0.000	0	N.D. d	
39) C3-Dibenzothiophenes	0.000	0	N.D. d	
40) C4-Dibenzothiophenes	0.000	0	N.D. d	
41) Phenanthrene	0.000	0	N.D. d	
42) Anthracene	0.000	0	N.D. d	
43) 3-Methylphenanthrene	0.000	0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70061\
Data File : MS70061H.D
Acq On : 31 Aug 2013 10:02 pm
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 01 21:01:42 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	0.000		0	N.D.	d	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	0.000		0	N.D.	d	
59) Pyrene	0.000		0	N.D.	d	
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	0.000		0	N.D.	d	
68) Chrysene/Triphenylene	0.000		0	N.D.	d	
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	0.000		0	N.D.	d	
78) Benzo(k,j)fluoranthene	0.000		0	N.D.	d	
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	0.000		0	N.D.	d	
81) Benzo(a)pyrene	0.000		0	N.D.	d	
82) Indeno(1,2,3-c,d)pyrene	0.000		0	N.D.	d	
83) Dibenzo(a,h)anthracene	0.000		0	N.D.	d	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	0.000		0	N.D.	d	
89) Perylene	0.000		0	N.D.	d	
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.		
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70061\
Data File : MS70061H.D
Acq On : 31 Aug 2013 10:02 pm
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 01 21:01:42 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

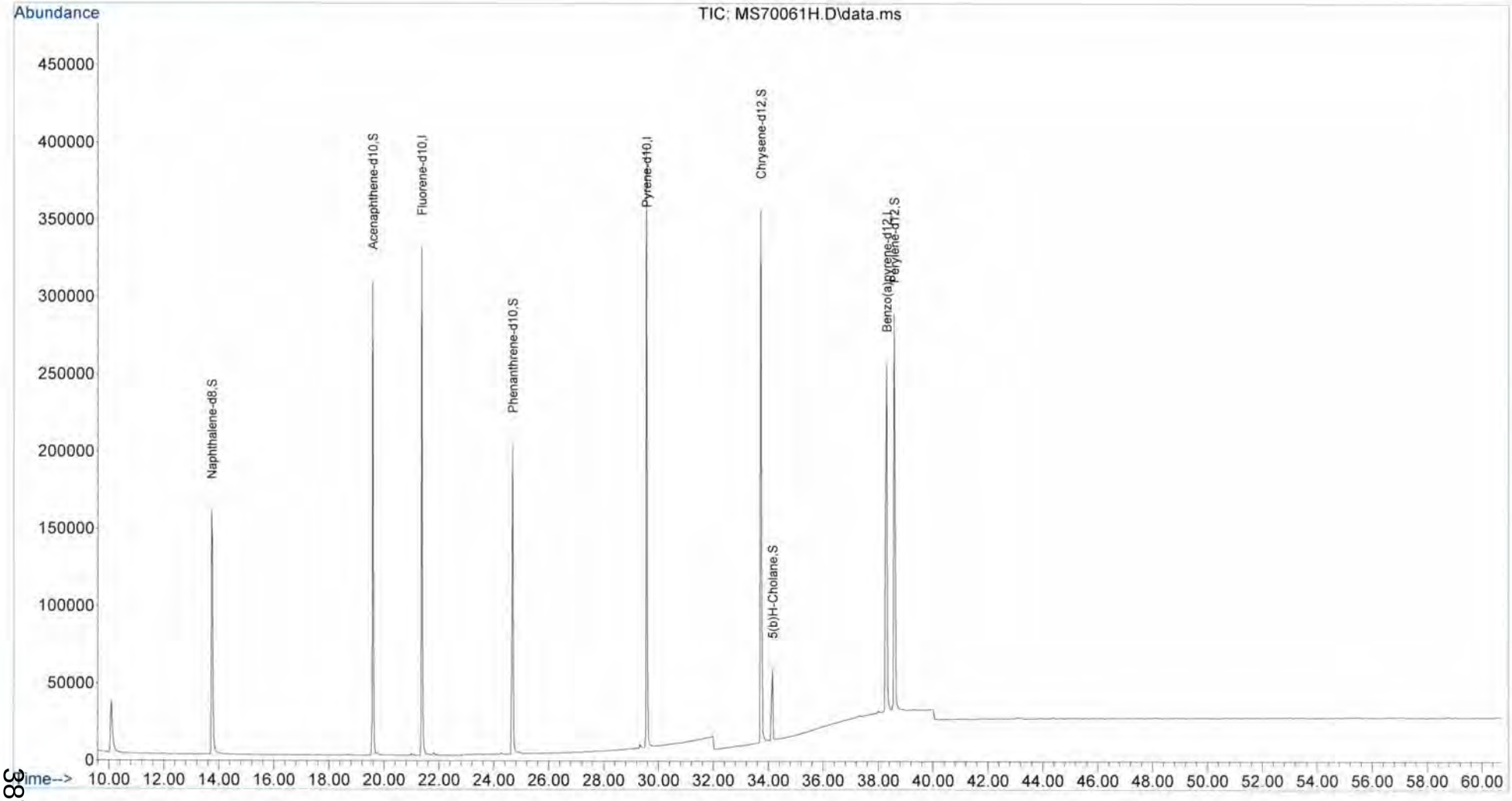
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70061\
Data File : MS70061H.D
Acq On : 31 Aug 2013 10:02 pm
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 01 21:01:42 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration



Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name MS70061K.D
Data File Path C:\msdchem\2\data\MS70061\
Operator YM
Date Acquired 9/1/2013 1:28
Acq. Method File PAH-2012.M
Sample Name AR-SRM2779-WK4.0-002
Misc Info 0
Instrument Name GCMSD
Vial Number 11
Sample Multiplier 0.24461
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

MS70061K.D
AR-SRM2779-WK4.0-002
9/1/2013
PAH-2012.M
4.088140305

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.12	1428180	639.4350	744.1510
4)	C1-Decalins	12.26	2069140	926.4115	1078.1237
5)	C2-Decalins	13.68	1556540	696.9037	811.0310
6)	C3-Decalins	16.61	1610080	720.8755	838.9285
7)	C4-Decalins	17.64	913117	408.8265	475.7773
8)	Naphthalene	13.82	9459420	656.6873	764.2287
9)+10)	C1-Naphthalenes	16.22	20417100	1417.3862	1649.5021
13)	C2-Naphthalenes	18.42	23776100	1650.5696	1920.8724
14)	C3-Naphthalenes	20.42	14937900	1037.0119	1206.8364
15)	C4-Naphthalenes	22.76	8150170	565.7952	658.4517
16)	Benzothiophene	14.02	85504	7.3778	8.5860
17)	C1-Benzothiophenes	16.75	283666	24.4764	28.4848
18)	C2-Benzothiophenes	18.31	230782	19.9132	23.1743
19)	C3-Benzothiophenes	20.26	304099	26.2396	30.5366
20)	C4-Benzothiophenes	21.71	270705	23.3580	27.1832
22)	Biphenyl	17.64	1751190	146.7721	170.8080
23)	Acenaphthylene	19.11	110659	7.7243	8.9893
24)	Acenaphthene	19.70	100633	11.4679	13.3459
25)	Dibenzofuran	20.28	331828	24.5654	28.5884
26)	Fluorene	21.48	1146540	107.9943	125.6799
28)	C1-Fluorenes	23.44	2762070	260.1647	302.7702
29)	C2-Fluorenes	25.27	3451930	325.1430	378.3895
30)	C3-Fluorenes	26.76	1964140	185.0059	215.3031
33)	Carbazole	25.51	39032	2.7457	3.1954
42)	Anthracene	24.93	66234	3.6884	4.2924
41)	Phenanthrene	24.75	3895230	203.2416	236.5251
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.65	8208257	428.2825	498.4195
50)	C2-Phenanthrenes/Anthracenes	28.32	8712890	454.6126	529.0615
51)	C3-Phenanthrenes/Anthracenes	29.88	5833400	304.3682	354.2126
52)	C4-Phenanthrenes/Anthracenes	31.71	3016330	157.3831	183.1566
34)	Dibenzothiophene	24.34	592686	38.3319	44.6092
35)+36)+37)	C1-Dibenzothiophenes	26.14	1796913	116.2150	135.2468
38)	C2-Dibenzothiophenes	27.90	2197940	142.1517	165.4309
39)	C3-Dibenzothiophenes	28.73	1865180	120.6306	140.3855
40)	C4-Dibenzothiophenes	30.15	844875	54.6422	63.5906
58)	Fluoranthene	28.87	59818	3.2225	3.7502
59)	Pyrene	29.63	263161	11.9622	13.9212
62)	C1-Fluoranthenes/Pyrenes	30.78	1171680	63.1197	73.4563
63)	C2-Fluoranthenes/Pyrenes	32.26	2361660	127.2251	148.0599
64)	C3-Fluoranthenes/Pyrenes	33.93	1808540	97.4282	113.3833
65)	C4-Fluoranthenes/Pyrenes	35.09	1400600	75.4517	87.8079
53)	Naphthobenzothiophene	32.88	383664	19.7755	23.0141
54)	C1-Naphthobenzothiophenes	34.04	788994	40.6679	47.3278
55)	C2-Naphthobenzothiophenes	35.75	1122770	57.8718	67.3491
56)	C3-Naphthobenzothiophenes	37.11	686539	35.3870	41.1821
57)	C4-Naphthobenzothiophenes	38.08	299335	15.4289	17.9556
67)	Benz(a)anthracene	33.69	93668	4.7498	5.5276
68)	Chrysene/Triphenylene	33.81	616537	36.1022	42.0145
69)	C1-Chrysenes	35.05	1798480	105.3127	122.5590
70)	C2-Chrysenes	36.52	2125740	124.4759	144.8605
71)	C3-Chrysenes	37.92	1479850	86.6548	100.8457
72)	C4-Chrysenes	39.32	682372	39.9573	46.5008
77)	Benzo(b)fluoranthene	37.22	92895	3.8862	4.5226
78)	Benzo(k,j)fluoranthene	37.26	16042	0.7736	0.9003
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.19	176387	7.5582	8.7959
81)	Benzo(a)pyrene	38.39	39148	1.6650	1.9377
89)	Perylene	38.70	8956	0.3880	0.4515
82)	Indeno(1,2,3-c,d)pyrene	43.08	14589	0.5291	0.6157
83)	Dibenzo(a,h)anthracene	43.08	13469	0.6183	0.7196
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.41	33815	1.4151	1.6469

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	12503100	1314.8472	1530.1711
10)	1-Methylnaphthalene	16.38	7914000	873.5830	1016.6440
11)	2,6-Dimethylnaphthalene	18.20	6680570	808.8494	941.3094
12)	1,6,7-Trimethylnaphthalene	21.01	2027940	256.0039	297.9280
27)	1-Methylfluorene	23.44	1243180	176.1735	205.0243
35)	4-Methyldibenzothiophene	25.83	988583	73.1225	85.0973
36)	2/3-Methyldibenzothiophene	26.14	492577	36.4344	42.4010
37)	1-Methyldibenzothiophene	26.45	315753	23.3553	27.1801
43)	3-Methylphenanthrene	26.41	2008740	152.0452	176.9446
44)	2-Methylphenanthrene	26.52	1981150	149.9567	174.5141
45)	2-Methylanthracene	26.66	180277	13.6455	15.8801
46)	4/9-Methylphenanthrene	26.80	2308710	174.7499	203.3675
47)	1-Methylphenanthrene	26.86	1729380	130.8996	152.3362
48)	3,6-Dimethylphenanthrene	27.94	371665	34.8278	40.5313
49)	Retene	30.71	103977	21.2069	24.6798
60)	2-Methylfluoranthene	30.40	73637	5.8189	6.7718
61)	Benzo(b)fluorene	31.02	159860	13.4920	15.7015
74)	C29-Hopane	40.64	149828	21.9227	25.5128
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	41.94	253887	37.1484	43.2320
91)	C20-TAS	33.30	77327	2.9101	3.3867
92)	C21-TAS	34.35	150242	5.6542	6.5802
93)	C26(20S)-TAS	38.46	81202	3.0560	3.5564
94)	C26(20R)/C27(20S)-TAS	39.36	253506	9.5405	11.1029
95)	C28(20S)-TAS	40.13	176998	6.6612	7.7520
96)	C27(20R)-TAS	40.57	157307	5.9201	6.8896
97)	C28(20R)-TAS	41.71	125377	4.7185	5.4912
	Surrogate Standards				
2)	Naphthalene-d8	13.74	771200	57.72	94.34
21)	Acenaphthene-d10	19.59	447770	56.99	93.13
32)	Phenanthrene-d10	24.68	745369	52.59	85.93
66)	Chrysene-d12	33.73	905795	54.89	89.74
88)	Perylene-d12	38.62	1059930	54.85	89.69
90)	5(b)H-Cholane	34.16	204842	62.60	102.36
	Internal Standards				
1)	Fluorene-d10	21.37	506232	61.41	
31)	Pyrene-d10	29.57	1042910	61.31	
73)	Benzo(a)pyrene-d12	38.31	1048680	61.23	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70061\
Data File : MS70061K.D
Acq On : 1 Sep 2013 1:28 am
Operator : YM
Sample : AR-SRM2779-WK4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Sep 02 12:34:30 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	506232m	251.05	0.00
31) Pyrene-d10	29.565	212	1042908m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	1048679m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.738	136	771200m	57.72	0.00
21) Acenaphthene-d10	19.588	164	447770m	56.99	0.00
32) Phenanthrene-d10	24.683	188	745369m	52.59	0.00
66) Chrysene-d12	33.731	240	905795m	54.89	-0.04
88) Perylene-d12	38.619	264	1059927m	54.85	0.00
90) 5(b)H-Cholane	34.158	217	204842m	62.60	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.120	138	1428180m	639.43	
4) C1-Decalins	12.262	152	2069144m	926.41	
5) C2-Decalins	13.683	166	1556536m	696.90	
6) C3-Decalins	16.608	180	1610080m	720.88	
7) C4-Decalins	17.638	194	913117m	408.83	
8) Naphthalene	13.822	128	9459419m	656.69	
9) 2-Methylnaphthalene	16.051	142	12503120m	1314.85	
10) 1-Methylnaphthalene	16.385	142	7914002m	873.58	
11) 2,6-Dimethylnaphthalene	18.196	156	6680574m	808.85	
12) 1,6,7-Trimethylnaphtha...	21.009	170	2027944m	256.00	
13) C2-Naphthalenes	18.418	156	23776073m	1650.57	
14) C3-Naphthalenes	20.424	170	14937930m	1037.01	
15) C4-Naphthalenes	22.764	184	8150167m	565.80	
16) Benzothiophene	14.017	134	85504m	7.38	
17) C1-Benzothiophenes	16.747	148	283666m	24.48	
18) C2-Benzothiophenes	18.307	162	230782m	19.91	
19) C3-Benzothiophenes	20.257	176	304099m	26.24	
20) C4-Benzothiophenes	21.706	190	270705m	23.36	
22) Biphenyl	17.638	154	1751190m	146.77	
23) Acenaphthylene	19.115	152	110659m	7.72	
24) Acenaphthene	19.700	154	100633m	11.47	
25) Dibenzofuran	20.285	168	331828m	24.57	
26) Fluorene	21.483	166	1146539m	107.99	
27) 1-Methylfluorene	23.436	180	1243180m	176.17	
28) C1-Fluorenes	23.436	180	2762067m	260.16	
29) C2-Fluorenes	25.272	194	3451933m	325.14	
30) C3-Fluorenes	26.761	208	1964142m	185.01	
33) Carbazole	25.514	167	39032m	2.75	
34) Dibenzothiophene	24.337	184	592686m	38.33	
35) 4-Methyldibenzothiophene	25.826	198	988583m	73.12	
36) 2/3-Methyldibenzothiop...	26.137	198	492577m	36.43	
37) 1-Methyldibenzothiophene	26.449	198	315753m	23.36	
38) C2-Dibenzothiophenes	27.903	212	2197943m	142.15	
39) C3-Dibenzothiophenes	28.734	226	1865184m	120.63	
40) C4-Dibenzothiophenes	30.154	240	844875m	54.64	
41) Phenanthrene	24.752	178	3895233m	203.24	
42) Anthracene	24.925	178	66234m	3.69	
43) 3-Methylphenanthrene	26.414	192	2008743m	152.05	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70061\
Data File : MS70061K.D
Acq On : 1 Sep 2013 1:28 am
Operator : YM
Sample : AR-SRM2779-WK4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Sep 02 12:34:30 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Methylphenanthrene	26.518	192	1981149m	149.96	
45) 2-Methylanthracene	26.657	192	180277m	13.65	
46) 4/9-Methylphenanthrene	26.795	192	2308705m	174.75	
47) 1-Methylphenanthrene	26.865	192	1729377m	130.90	
48) 3,6-Dimethylphenanthrene	27.938	206	371665m	34.83	
49) Retene	30.708	234	103977m	21.21	
50) C2-Phenanthrenes/Anthr...	28.319	206	8712893m	454.61	
51) C3-Phenanthrenes/Anthr...	29.877	220	5833396m	304.37	
52) C4-Phenanthrenes/Anthr...	31.712	234	3016332m	157.38	
53) Naphthobenzothiophene	32.878	234	383664m	19.78	
54) C1-Naphthobenzothiophenes	34.041	248	788994m	40.67	
55) C2-Naphthobenzothiophenes	35.748	262	1122767m	57.87	
56) C3-Naphthobenzothiophenes	37.106	276	686539m	35.39	
57) C4-Naphthobenzothiophenes	38.076	290	299335m	15.43	
58) Fluoranthene	28.873	202	59818m	3.22	
59) Pyrene	29.635	202	263161m	11.96	
60) 2-Methylfluoranthene	30.397	216	73637m	5.82	
61) Benzo(b)fluorene	31.020	216	159860m	13.49	
62) C1-Fluoranthenes/Pyrenes	30.777	216	1171679m	63.12	
63) C2-Fluoranthenes/Pyrenes	32.257	230	2361656m	127.23	
64) C3-Fluoranthenes/Pyrenes	33.925	244	1808542m	97.43	
65) C4-Fluoranthenes/Pyrenes	35.089	258	1400597m	75.45	
67) Benz(a)anthracene	33.692	228	93668m	4.75	
68) Chrysene/Triphenylene	33.809	228	616537m	36.10	
69) C1-Chrysenes	35.050	242	1798477m	105.31	
70) C2-Chrysenes	36.524	256	2125737m	124.48	
71) C3-Chrysenes	37.921	270	1479848m	86.65	
72) C4-Chrysenes	39.317	284	682372m	39.96	
74) C29-Hopane	40.644	191	149828m	21.92	
75) 18a-Oleanane	0.000		0	N.D.	d
76) C30-Hopane	41.935	191	253887m	37.15	
77) Benzo(b)fluoranthene	37.223	252	92895m	3.89	
78) Benzo(k,j)fluoranthene	37.261	252	16042m	0.77	
79) Benzo(a)fluoranthene	0.000		0	N.D.	d
80) Benzo(e)pyrene	38.192	252	176387m	7.56	
81) Benzo(a)pyrene	38.386	252	39148m	1.67	
82) Indeno(1,2,3-c,d)pyrene	43.078	276	14589m	0.53	
83) Dibenzo(a,h)anthracene	43.078	278	13469m	0.62	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d
87) Benzo(g,h,i)perylene	44.405	276	33815m	1.42	
89) Perylene	38.697	252	8956m	0.39	
91) C20-TAS	33.304	231	77327m	2.91	
92) C21-TAS	34.352	231	150242m	5.65	
93) C26(20S)-TAS	38.464	231	81202m	3.06	
94) C26(20R)/C27(20S)-TAS	39.356	231	253506m	9.54	
95) C28(20S)-TAS	40.128	231	176998m	6.66	
96) C27(20R)-TAS	40.571	231	157307m	5.92	
97) C28(20R)-TAS	41.714	231	125377m	4.72	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70061\
Data File : MS70061K.D
Acq On : 1 Sep 2013 1:28 am
Operator : YM
Sample : AR-SRM2779-WK4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Sep 02 12:34:30 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

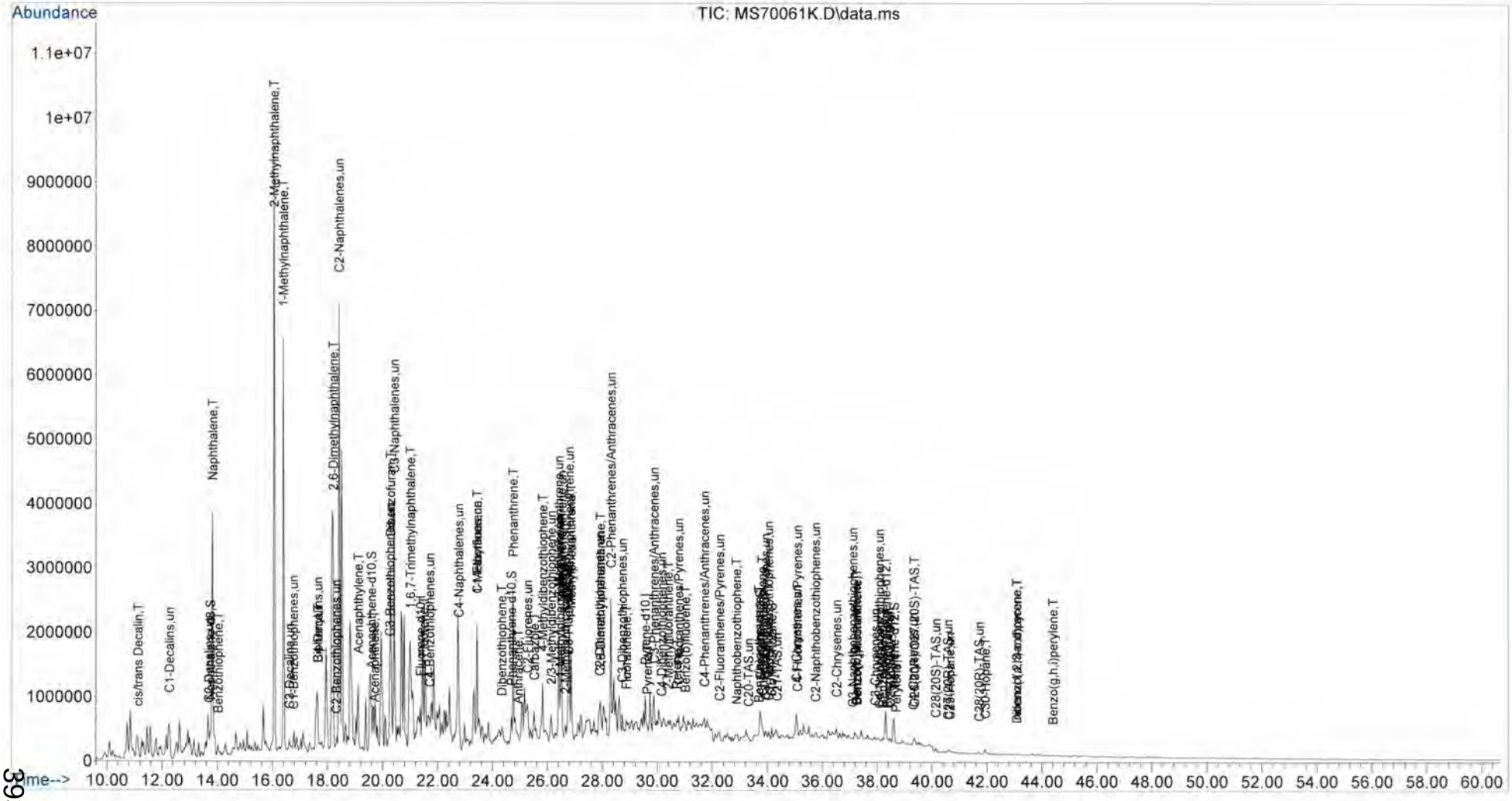
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70061\
Data File : MS70061K.D
Acq On : 1 Sep 2013 1:28 am
Operator : YM
Sample : AR-SRM2779-WK4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Sep 02 12:34:30 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration



Tissues, Sediments and Water PAH Report (use Phenanthrene-d10 as surrogate correction)

Data File Name ARC1652.D
Data File Path C:\msdchem\2\data\MS70061\
Operator YM
Date Acquired 9/1/2013 4:54
Acq. Method File PAH-2012.M
Sample Name SED-DA-017 (0.5-1.0)
Misc Info 0
Instrument Name GCMSD
Vial Number 38
Sample Multiplier 0.33156
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

ARC1652.D
SED-DA-017 (0.5-1.0)
9/1/2013
PAH-2012.M
3.016045361

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.82	422886	43.9155	44.0358
9)+10)	C1-Naphthalenes	16.22	4208860	437.0776	438.2758
13)	C2-Naphthalenes	18.42	15813800	1642.2067	1646.7086
14)	C3-Naphthalenes	20.79	22834200	2371.2541	2377.7546
15)	C4-Naphthalenes	22.76	19746600	2050.6157	2056.2372
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	19.11	185923	19.4136	19.4669
24)	Acenaphthene	19.70	183931	31.3543	31.4403
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.48	991627	139.7204	140.1034
28)	C1-Fluorenes	0.00	0	0.0000	0.0000
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.89	234190	23.6265	23.6912
41)	Phenanthrene	24.75	4390160	414.9871	416.1248
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.66	12736417	1203.9309	1207.2313
50)	C2-Phenanthrenes/Anthracenes	28.32	18644000	1762.3608	1767.1920
51)	C3-Phenanthrenes/Anthracenes	29.88	20268700	1915.9394	1921.1917
52)	C4-Phenanthrenes/Anthracenes	31.71	13613900	1286.8838	1290.4117
34)	Dibenzothiophene	24.34	3918020	459.0713	460.3298
35)+36)+37)	C1-Dibenzothiophenes	26.15	11862510	1389.9210	1393.7313
38)	C2-Dibenzothiophenes	27.25	20841100	2441.9361	2448.6303
39)	C3-Dibenzothiophenes	29.43	22026400	2580.8166	2587.8916
40)	C4-Dibenzothiophenes	29.74	13293000	1557.5329	1561.8027
58)	Fluoranthene	28.87	604732	59.0197	59.1815
59)	Pyrene	29.63	1346140	110.8561	111.1600
62)	C1-Fluoranthenes/Pyrenes	31.47	4941960	482.3170	483.6392
63)	C2-Fluoranthenes/Pyrenes	32.53	5129080	500.5793	501.9516
64)	C3-Fluoranthenes/Pyrenes	33.96	6870340	670.5204	672.3586
65)	C4-Fluoranthenes/Pyrenes	35.09	5719650	558.2177	559.7480
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.73	197055	18.1028	18.1524
68)	Chrysene/Triphenylene	33.85	1514590	160.6743	161.1148
69)	C1-Chrysenes	35.21	4278510	453.8857	455.1300
70)	C2-Chrysenes	36.52	5907680	626.7147	628.4328
71)	C3-Chrysenes	37.96	4790100	508.1555	509.5485
72)	C4-Chrysenes	39.36	2399750	254.5764	255.2743
77)	Benzo(b)fluoranthene	37.26	767630	59.2949	59.4574
78)	Benzo(k,j)fluoranthene	37.34	211261	18.8103	18.8619
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.23	919632	72.7612	72.9606
81)	Benzo(a)pyrene	38.43	503176	39.5153	39.6236
89)	Perylene	38.74	468645	37.4865	37.5893
82)	Indeno(1,2,3-c,d)pyrene	43.08	315668	21.1384	21.1964
83)	Dibenzo(a,h)anthracene	43.15	158258	13.4142	13.4510
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.44	898892	69.4582	69.6486

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	2503620	393.8435	394.9232
10)	1-Methylnaphthalene	16.38	1705240	281.5740	282.3459
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	25.83	5076370	680.2517	682.1165
36)	2/3-Methyldibenzothiophene	26.14	4147540	555.7841	557.3077
37)	1-Methyldibenzothiophene	26.48	2638600	353.5822	354.5515
43)	3-Methylphenanthrene	26.41	2541600	348.5259	349.4814
44)	2-Methylphenanthrene	26.52	3374860	462.7881	464.0568
45)	2-Methylanthracene	26.69	323667	44.3839	44.5056
46)	4/9-Methylphenanthrene	26.80	4203820	576.4602	578.0405
47)	1-Methylphenanthrene	26.90	2292470	314.3620	315.2238
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	40.64	3709980	1002.3191	1005.0669
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	41.97	4903620	1324.8043	1328.4361
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.74	606072	67.86	81.82
21)	Acenaphthene-d10	19.59	394180	75.05	90.48
32)	Phenanthrene-d10	24.68	647229	82.73	99.73
66)	Chrysene-d12	33.77	694489	76.24	91.97
88)	Perylene-d12	38.62	790545	75.54	91.12
90)	5(b)H-Cholane	34.16	234499	132.32	159.63
	Internal Standards				
1)	Fluorene-d10	21.37	458710	83.24	
31)	Pyrene-d10	29.60	780291	83.10	
73)	Benzo(a)pyrene-d12	38.35	769833	83.00	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70061\
Data File : ARC1652.D
Acq On : 1 Sep 2013 4:54 am
Operator : YM
Sample : SED-DA-017 (0.5-1.0)
Misc :
ALS Vial : 38 Sample Multiplier: 0.33156

Quant Time: Sep 02 13:05:16 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	458710m	251.05	0.00
31) Pyrene-d10	29.600	212	780291m	250.63	0.03
73) Benzo(a)pyrene-d12	38.348	264	769833m	250.32	0.04
System Monitoring Compounds					
2) Naphthalene-d8	13.738	136	606072m	67.86	0.00
21) Acenaphthene-d10	19.588	164	394180m	75.05	0.00
32) Phenanthrene-d10	24.683	188	647229m	82.73	0.00
66) Chrysene-d12	33.770	240	694489m	76.24	0.00
88) Perylene-d12	38.619	264	790545m	75.54	0.00
90) 5(b)H-Cholane	34.158	217	234499m	132.32	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	0.000		0	N.D. d	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	422886m	43.92	
9) 2-Methylnaphthalene	16.051	142	2503618m	393.84	
10) 1-Methylnaphthalene	16.385	142	1705239m	281.57	
11) 2,6-Dimethylnaphthalene	0.000		0	N.D. d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D. d	
13) C2-Naphthalenes	18.418	156	15813772m	1642.21	
14) C3-Naphthalenes	20.786	170	22834177m	2371.25	
15) C4-Naphthalenes	22.764	184	19746553m	2050.61	
16) Benzothiophene	0.000		0	N.D. d	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	0.000		0	N.D. d	
23) Acenaphthylene	19.115	152	185923m	19.41	
24) Acenaphthene	19.700	154	183931m	31.35	
25) Dibenzofuran	0.000		0	N.D. d	
26) Fluorene	21.483	166	991627m	139.72	
27) 1-Methylfluorene	0.000		0	N.D. d	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	0.000		0	N.D. d	
34) Dibenzothiophene	24.337	184	3918021m	459.07	
35) 4-Methyldibenzothiophene	25.826	198	5076367m	680.25	
36) 2/3-Methyldibenzothiop...	26.137	198	4147538m	555.78	
37) 1-Methyldibenzothiophene	26.484	198	2638599m	353.58	
38) C2-Dibenzothiophenes	27.245	212	20841137m	2441.94	
39) C3-Dibenzothiophenes	29.427	226	22026420m	2580.82	
40) C4-Dibenzothiophenes	29.739	240	13293046m	1557.53	
41) Phenanthrene	24.752	178	4390155m	414.99	
42) Anthracene	24.891	178	234190m	23.63	
43) 3-Methylphenanthrene	26.414	192	2541601m	348.52	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70061\
Data File : ARC1652.D
Acq On : 1 Sep 2013 4:54 am
Operator : YM
Sample : SED-DA-017 (0.5-1.0)
Misc :
ALS Vial : 38 Sample Multiplier: 0.33156

Quant Time: Sep 02 13:05:16 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Methylphenanthrene	26.518	192	3374862m	462.79	
45) 2-Methylanthracene	26.691	192	323667m	44.38	
46) 4/9-Methylphenanthrene	26.795	192	4203818m	576.46	
47) 1-Methylphenanthrene	26.899	192	2292473m	314.36	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D. d	
49) Retene	0.000		0	N.D. d	
50) C2-Phenanthrenes/Anthr...	28.319	206	18643953m	1762.36	
51) C3-Phenanthrenes/Anthr...	29.877	220	20268660m	1915.94	
52) C4-Phenanthrenes/Anthr...	31.712	234	13613901m	1286.88	
53) Naphthobenzothiophene	0.000		0	N.D. d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.873	202	604732m	59.02	
59) Pyrene	29.635	202	1346143m	110.86	
60) 2-Methylfluoranthene	0.000		0	N.D. d	
61) Benzo(b)fluorene	0.000		0	N.D. d	
62) C1-Fluoranthenes/Pyrenes	31.470	216	4941963m	482.32	
63) C2-Fluoranthenes/Pyrenes	32.528	230	5129078m	500.58	
64) C3-Fluoranthenes/Pyrenes	33.964	244	6870339m	670.52	
65) C4-Fluoranthenes/Pyrenes	35.089	258	5719647m	558.22	
67) Benz(a)anthracene	33.731	228	197055m	18.10	
68) Chrysene/Triphenylene	33.847	228	1514585m	160.67	
69) C1-Chrysenes	35.205	242	4278512m	453.88	
70) C2-Chrysenes	36.524	256	5907680m	626.71	
71) C3-Chrysenes	37.960	270	4790100m	508.16	
72) C4-Chrysenes	39.356	284	2399745m	254.58	
74) C29-Hopane	40.644	191	3709979m	1002.32	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	41.972	191	4903621m	1324.80	
77) Benzo(b)fluoranthene	37.261	252	767630m	59.29	
78) Benzo(k,j)fluoranthene	37.339	252	211261m	18.81	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.231	252	919632m	72.76	
81) Benzo(a)pyrene	38.425	252	503176m	39.52	
82) Indeno(1,2,3-c,d)pyrene	43.078	276	315668m	21.14	
83) Dibenzo(a,h)anthracene	43.152	278	158258m	13.41	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.442	276	898892m	69.46	
89) Perylene	38.736	252	468645m	37.49	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D. d	
95) C28(20S)-TAS	0.000		0	N.D. d	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70061\
Data File : ARC1652.D
Acq On : 1 Sep 2013 4:54 am
Operator : YM
Sample : SED-DA-017 (0.5-1.0)
Misc :
ALS Vial : 38 Sample Multiplier: 0.33156

Quant Time: Sep 02 13:05:16 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70061\
Data File : ARC1652.D
Acq On : 1 Sep 2013 4:54 am
Operator : YM
Sample : SED-DA-017 (0.5-1.0)
Misc :
ALS Vial : 38 Sample Multiplier: 0.33156

Quant Time: Sep 02 13:05:16 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
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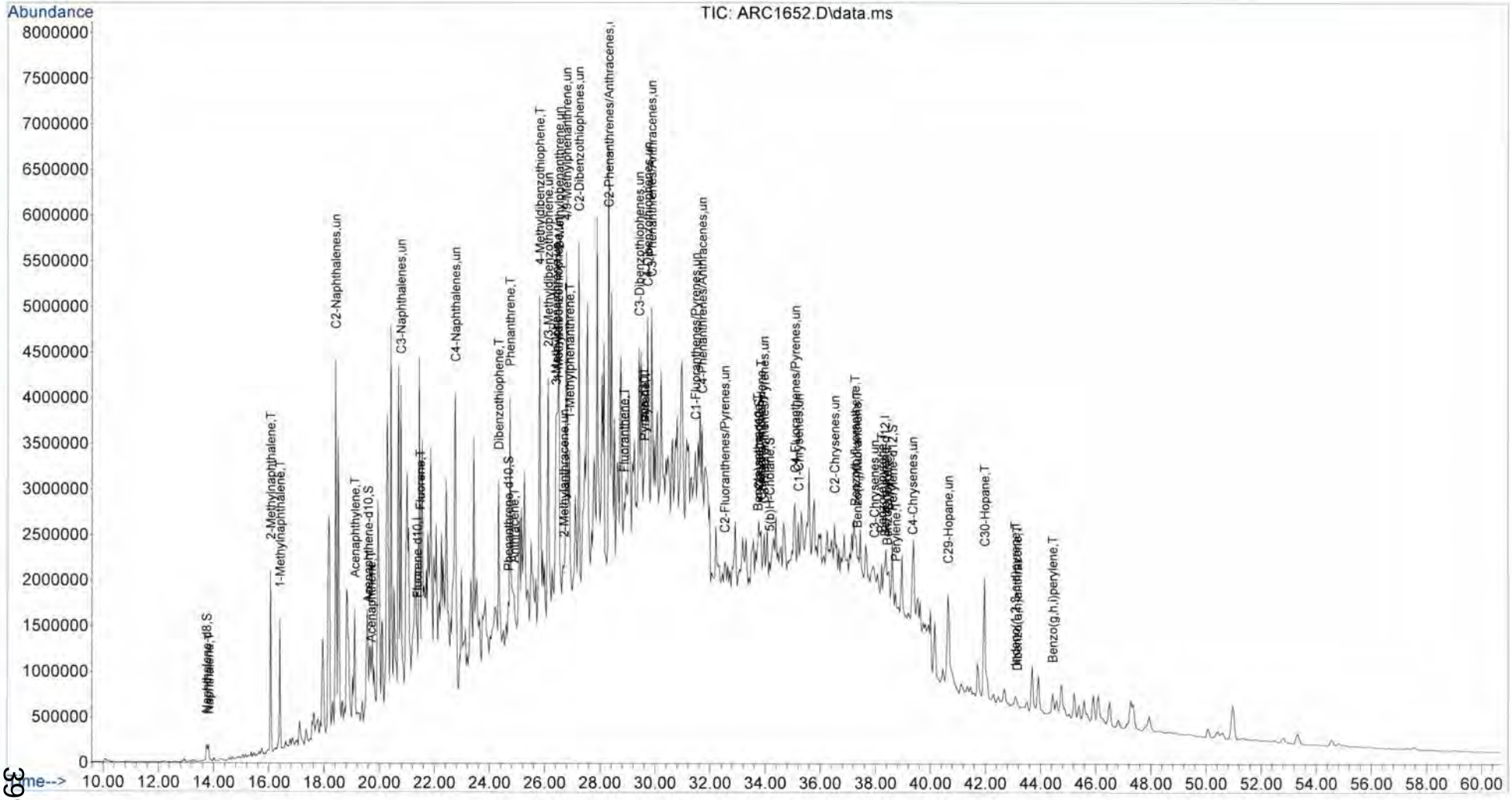


Aliphatic Hydrocarbons/
Total Petroleum Hydrocarbons/
Initial Calibration Data
and
Initial Calibration Verification Data

TPH/Aliphatic
ICAL
FID1C08FRONT081213.M

GC/FID-1 FRONT

Calibration Status Report HP5890

Method Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Method File : FID1C08FRONT081213.M
Title : C8 - C40 aliphatic
Last Update : Mon Aug 12 13:56:00 2013
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	1	1	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID10072C.D
2	2	10	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID10072D.D
3	3	25	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID10072E.D
4	4	40	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID10072F.D
5	5	50	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID10072G.D
6	6	100	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID10072H.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1	Aug 12 11:25 2013	Aug 12 11:24 2013	09-Aug-2013, 22:41:20
2	2	Aug 12 11:33 2013	Aug 12 11:33 2013	09-Aug-2013, 23:51:52
3	3	Aug 12 11:43 2013	Aug 12 11:43 2013	10-Aug-2013, 01:02:24
4	4	Aug 12 11:48 2013	Aug 12 11:47 2013	10-Aug-2013, 02:13:04
5	5	Aug 12 13:33 2013	Aug 12 13:33 2013	10-Aug-2013, 03:23:38
6	6	Aug 12 13:44 2013	Aug 12 13:44 2013	10-Aug-2013, 04:34:12

FID1C08FRONT081213.M Mon Aug 12 13:56:59 2013

Response Factor Report HP5890

Method Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Method File : FID1C08FRONT081213.M
Title : C8 - C40 aliphatic
Last Update : Mon Aug 12 13:56:00 2013
Response Via : Initial Calibration

8/12/13

Calibration Files
1 =FID10072C.D 2 =FID10072D.D 3 =FID10072E.D
4 =FID10072F.D 5 =FID10072G.D 6 =FID10072H.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	n-hexadecane-d34	----------ISTD----------							
2)		n-C8	0.942	0.978	0.967	0.962	0.985	0.839	0.945	5.74
3)		n-C9	1.012	1.042	1.027	1.036	1.045	0.899	1.010	5.51
4)		n-C10	1.105	1.117	1.102	1.115	1.116	0.966	1.087	5.48
5)		n-C11	1.133	1.134	1.119	1.134	1.130	0.979	1.105	5.60
6)	S	n-dodecane-d26	1.053	1.052	1.043	1.081	1.045	0.921	1.033	5.47
7)		n-C12	1.187	1.192	1.178	1.169	1.187	1.026	1.156	5.58
8)		i-13	1.173	1.190	1.174	1.186	1.181	1.020	1.154	5.72
9)		i-14	1.200	1.229	1.208	1.212	1.213	1.049	1.185	5.70
10)		n-C13	1.173	1.190	1.174	1.186	1.181	1.020	1.154	5.72
11)		i-15	1.243	1.234	1.214	1.218	1.217	1.052	1.196	5.99
12)		n-C14	1.200	1.229	1.208	1.212	1.213	1.049	1.185	5.70
13)		i-16	1.252	1.242	1.218	1.215	1.221	1.053	1.200	6.12
14)		n-C15	1.244	1.234	1.214	1.218	1.217	1.052	1.196	5.99
15)		n-C16	1.252	1.242	1.218	1.215	1.221	1.053	1.200	6.12
16)	I	5a-androstane	----------ISTD----------							
17)		i-18	0.987	0.999	0.988	0.997	0.992	0.864	0.971	5.45
18)		n-C17	1.022	1.017	1.008	1.005	1.012	0.881	0.991	5.45
19)		Pristane	1.008	1.016	1.002	1.004	1.008	0.878	0.986	5.38
20)		n-C18	0.987	0.999	0.988	0.997	0.992	0.864	0.971	5.45
21)		Phytane	1.007	1.016	1.007	1.013	1.011	0.880	0.989	5.42
22)		n-C19	0.980	0.994	0.983	0.990	0.987	0.858	0.965	5.49
23)	S	n-eicosane-d42	0.781	0.784	0.778	0.808	0.776	0.690	0.769	5.31
24)		n-C20	0.983	0.995	0.985	0.992	0.987	0.857	0.967	5.57
25)		n-C21	0.986	1.006	0.992	0.990	0.995	0.864	0.972	5.48
26)		n-C22	0.987	1.005	0.992	0.997	0.992	0.860	0.972	5.67
27)		n-C23	0.984	1.010	0.996	0.988	0.997	0.863	0.973	5.61
28)		n-C24	0.988	1.010	0.996	0.985	0.994	0.860	0.972	5.70
29)		n-C25	0.993	1.009	0.994	0.991	0.993	0.860	0.973	5.76
30)		n-C26	0.984	1.008	0.995	0.997	0.993	0.859	0.973	5.77
31)		n-C27	0.972	0.985	0.969	0.970	0.968	0.836	0.950	5.94
32)		n-C28	0.979	0.999	0.985	0.984	0.983	0.849	0.963	5.86
33)		n-C29	0.981	1.006	0.987	0.988	0.989	0.853	0.967	5.87
34)	S	n-triacontane...	0.770	0.767	0.759	0.781	0.755	0.662	0.749	5.82
35)		n-C30	0.973	0.997	0.981	0.978	0.980	0.843	0.959	5.95
36)		n-C31	0.947	0.984	0.969	0.969	0.968	0.831	0.945	6.04
37)		n-C32	0.950	0.976	0.963	0.950	0.962	0.820	0.937	6.20
38)		n-C33	0.922	0.955	0.944	0.941	0.938	0.793	0.916	6.66
39)		n-C34	0.923	0.972	0.957	0.954	0.953	0.795	0.926	7.14
40)		n-C35	0.898	0.951	0.937	0.938	0.935	0.765	0.904	7.77
41)		n-C36	0.987	1.033	1.018	0.998	1.011	0.804	0.975	8.74
42)		n-C37	0.915	0.937	0.923	0.926	0.920	0.720	0.890	9.42
43)		n-C38	0.889	0.933	0.916	0.922	0.916	0.681	0.876	11.02
44)		n-C39	0.856	0.893	0.883	0.888	0.884	0.632	0.839	12.19
45)		n-C40	0.817	0.846	0.830	0.829	0.825	0.570	0.786	13.50
46)		TPH	0.947	0.967	0.954	0.960	0.957	0.811	0.932	6.41
47)		TRH1	0.947	0.967	0.954	0.960	0.957	0.811	0.932	6.41
48)		TRH2	0.947	0.967	0.954	0.960	0.957	0.811	0.932	6.41
49)		TRH3	0.947	0.967	0.954	0.960	0.959	0.811	0.933	6.43
50)		TRH4	0.947	0.967	0.954	0.960	0.957	0.811	0.932	6.41
51)		TRH5	0.947	0.967	0.954	0.960	0.957	0.811	0.932	6.41
52)		TRH6	0.947	0.967	0.954	0.960	0.957	0.811	0.932	6.41

53)	GRO	0.947	0.967	0.954	0.960	0.957	0.811	0.932	6.41
54)	DRO	0.947	0.967	0.954	0.960	0.957	0.811	0.932	6.41
55)	RRO	0.947	0.967	0.954	0.960	0.957	0.811	0.932	6.41

(#) = Out of Range

FID1C08FRONT081213.M Mon Aug 12 13:56:11 2013

Area for TPH Calculations

Last Calibration Update Mon Aug 12 13:44:47 2013

Quant Method FID3C08FRONT081213.M

	Level 1 FID10072C.D	Level 2 FID10072D.D	Level 3 FID10072E.D	Level 4 FID10072F.D	Level 5 FID10072G.D	Level 6 FID10072H.D
n-C8	7835	60881	151774	249601	304134	623017
n-C9	8414	64822	161060	268916	322395	667371
n-C10	9188	69487	172851	289493	344565	716973
n-C11	9431	70609	175762	294236	349134	727385
n-C12	9688	72874	181575	303320	359829	747950
n-C13	9749	74167	184420	307904	365084	758593
n-C14	9915	75964	188356	314522	372247	773506
n-C15	10285	76336	189485	316090	373681	776888
n-C16	10307	76441	189036	315284	373193	773826
n-C17	10319	77023	191837	319083	377591	783800
Pristane	10209	77192	191288	318719	377227	783178
n-C18	10091	76668	190378	316692	375036	778062
Phytane	10270	77638	193432	321545	380960	789819
n-C19	10007	76134	189264	314213	372377	771195
n-C20	10062	76440	189971	315142	373335	773084
n-C21	9989	76391	189444	314258	372512	770938
n-C22	10109	77112	191215	316580	375185	775221
n-C23	9957	76609	189917	313847	372683	768898
n-C24	9983	76461	189620	312831	371158	765498
n-C25	10120	77015	190787	314703	373751	770909
n-C26	10077	77378	191989	316618	375732	774878
n-C27	9944	75498	186780	307905	365888	752035
n-C28	10003	76555	189697	312589	371331	763889
n-C29	10037	77143	190396	313804	373802	768107
n-C30	9909	76071	188277	310396	368399	755730
n-C31	9679	75408	186700	307667	365761	747566
n-C32	9583	73797	183063	301767	358608	728166
n-C33	9428	73205	181822	298748	354278	713661
n-C34	9422	74340	183904	302933	359337	713804
n-C35	9176	72905	180602	297795	353293	688923
n-C36	9883	77581	192250	316827	374347	709480
n-C37	9362	71885	177939	293962	347714	648312
n-C38	9104	71582	176698	292870	346254	613891
n-C39	8753	68413	170120	281825	333858	568788
n-C40	8331	64688	159630	263293	311044	512319
Average Area (use for TPH, TRPH, GRO, DRO, RRO)	9675	74077	183753	304457	361306	730162
Average of n-C38 & n-C40	8718	68135	168164	278082	328649	563105
n-C36/n-C20	0.98	1.01	1.01	1.01	1.00	0.92

For Isoprenoids (other than Pristane and Phytane) use area for normal alkane; i-C13 use n-C13

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072C.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 22:41:20
Operator : Meghan Dailey
Sample : AL-WKC1-1.25-019
Misc :
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 11:24:57 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
Internal Standards				
1) I	n-hexadecane-d34	13.015	332437	50.000 ug/mlm
16) I	5a-androstane	18.316	409424	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.712	8753	1.285 ug/mlm
23) S	n-eicosane-d42	17.704	8034	1.278 ug/mlm
34) S	n-triacontane-d62	29.630	7875	1.289 ug/mlm
Target Compounds				
2)	n-C8	3.566	7835	1.225 ug/mlm
3)	n-C9	4.886	8414	1.244 ug/mlm
4)	n-C10	6.300	9188	1.272 ug/mlm
5)	n-C11	7.656	9431	1.289 ug/mlm
7)	n-C12	8.918	9688	1.273 ug/mlm
8)	i-13	0.000	0	N.D. ug/mld
9)	i-14	0.000	0	N.D. ug/mld
10)	n-C13	10.092	9749	1.282 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	11.189	9915	1.267 ug/mlm
13)	i-16	0.000	0	N.D. ug/ml
14)	n-C15	12.222	10285	1.297 ug/mlm
15)	n-C16	13.267	10307	1.288 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	14.381	10319	1.298 ug/mlm
19)	Pristane	14.500	10209	1.290 ug/mlm
20)	n-C18	15.568	10091	1.284 ug/mlm
21)	Phytane	15.733	10270	1.282 ug/mlm
22)	n-C19	16.816	10007	1.274 ug/mlm
24)	n-C20	18.103	10062	1.276 ug/mlm
25)	n-C21	19.409	9989	1.256 ug/mlm
26)	n-C22	20.715	10109	1.268 ug/mlm
27)	n-C23	22.007	9957	1.243 ug/mlm
28)	n-C24	23.272	9983	1.249 ug/mlm
29)	n-C25	24.509	10120	1.266 ug/mlm
30)	n-C26	25.711	10077	1.258 ug/mlm
31)	n-C27	26.876	9944	1.275 ug/mlm
32)	n-C28	28.008	10002	1.266 ug/mlm
33)	n-C29	29.104	10037	1.266 ug/mlm
35)	n-C30	30.168	9909	1.264 ug/mlm
36)	n-C31	31.199	9679	1.258 ug/mlm
37)	n-C32	32.197	9583	1.264 ug/mlm
38)	n-C33	33.166	9428	1.276 ug/mlm
39)	n-C34	34.117	9422	1.255 ug/mlm
40)	n-C35	35.153	9176	1.248 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072C.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 22:41:20
Operator : Meghan Dailey
Sample : AL-WKC1-1.25-019
Misc :
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 11:24:57 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
41)	n-C36	36.333	9883	1.250 ug/mlm
42)	n-C37	37.701	9362	1.298 ug/mlm
43)	n-C38	39.288	9104	1.248 ug/mlm
44)	n-C39	41.166	8753	1.259 ug/mlm
45)	n-C40	43.379	8331	1.289 ug/mlm
46)	TPH	0.000	0	N.D. ug/mld
47)	TRH1	0.000	0	N.D. ug/mld
48)	TRH2	0.000	0	N.D. ug/mld
49)	TRH3	0.000	0	N.D. ug/mld
50)	TRH4	0.000	0	N.D. ug/mld
51)	TRH5	0.000	0	N.D. ug/mld
52)	TRH6	0.000	0	N.D. ug/mld
53)	GRO	0.000	0	N.D. ug/mld
54)	DRO	0.000	0	N.D. ug/mld
55)	RRO	0.000	0	N.D. ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

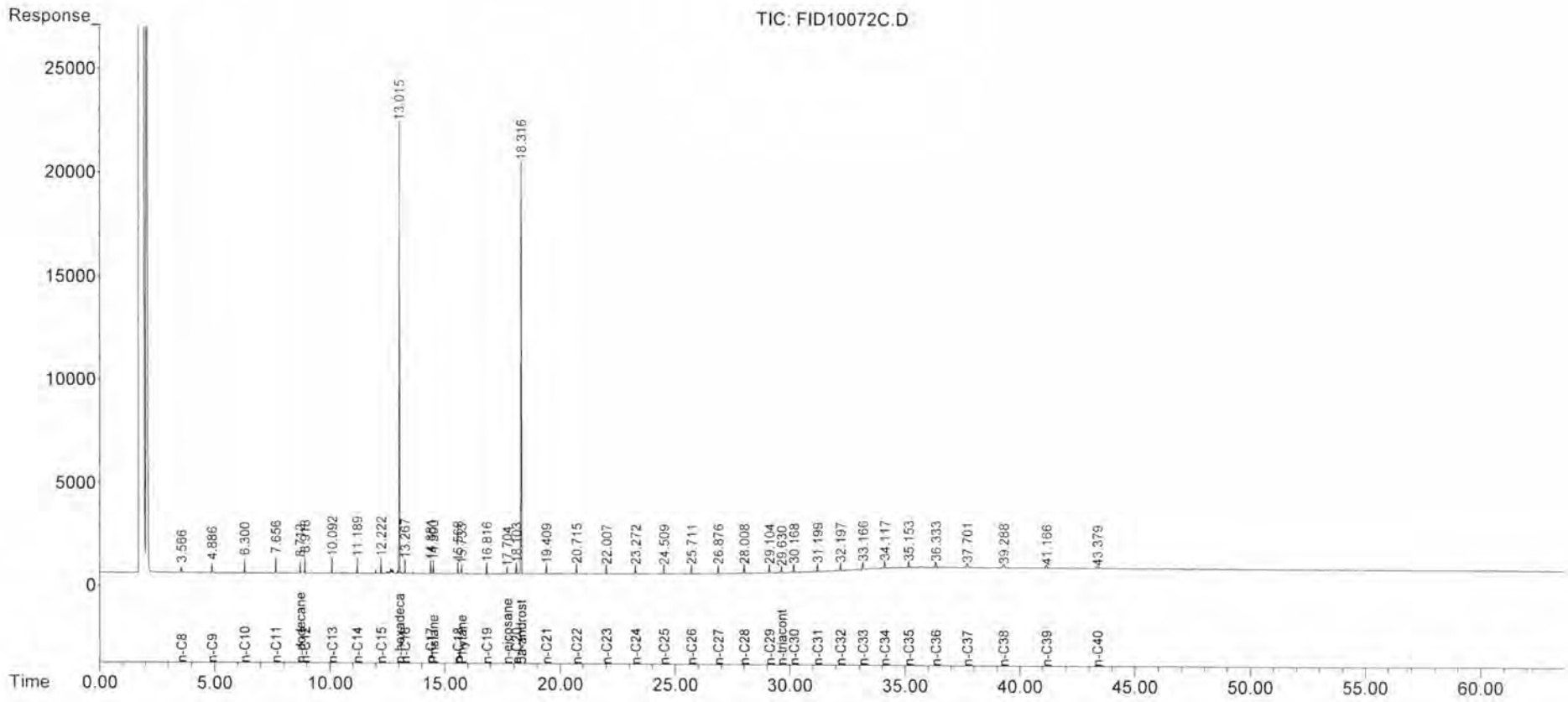
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072C.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 22:41:20
Operator : Meghan Dailey
Sample : AL-WKC1-1.25-019
Misc :
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 11:24:57 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072D.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 23:51:52
Operator : Meghan Dailey
Sample : AL-WKC2-10-019
Misc :
ALS Vial : 4 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 11:33:14 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 11:25:14 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
Internal Standards				
1) I	n-hexadecane-d34	13.015	310911	50.000 ug/mlm
16) I	5a-androstane	18.314	383759	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.711	65434	10.240 ug/mlm
23) S	n-eicosane-d42	17.701	60457	10.266 ug/mlm
34) S	n-triacontane-d62	29.632	58890	10.244 ug/mlm
Target Compounds				
2)	n-C8	3.564	60881	10.232 ug/mlm
3)	n-C9	4.885	64822	10.250 ug/mlm
4)	n-C10	6.299	69487	10.262 ug/mlm
5)	n-C11	7.656	70609	10.300 ug/mlm
7)	n-C12	8.918	72874	10.196 ug/mlm
8)	i-13	0.000	0	N.D. ug/mld
9)	i-14	0.000	0	N.D. ug/mld
10)	n-C13	10.092	74167	10.400 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	11.190	75964	10.363 ug/mlm
13)	i-16	0.000	0	N.D. ug/mld
14)	n-C15	12.222	76336	10.276 ug/mlm
15)	n-C16	13.267	76441	10.221 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	14.381	77023	10.270 ug/mlm
19)	Pristane	14.500	77192	10.360 ug/mlm
20)	n-C18	15.568	76668	10.388 ug/mlm
21)	Phytane	15.733	77638	10.330 ug/mlm
22)	n-C19	16.815	76134	10.337 ug/mlm
24)	n-C20	18.102	76440	10.324 ug/mlm
25)	n-C21	19.408	76391	10.247 ug/mlm
26)	n-C22	20.715	77112	10.324 ug/mlm
27)	n-C23	22.006	76609	10.236 ug/mlm
28)	n-C24	23.274	76461	10.216 ug/mlm
29)	n-C25	24.509	77015	10.268 ug/mlm
30)	n-C26	25.710	77378	10.319 ug/mlm
31)	n-C27	26.877	75498	10.318 ug/mlm
32)	n-C28	28.009	76555	10.327 ug/mlm
33)	n-C29	29.106	77143	10.378 ug/mlm
35)	n-C30	30.168	76071	10.347 ug/mlm
36)	n-C31	31.199	75408	10.434 ug/mlm
37)	n-C32	32.197	73797	10.320 ug/mlm
38)	n-C33	33.167	73205	10.503 ug/mlm
39)	n-C34	34.120	74340	10.558 ug/mlm
40)	n-C35	35.153	72905	10.579 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072D.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 23:51:52
Operator : Meghan Dailey
Sample : AL-WKC2-10-019
Misc :
ALS Vial : 4 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 11:33:14 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 11:25:14 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.339	77581	10.408	ug/mlm
42)	n-C37	37.697	71885	10.543	ug/mlm
43)	n-C38	39.296	71582	10.553	ug/mlm
44)	n-C39	41.167	68413	10.467	ug/mlm
45)	n-C40	43.373	64688	10.555	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

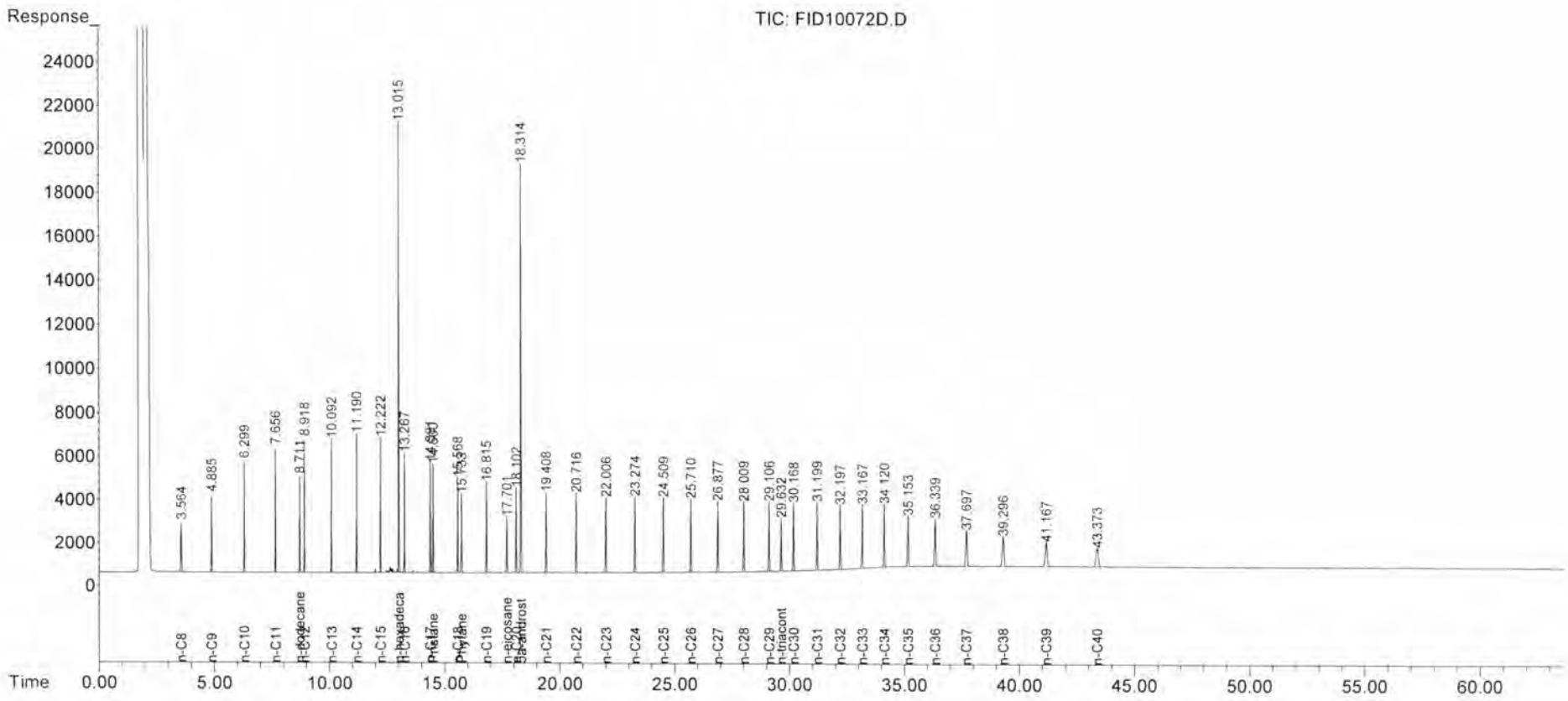
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072D.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 23:51:52
Operator : Meghan Dailey
Sample : AL-WKC2-10-019
Misc :
ALS Vial : 4 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 11:33:14 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 11:25:14 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072E.D
Signal(s) : FID1A.CH
Acq On : 10-Aug-2013, 01:02:24
Operator : Meghan Dailey
Sample : AL-WKC3-25-019
Misc :
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 11:43:10 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 11:33:33 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
Internal Standards				
1) I	n-hexadecane-d34	13.014	313640	50.000 ug/mlm
16) I	5a-androstane	18.313	385796	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.712	163594	25.320 ug/mlm
23) S	n-eicosane-d42	17.702	150894	25.470 ug/mlm
34) S	n-triacontane-d62	29.631	146435	25.333 ug/mlm
Target Compounds				
2)	n-C8	3.565	151774	25.327 ug/mlm
3)	n-C9	4.886	161060	25.244 ug/mlm
4)	n-C10	6.300	172851	25.283 ug/mlm
5)	n-C11	7.656	175762	25.366 ug/mlm
7)	n-C12	8.919	181575	25.114 ug/mlm
8)	i-13	0.000	0	N.D. ug/mld
9)	i-14	0.000	0	N.D. ug/mld
10)	n-C13	10.093	184420	25.561 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	11.190	188356	25.397 ug/mlm
13)	i-16	0.000	0	N.D. ug/mld
14)	n-C15	12.223	189485	25.253 ug/mlm
15)	n-C16	13.268	189036	25.033 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	14.382	191837	25.359 ug/mlm
19)	Pristane	14.501	191288	25.435 ug/mlm
20)	n-C18	15.569	190378	25.599 ug/mlm
21)	Phytane	15.735	193432	25.555 ug/mlm
22)	n-C19	16.816	189264	25.533 ug/mlm
24)	n-C20	18.104	189971	25.522 ug/mlm
25)	n-C21	19.411	189444	25.273 ug/mlm
26)	n-C22	20.716	191215	25.473 ug/mlm
27)	n-C23	22.008	189917	25.260 ug/mlm
28)	n-C24	23.275	189620	25.218 ug/mlm
29)	n-C25	24.511	190787	25.324 ug/mlm
30)	n-C26	25.713	191989	25.494 ug/mlm
31)	n-C27	26.879	186780	25.401 ug/mlm
32)	n-C28	28.010	189697	25.470 ug/mlm
33)	n-C29	29.106	190396	25.471 ug/mlm
35)	n-C30	30.171	188277	25.457 ug/mlm
36)	n-C31	31.199	186700	25.666 ug/mlm
37)	n-C32	32.199	183063	25.438 ug/mlm
38)	n-C33	33.168	181822	25.883 ug/mlm
39)	n-C34	34.119	183904	25.896 ug/mlm
40)	n-C35	35.154	180602	25.981 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072E.D
Signal(s) : FID1A.CH
Acq On : 10-Aug-2013, 01:02:24
Operator : Meghan Dailey
Sample : AL-WKC3-25-019
Misc :
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 11:43:10 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 11:33:33 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.338	192250	25.551	ug/mlm
42)	n-C37	37.707	177939	25.841	ug/mlm
43)	n-C38	39.299	176698	25.836	ug/mlm
44)	n-C39	41.179	170120	25.849	ug/mlm
45)	n-C40	43.383	159630	25.797	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

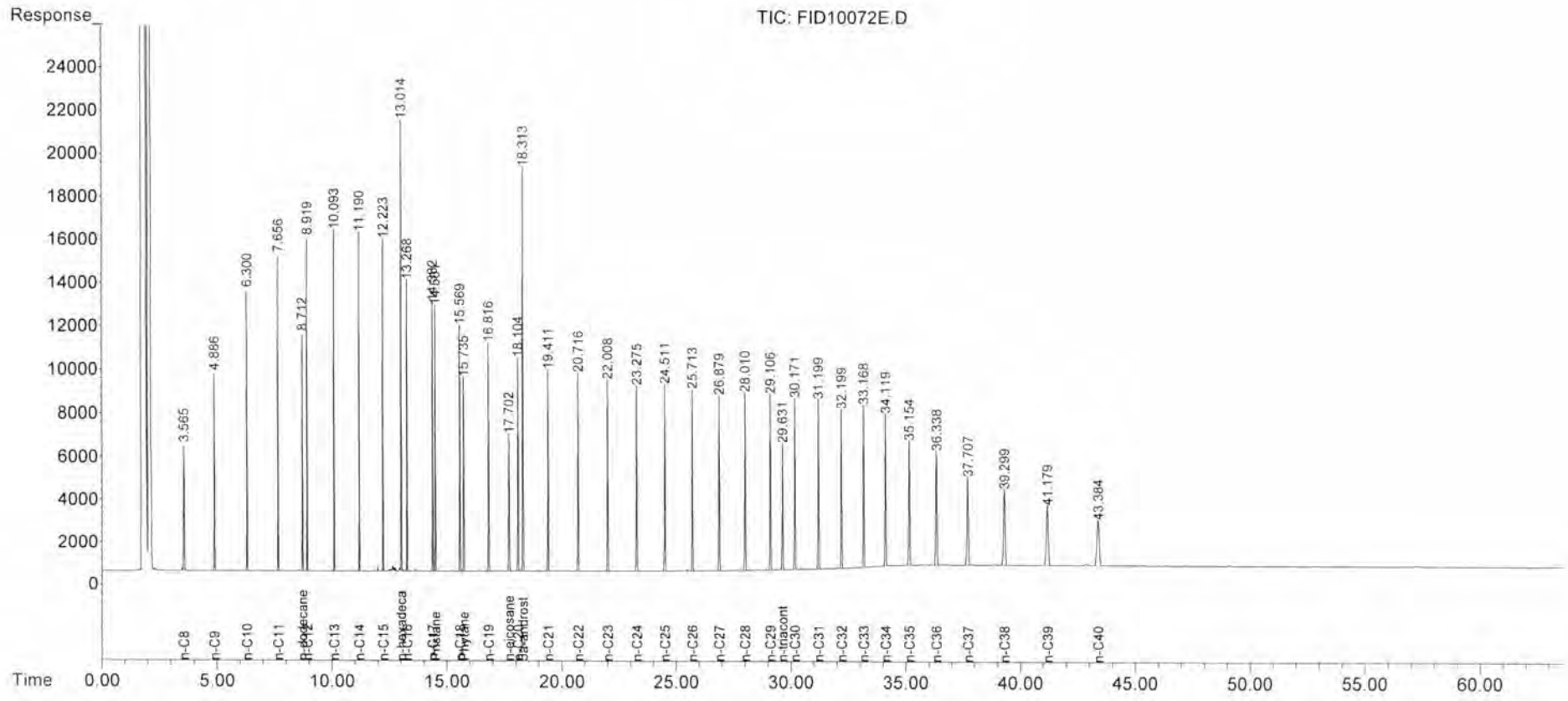
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072E.D
Signal(s) : FID1A.CH
Acq On : 10-Aug-2013, 01:02:24
Operator : Meghan Dailey
Sample : AL-WKC3-25-019
Misc :
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 11:43:10 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 11:33:33 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072F.D
Signal(s) : FID1A.CH
Acq On : 10-Aug-2013, 02:13:04
Operator : Meghan Dailey
Sample : AL-WKC4-40-019
Misc :
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 11:47:57 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 11:43:23 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
Internal Standards				
1) I	n-hexadecane-d34	13.014	324181	50.000 ug/mlm
16) I	5a-androstane	18.313	397190	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.714	280475	41.969 ug/mlm
23) S	n-eicosane-d42	17.706	258223	42.322 ug/mlm
34) S	n-triacontane-d62	29.636	248031	41.661 ug/mlm
Target Compounds				
2)	n-C8	3.565	249601	40.298 ug/mlm
3)	n-C9	4.887	268916	40.818 ug/mlm
4)	n-C10	6.301	289493	40.994 ug/mlm
5)	n-C11	7.657	294236	41.084 ug/mlm
7)	n-C12	8.921	303320	40.553 ug/mlm
8)	i-13	0.000	0	N.D. ug/mld
9)	i-14	0.000	0	N.D. ug/mld
10)	n-C13	10.094	307904	41.245 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	11.192	314522	41.002 ug/mlm
13)	i-16	0.000	0	N.D. ug/mld
14)	n-C15	12.225	316090	40.753 ug/mlm
15)	n-C16	13.271	315284	40.442 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	14.384	319083	40.859 ug/mlm
19)	Pristane	14.503	318719	41.049 ug/mlm
20)	n-C18	15.571	316692	41.294 ug/mlm
21)	Phytane	15.736	321545	41.187 ug/mlm
22)	n-C19	16.819	314213	41.130 ug/mlm
24)	n-C20	18.106	315142	41.109 ug/mlm
25)	n-C21	19.414	314258	40.733 ug/mlm
26)	n-C22	20.720	316580	40.984 ug/mlm
27)	n-C23	22.010	313847	40.576 ug/mlm
28)	n-C24	23.278	312831	40.439 ug/mlm
29)	n-C25	24.514	314703	40.614 ug/mlm
30)	n-C26	25.716	316618	40.877 ug/mlm
31)	n-C27	26.880	307905	40.705 ug/mlm
32)	n-C28	28.012	312589	40.789 ug/mlm
33)	n-C29	29.109	313804	40.791 ug/mlm
35)	n-C30	30.172	310396	40.743 ug/mlm
36)	n-C31	31.204	307667	41.029 ug/mlm
37)	n-C32	32.203	301767	40.641 ug/mlm
38)	n-C33	33.171	298748	41.154 ug/mlm
39)	n-C34	34.125	302933	41.272 ug/mlm
40)	n-C35	35.160	297795	41.442 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072F.D
Signal(s) : FID1A.CH
Acq On : 10-Aug-2013, 02:13:04
Operator : Meghan Dailey
Sample : AL-WKC4-40-019
Misc :
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 11:47:57 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 11:43:23 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.343	316827	40.709	ug/mlm
42)	n-C37	37.709	293962	41.283	ug/mlm
43)	n-C38	39.303	292870	41.482	ug/mlm
44)	n-C39	41.178	281825	41.451	ug/mlm
45)	n-C40	43.399	263293	41.164	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

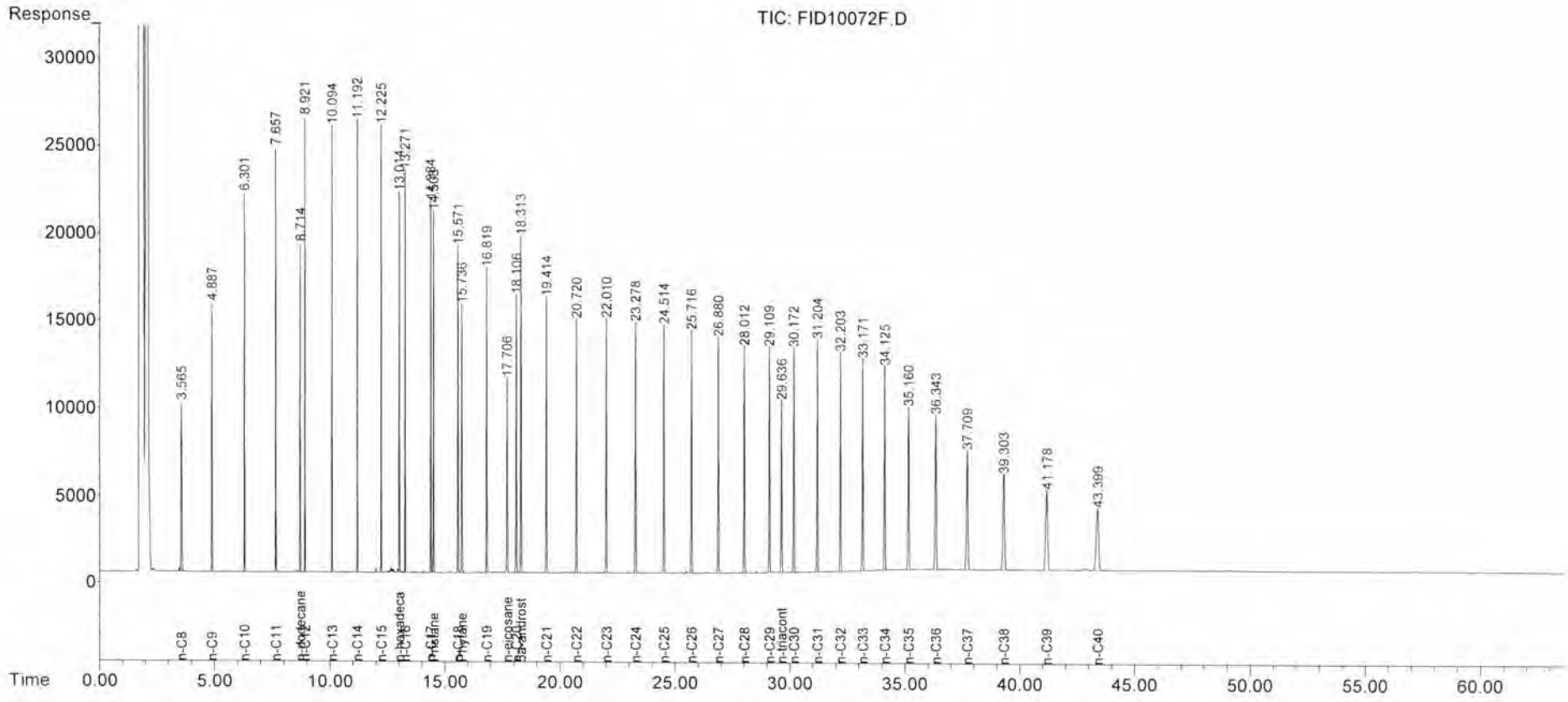
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072F.D
Signal(s) : FID1A.CH
Acq On : 10-Aug-2013, 02:13:04
Operator : Meghan Dailey
Sample : AL-WKC4-40-019
Misc :
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 11:47:57 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 11:43:23 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072G.D
Signal(s) : FID1A.CH
Acq On : 10-Aug-2013, 03:23:38
Operator : Meghan Dailey
Sample : AL-WKC5-50-019
Misc :
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 13:33:18 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 11:48:17 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
Internal Standards				
1) I	n-hexadecane-d34	13.013	308613	50.000 ug/mlm
16) I	5a-androstane	18.313	378201	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.713	322525	50.682 ug/mlm
23) S	n-eicosane-d42	17.706	294905	50.741 ug/mlm
34) S	n-triacontane-d62	29.635	285310	50.396 ug/mlm
Target Compounds				
2)	n-C8	3.565	304134	51.981 ug/mlm
3)	n-C9	4.886	322395	51.633 ug/mlm
4)	n-C10	6.300	344565	51.353 ug/mlm
5)	n-C11	7.657	349134	51.238 ug/mlm
7)	n-C12	8.920	359829	50.512 ug/mlm
8)	i-13	0.000	0	N.D. ug/mld
9)	i-14	0.000	0	N.D. ug/mld
10)	n-C13	10.094	365084	51.349 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	11.191	372247	50.962 ug/mlm
13)	i-16	0.000	0	N.D. ug/mld
14)	n-C15	12.225	373681	50.626 ug/mlm
15)	n-C16	13.271	373193	50.339 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	14.385	377591	50.678 ug/mlm
19)	Pristane	14.504	377227	50.915 ug/mlm
20)	n-C18	15.573	375036	51.288 ug/mlm
21)	Phytane	15.738	380960	51.170 ug/mlm
22)	n-C19	16.820	372377	51.157 ug/mlm
24)	n-C20	18.109	373335	51.145 ug/mlm
25)	n-C21	19.415	372512	50.713 ug/mlm
26)	n-C22	20.722	375185	51.025 ug/mlm
27)	n-C23	22.012	372683	50.637 ug/mlm
28)	n-C24	23.279	371158	50.432 ug/mlm
29)	n-C25	24.513	373751	50.721 ug/mlm
30)	n-C26	25.717	375732	51.009 ug/mlm
31)	n-C27	26.881	365888	50.874 ug/mlm
32)	n-C28	28.014	371331	50.960 ug/mlm
33)	n-C29	29.111	373802	51.123 ug/mlm
35)	n-C30	30.173	368399	50.846 ug/mlm
36)	n-C31	31.203	365761	51.294 ug/mlm
37)	n-C32	32.203	358608	50.749 ug/mlm
38)	n-C33	33.171	354278	51.286 ug/mlm
39)	n-C34	34.125	359337	51.413 ug/mlm
40)	n-C35	35.161	353293	51.635 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072G.D
Signal(s) : FID1A.CH
Acq On : 10-Aug-2013, 03:23:38
Operator : Meghan Dailey
Sample : AL-WKC5-50-019
Misc :
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 13:33:18 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 11:48:17 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.346	374347	50.492	ug/mlm
42)	n-C37	37.711	347714	51.269	ug/mlm
43)	n-C38	39.305	346254	51.496	ug/mlm
44)	n-C39	41.183	333858	51.579	ug/mlm
45)	n-C40	43.394	311044	51.030	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

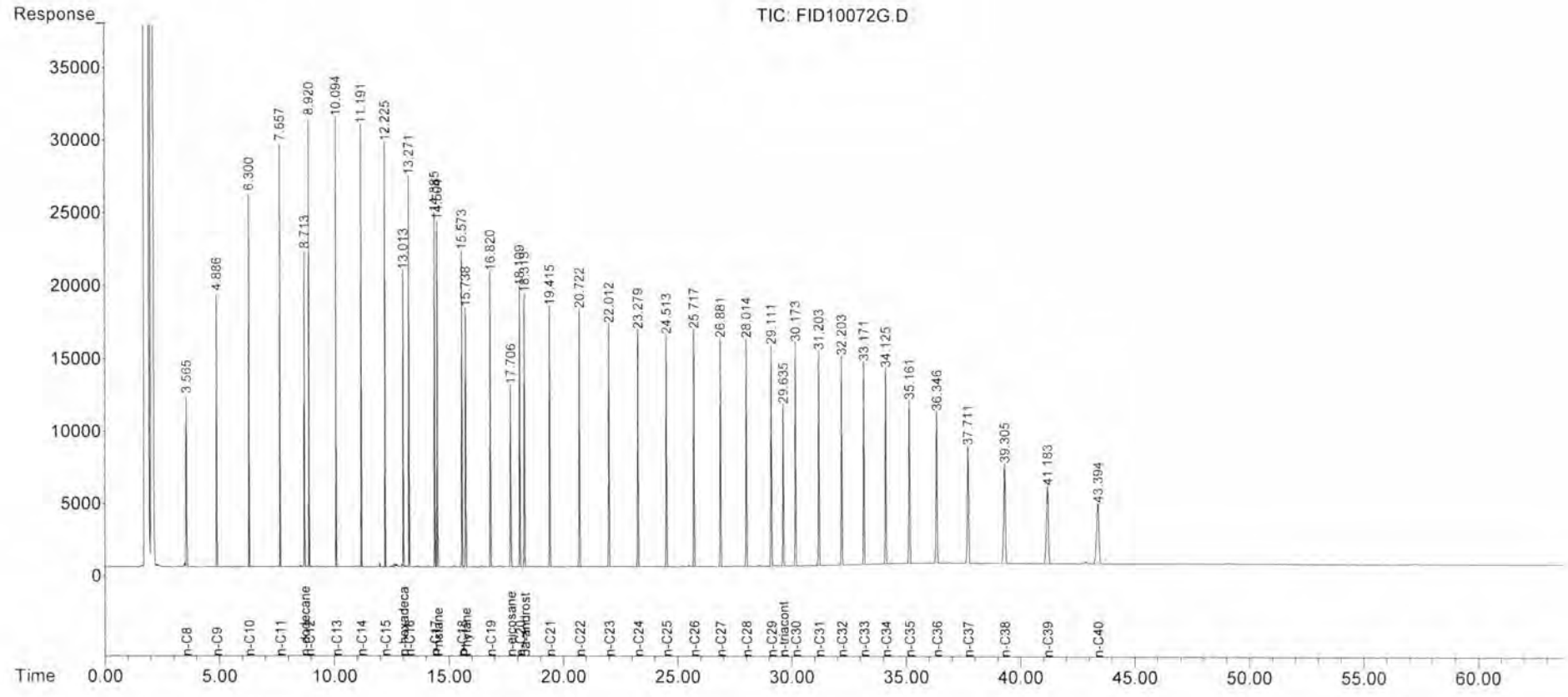
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072G.D
Signal(s) : FID1A.CH
Acq On : 10-Aug-2013, 03:23:38
Operator : Meghan Dailey
Sample : AL-WKC5-50-019
Misc :
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 13:33:18 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 11:48:17 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072H.D
Signal(s) : FID1A.CH
Acq On : 10-Aug-2013, 04:34:12
Operator : Meghan Dailey
Sample : AL-WKC6-100-019
Misc :
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 13:44:37 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:33:35 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
Internal Standards				
1) I	n-hexadecane-d34	13.014	371024	50.000 ug/mlm
16) I	5a-androstane	18.315	450671	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.717	683310	89.210 ug/mlm
23) S	n-eicosane-d42	17.713	624705	90.262 ug/mlm
34) S	n-triacontane-d62	29.645	596520	88.508 ug/mlm
Target Compounds				
2)	n-C8	3.567	623017	88.572 ug/mlm
3)	n-C9	4.889	667371	88.911 ug/mlm
4)	n-C10	6.304	716973	88.847 ug/mlm
5)	n-C11	7.661	727385	88.730 ug/mlm
7)	n-C12	8.925	747950	87.212 ug/mlm
8)	i-13	0.000	0	N.D. ug/mld
9)	i-14	0.000	0	N.D. ug/mld
10)	n-C13	10.099	758593	88.631 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	11.197	773506	87.998 ug/mlm
13)	i-16	0.000	0	N.D. ug/mld
14)	n-C15	12.230	776888	87.527 ug/mlm
15)	n-C16	13.276	773826	86.825 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	14.392	783800	88.088 ug/mlm
19)	Pristane	14.511	783178	88.468 ug/mlm
20)	n-C18	15.579	778062	89.167 ug/mlm
21)	Phytane	15.745	789819	88.877 ug/mlm
22)	n-C19	16.829	771195	88.849 ug/mlm
24)	n-C20	18.119	773084	88.901 ug/mlm
25)	n-C21	19.425	770938	88.135 ug/mlm
26)	n-C22	20.732	775221	88.585 ug/mlm
27)	n-C23	22.024	768898	87.775 ug/mlm
28)	n-C24	23.291	765498	87.434 ug/mlm
29)	n-C25	24.527	770909	87.957 ug/mlm
30)	n-C26	25.732	774878	88.449 ug/mlm
31)	n-C27	26.895	752035	87.892 ug/mlm
32)	n-C28	28.027	763889	88.097 ug/mlm
33)	n-C29	29.124	768107	88.249 ug/mlm
35)	n-C30	30.187	755730	87.622 ug/mlm
36)	n-C31	31.218	747566	88.005 ug/mlm
37)	n-C32	32.215	728166	86.441 ug/mlm
38)	n-C33	33.185	713661	86.629 ug/mlm
39)	n-C34	34.136	713804	85.582 ug/mlm
40)	n-C35	35.175	688923	84.364 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072H.D
Signal(s) : FID1A.CH
Acq On : 10-Aug-2013, 04:34:12
Operator : Meghan Dailey
Sample : AL-WKC6-100-019
Misc :
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 13:44:37 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:33:35 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.360	709480	80.205	ug/mlm
42)	n-C37	37.727	648312	80.132	ug/mlm
43)	n-C38	39.330	613891	76.553	ug/mlm
44)	n-C39	41.198	568788	73.680	ug/mlm
45)	n-C40	43.419	512319	70.511	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

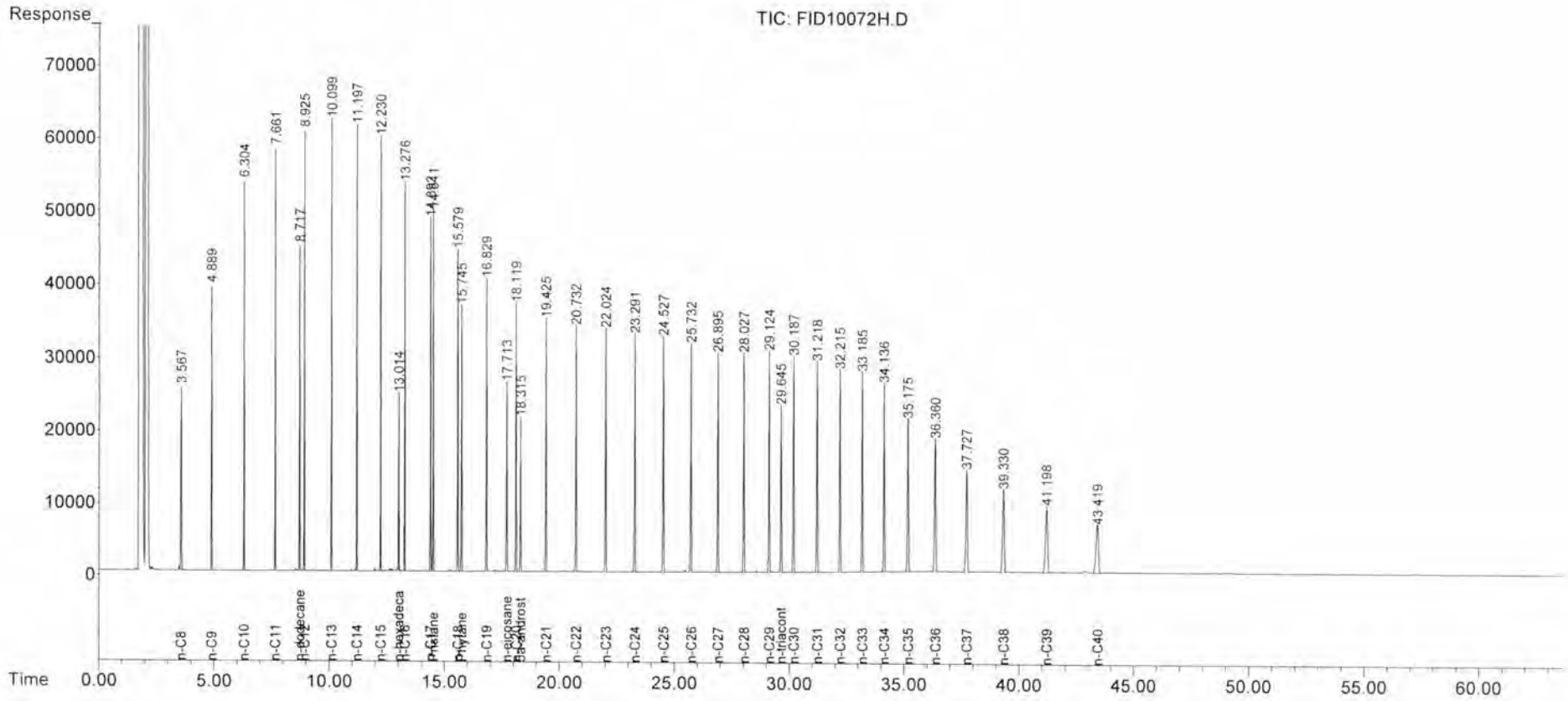
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072H.D
Signal(s) : FID1A.CH
Acq On : 10-Aug-2013, 04:34:12
Operator : Meghan Dailey
Sample : AL-WKC6-100-019
Misc :
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 13:44:37 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:33:35 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072I.D
Signal(s) : FID1A.CH
Acq On : 10-Aug-2013, 05:44:45
Operator : Meghan Dailey
Sample : AL-WKICV-25-002
Misc :
ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:02:34 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	n-hexadecane-d34	1.000	1.000	0.0	92	0.00
2		n-C8	0.945	1.000	-5.8	95	0.00
3		n-C9	1.010	1.084	-7.3	97	0.00
4		n-C10	1.087	1.141	-5.0	95	0.00
5		n-C11	1.105	1.185	-7.2	98	0.00
6	S	n-dodecane-d26	1.033	1.032	0.1	91	0.00
7		n-C12	1.156	1.230	-6.4	96	0.00
10		n-C13	1.154	1.226	-6.2	96	0.00
12		n-C14	1.185	1.245	-5.1	95	0.00
14		n-C15	1.196	1.264	-5.7	96	0.00
15		n-C16	1.200	1.276	-6.3	97	0.00
16	I	5a-androstane	1.000	1.000	0.0	92	0.00
18		n-C17	0.991	1.040	-4.9	95	0.00
19		Pristane	0.986	1.025	-4.0	94	0.00
20		n-C18	0.971	1.026	-5.7	95	0.00
21		Phytane	0.989	1.024	-3.5	93	0.00
22		n-C19	0.965	1.033	-7.0	96	0.00
23	S	n-eicosane-d42	0.769	0.774	-0.7	91	0.00
24		n-C20	0.967	1.012	-4.7	94	0.00
25		n-C21	0.972	1.042	-7.2	96	0.00
26		n-C22	0.972	1.022	-5.1	95	0.00
27		n-C23	0.973	1.023	-5.1	94	0.00
28		n-C24	0.972	1.017	-4.6	94	0.00
29		n-C25	0.973	0.929	4.5	86	0.00
30		n-C26	0.973	1.015	-4.3	94	0.00
31		n-C27	0.950	1.010	-6.3	96	0.00
32		n-C28	0.963	1.007	-4.6	94	0.00
33		n-C29	0.967	0.999	-3.3	93	0.00
34	S	n-triacontane-d62	0.749	0.744	0.7	90	0.00
35		n-C30	0.959	1.004	-4.7	94	0.00
36		n-C31	0.945	0.970	-2.6	92	0.00
37		n-C32	0.937	0.982	-4.8	94	0.00
38		n-C33	0.916	0.974	-6.3	95	0.00
39		n-C34	0.926	1.006	-8.6	96	0.00
40		n-C35	0.904	0.946	-4.6	93	0.00
41		n-C36	0.975	1.032	-5.8	93	0.00
42		n-C37	0.890	0.929	-4.4	92	0.00
43		n-C38	0.876	0.930	-6.2	93	0.00

44	n-C39	0.839	0.926	-10.4	96	0.00
45	n-C40	0.786	0.877	-11.6	97	0.00

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.019	0.000	100.0#	0#	-9.11#
9	i-14	0.019	0.000	100.0#	0#	-9.81#
11	i-15	0.019	0.000	100.0#	0#	-10.97#
13	i-16	0.020	0.000	100.0#	0#	-11.87#
17	i-18	0.019	0.000	100.0#	0#	-13.84#
46	TPH	0.019	0.000	100.0#	0#	-29.72#
47	TRH1	0.019	0.000	100.0#	0#	-7.93#
48	TRH2	0.019	0.000	100.0#	0#	-16.29#
49	TRH3	0.019	0.000	100.0#	0#	-23.92#
50	TRH4	0.019	0.000	100.0#	0#	-29.06#
51	TRH5	0.019	0.000	100.0#	0#	-34.15#
52	TRH6	0.019	0.000	100.0#	0#	-45.88#
53	GRO	0.019	0.000	100.0#	0#	-5.39#
54	DRO	0.019	0.000	100.0#	0#	-14.64#
55	RRO	0.019	0.000	100.0#	0#	-33.77#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

FID1C08FRONT081213.M Mon Aug 12 14:02:53 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072I.D
Signal(s) : FID1A.CH
Acq On : 10-Aug-2013, 05:44:45
Operator : Meghan Dailey
Sample : AL-WKICV-25-002
Misc :
ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:02:34 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
Internal Standards				
1) I	n-hexadecane-d34	13.014	289116	50.000 ug/mlm
16) I	5a-androstane	18.310	354018	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.712	149214	24.989 ug/mlm
23) S	n-eicosane-d42	17.701	137668	25.307 ug/mlm
34) S	n-triacontane-d62	29.630	131603	24.853 ug/mlm
Target Compounds				
2)	n-C8	3.563	144644	26.460 ug/mlm
3)	n-C9	4.885	156643	26.813 ug/mlm
4)	n-C10	6.299	164955	26.239 ug/mlm
5)	n-C11	7.656	171437	26.832 ug/mlm
7)	n-C12	8.919	174739	26.134 ug/mlm
8)	i-13	0.000	0	N.D. ug/mld
9)	i-14	0.000	0	N.D. ug/mld
10)	n-C13	10.092	177559	26.605 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	11.190	178927	26.109 ug/mlm
13)	i-16	0.000	0	N.D. ug/mld
14)	n-C15	12.223	181812	26.283 ug/mlm
15)	n-C16	13.268	182670	26.322 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	14.382	181623	25.925 ug/mlm
19)	Pristane	14.500	179573	25.761 ug/mlm
20)	n-C18	15.567	181526	26.439 ug/mlm
21)	Phytane	15.733	180548	25.822 ug/mlm
22)	n-C19	16.815	182375	26.724 ug/mlm
24)	n-C20	18.102	179169	26.217 ug/mlm
25)	n-C21	19.409	182554	26.558 ug/mlm
26)	n-C22	20.715	180837	26.306 ug/mlm
27)	n-C23	22.006	179049	26.025 ug/mlm
28)	n-C24	23.272	177592	25.835 ug/mlm
29)	n-C25	24.509	163638	23.778 ug/mlm
30)	n-C26	25.710	179627	26.117 ug/mlm
31)	n-C27	26.876	178663	26.599 ug/mlm
32)	n-C28	28.007	177966	26.134 ug/mlm
33)	n-C29	29.102	176801	25.853 ug/mlm
35)	n-C30	30.166	176735	26.077 ug/mlm
36)	n-C31	31.195	171441	25.671 ug/mlm
37)	n-C32	32.196	171314	25.868 ug/mlm
38)	n-C33	33.164	172109	26.588 ug/mlm
39)	n-C34	34.116	177445	27.113 ug/mlm
40)	n-C35	35.150	167325	26.175 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072I.D
Signal(s) : FID1A.CH
Acq On : 10-Aug-2013, 05:44:45
Operator : Meghan Dailey
Sample : AL-WKICV-25-002
Misc :
ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:02:34 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.333	178686	25.914	ug/mlm
42)	n-C37	37.695	164276	26.103	ug/mlm
43)	n-C38	39.289	164601	26.569	ug/mlm
44)	n-C39	41.160	163677	27.586	ug/mlm
45)	n-C40	43.376	154699	27.824	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

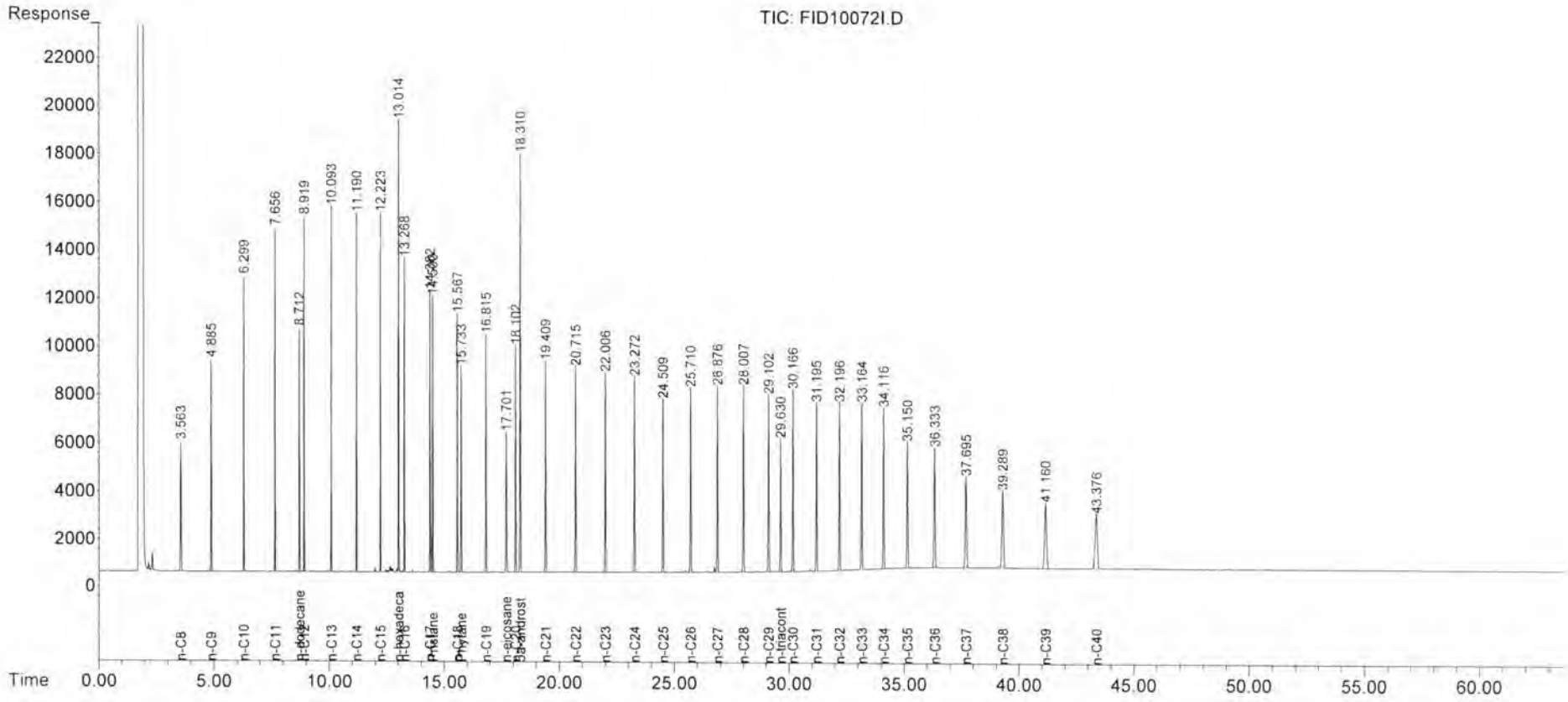
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072I.D
Signal(s) : FID1A.CH
Acq On : 10-Aug-2013, 05:44:45
Operator : Meghan Dailey
Sample : AL-WKICV-25-002
Misc :
ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:02:34 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072J.D
Signal(s) : FID1A.CH
Acq On : 10-Aug-2013, 06:55:19
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:10:29 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	n-hexadecane-d34	1.000	1.000	0.0	88	0.00
2		n-C8	0.945	0.981	-3.8	90	0.00
3		n-C9	1.010	1.032	-2.2	89	0.00
4		n-C10	1.087	1.100	-1.2	88	0.00
5		n-C11	1.105	1.117	-1.1	88	0.00
6	S	n-dodecane-d26	1.033	1.041	-0.8	88	0.00
7		n-C12	1.156	1.176	-1.7	88	0.00
10		n-C13	1.154	1.173	-1.6	88	0.00
12		n-C14	1.185	1.209	-2.0	88	0.00
14		n-C15	1.196	1.212	-1.3	88	0.00
15		n-C16	1.200	1.217	-1.4	88	0.00
16	I	5a-androstane	1.000	1.000	0.0	88	-0.01
18		n-C17	0.991	1.009	-1.8	88	0.00
19		Pristane	0.986	1.007	-2.1	88	0.00
20		n-C18	0.971	0.990	-2.0	88	0.00
21		Phytane	0.989	1.009	-2.0	88	0.00
22		n-C19	0.965	0.984	-2.0	88	0.00
23	S	n-eicosane-d42	0.769	0.780	-1.4	88	0.00
24		n-C20	0.967	0.984	-1.8	88	0.00
25		n-C21	0.972	0.991	-2.0	87	0.00
26		n-C22	0.972	0.987	-1.5	87	0.00
27		n-C23	0.973	0.990	-1.7	87	0.00
28		n-C24	0.972	0.986	-1.4	87	0.00
29		n-C25	0.973	0.985	-1.2	87	0.00
30		n-C26	0.973	0.986	-1.3	87	0.00
31		n-C27	0.950	0.960	-1.1	87	0.00
32		n-C28	0.963	0.976	-1.3	87	0.00
33		n-C29	0.967	0.980	-1.3	87	0.00
34	S	n-triacontane-d62	0.749	0.751	-0.3	87	-0.01
35		n-C30	0.959	0.974	-1.6	87	0.00
36		n-C31	0.945	0.963	-1.9	87	0.00
37		n-C32	0.937	0.958	-2.2	87	0.00
38		n-C33	0.916	0.936	-2.2	87	0.00
39		n-C34	0.926	0.949	-2.5	87	0.00
40		n-C35	0.904	0.926	-2.4	87	0.00
41		n-C36	0.975	0.991	-1.6	85	0.00
42		n-C37	0.890	0.883	0.8	84	0.00
43		n-C38	0.876	0.862	1.6	82	0.00

44	n-C39	0.839	0.810	3.5	80	-0.02
45	n-C40	0.786	0.745	5.2	79	-0.02

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.019	0.000	100.0#	0#	-9.11#
9	i-14	0.019	0.000	100.0#	0#	-9.81#
11	i-15	0.019	0.000	100.0#	0#	-10.97#
13	i-16	0.020	0.000	100.0#	0#	-11.87#
17	i-18	0.019	0.000	100.0#	0#	-13.84#
46	TPH	0.019	0.000	100.0#	0#	-29.72#
47	TRH1	0.019	0.000	100.0#	0#	-7.93#
48	TRH2	0.019	0.000	100.0#	0#	-16.29#
49	TRH3	0.019	0.000	100.0#	0#	-23.92#
50	TRH4	0.019	0.000	100.0#	0#	-29.06#
51	TRH5	0.019	0.000	100.0#	0#	-34.15#
52	TRH6	0.019	0.000	100.0#	0#	-45.88#
53	GRO	0.019	0.000	100.0#	0#	-5.39#
54	DRO	0.019	0.000	100.0#	0#	-14.64#
55	RRO	0.019	0.000	100.0#	0#	-33.77#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

FID1C08FRONT081213.M Mon Aug 12 14:10:34 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072J.D
Signal(s) : FID1A.CH
Acq On : 10-Aug-2013, 06:55:19
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:10:29 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.330	163820	24.886	ug/mlm
42)	n-C37	37.693	149081	24.813	ug/mlm
43)	n-C38	39.283	145612	24.620	ug/mlm
44)	n-C39	41.145	136754	24.143	ug/mlm
45)	n-C40	43.363	125383	23.622	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072J.D
Signal(s) : FID1A.CH
Acq On : 10-Aug-2013, 06:55:19
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:10:29 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

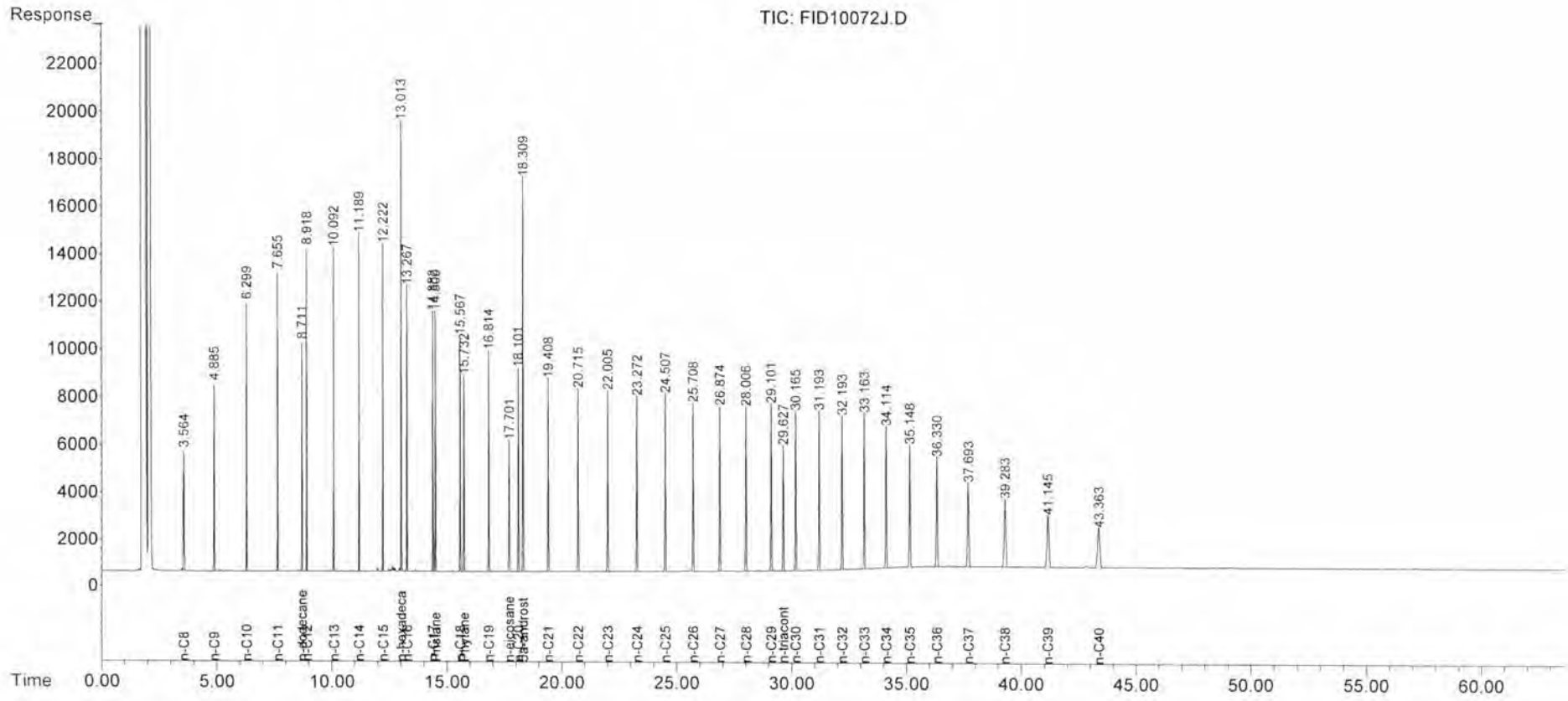
	Compound	R.T.	Response	Conc Units
	Internal Standards			
1) I	n-hexadecane-d34	13.013	276690	50.000 ug/mlm
16) I	5a-androstane	18.309	337971	50.072 ug/mlm
	System Monitoring Compounds			
6) S	n-dodecane-d26	8.711	143990	25.197 ug/mlm
23) S	n-eicosane-d42	17.701	132448	25.503 ug/mlm
34) S	n-triacontane-d62	29.627	126882	25.099 ug/mlm
	Target Compounds			
2)	n-C8	3.564	135873	25.972 ug/mlm
3)	n-C9	4.885	142761	25.534 ug/mlm
4)	n-C10	6.299	152216	25.300 ug/mlm
5)	n-C11	7.655	154745	25.308 ug/mlm
7)	n-C12	8.918	159875	24.985 ug/mlm
8)	i-13	0.000	0	N.D. ug/ml
9)	i-14	0.000	0	N.D. ug/mld
10)	n-C13	10.092	162507	25.443 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	11.189	166198	25.341 ug/mlm
13)	i-16	0.000	0	N.D. ug/mld
14)	n-C15	12.222	166931	25.215 ug/mlm
15)	n-C16	13.267	166720	25.103 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	14.382	168277	25.160 ug/mlm
19)	Pristane	14.500	168359	25.299 ug/mlm
20)	n-C18	15.567	167209	25.510 ug/mlm
21)	Phytane	15.732	169926	25.457 ug/mlm
22)	n-C19	16.814	165950	25.472 ug/mlm
24)	n-C20	18.101	166362	25.499 ug/mlm
25)	n-C21	19.408	165690	25.249 ug/mlm
26)	n-C22	20.715	166816	25.419 ug/mlm
27)	n-C23	22.005	165433	25.188 ug/mlm
28)	n-C24	23.272	164510	25.068 ug/mlm
29)	n-C25	24.507	165567	25.200 ug/mlm
30)	n-C26	25.708	166623	25.377 ug/mlm
31)	n-C27	26.874	162011	25.265 ug/mlm
32)	n-C28	28.006	164691	25.333 ug/mlm
33)	n-C29	29.101	165542	25.356 ug/mlm
35)	n-C30	30.165	163747	25.308 ug/mlm
36)	n-C31	31.193	162567	25.498 ug/mlm
37)	n-C32	32.193	159570	25.239 ug/mlm
38)	n-C33	33.163	157898	25.551 ug/mlm
39)	n-C34	34.114	159870	25.588 ug/mlm
40)	n-C35	35.148	156251	25.604 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072J.D
Signal(s) : FID1A.CH
Acq On : 10-Aug-2013, 06:55:19
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:10:29 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Aliphatic Mass Discrimination Ratio

B&B Laboratories
Project J13034
Report 13-3101

Arcadis-Mayflower AR
Aliphatic Hydrocarbon and Total Petroleum Hydrocarbon Data
Mass Discrimination

Client Project # B0086003.1302

File Name	Sample Name	n-C20 (Area)	n-C36 (Area)	n-C36/n-C20 ratio	Q
FID10072C.D	AL-WKC1-1.25-019	10062	9883	0.98	
FID10072D.D	AL-WKC2-10-019	76440	77581	1.01	
FID10072E.D	AL-WKC3-25-019	189971	192250	1.01	
FID10072F.D	AL-WKC4-40-019	315142	316827	1.01	
FID10072G.D	AL-WKC5-50-019	373335	374347	1.00	
FID10072H.D	AL-WKC6-100-019	773084	709480	0.92	
FID10072I.D	AL-WKICV-25-002	179169	178686	1.00	
FID10072J.D	AL-WKCC-25-024	166362	163820	0.98	
FID10080B.D	AL-WKCC-25-024	171786	167570	0.98	
FID10080G.D	AL-WKCC-25-024	157914	155135	0.98	
FID10080H.D	AL-WKCC-25-024	185455	184482	0.99	

Qualifiers (Q): Ratio of n-C36 to n-C20 needs to be > 0.70

Aliphatic Internal Standard Area Data

B&B Laboratories
Project J13034
Report 13-3101

Arcadis-Mayflower AR
Aliphatic Hydrocarbon and Total Petroleum Hydrocarbon Data
Area of Internal Standards

Client Project # B0086003.1302

File Name	Sample Name	Internal Standard 1 n-hexadecane-d34			Internal Standard 2 5α-androstane		
		Response (Area)	50% (Area)	200% (Area)	Response (Area)	50% (Area)	200% (Area)
FID10072E.D	**AL-WKC3-25-019**	**313640**	**156820**	**627280**	**385796**	**192898**	**771592**
FID10072I.D	**AL-WKICV-25-002**	**289116**	**144558**	**578232**	**354018**	**177009**	**708036**
FID10072J.D	**AL-WKCC-25-024**	**276690**	**138345**	**553380**	**337971**	**168986**	**675942**
FID10080B.D	**AL-WKCC-25-024**	**281387**	**140694**	**562774**	**347949**	**173975**	**695898**
FID10080C.D	AL-SRM2779-20-01	300820			400308		
FID10080F.D	AL-WKPem-001	276006			343242		
ENV3082A.D	Procedural Blank	258352			321564		
ENV3082C.D	MS (SED-DA-012 (0-0.5))	267220			332295		
ENV3082D.D	MSD (SED-DA-012 (0-0.5))	229007			284988		
ENV3082E.D	Dupl (SED-DA-014 (0-0.5))	234338			292283		
ARC1666.D	SED-DA-012 (0-0.5)	229566			287254		
FID10080G.D	**AL-WKCC-25-024**	**258825**	**129413**	**517650**	**320188**	**160094**	**640376**
ARC1669.D	SED-DA-013 (0-0.5)	221350			277911		
ARC1670.D	SED-DA-014 (0-0.5)	230911			288369		
ARC1671.D	SED-DA-015 (0-0.5)	249126			318494		
ARC1672.D	SED-DA-016 (0-0.5)	243557			304297		
ARC1673.D	SED-DA-017 (0-0.5)	234819			309728		
FID10080H.D	**AL-WKCC-25-024**	**304508**	**152254**	**609016**	**376143**	**188072**	**752286**

Polycyclic Aromatic Hydrocarbon Initial Calibration Data and Initial Calibration Verification Data

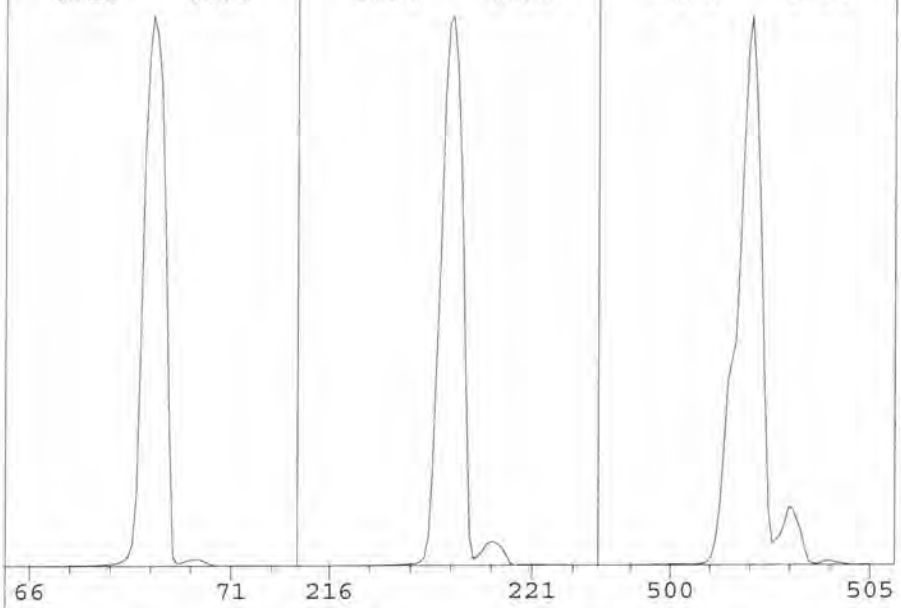
PAH ICAL
AR 60142.M

GC/MS 6
(PAH-2012)

5973 Autotune

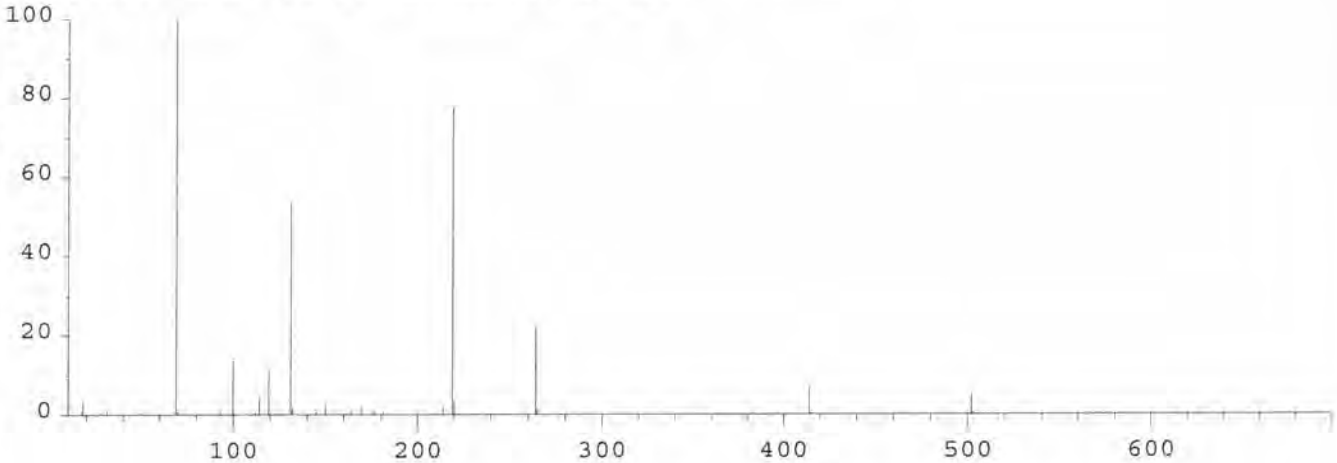
Sat Aug 17 06:48:04 2013 Instrument: GCMS6
C:\MSDCHEM\1\5973\atune.u

Mass	69.05	Mass	219.05	Mass	502.05
Ab	449419	Ab	349145	Ab	24813
Pw50	0.60	Pw50	0.60	Pw50	0.59



Ion Pol	POS	MassGain	213
		MassOffs	-9
Emission	34.6	AmuGain	2313
EIEnrgy	69.9	AmuOffs	124
Filament	1	Wid219	-0.035
		DC Pol	POS
Repeller	31.46		
IonFcus	89.2	HEDEnab	ON
EntLens	16.5	EMVolts	1529
EntOffs	21.08		
		Samples	8
PFTBA	OPEN	Averages	3
		Stepsize	0.10
Zones:			
MS Source	290	TurboSpd	100
MS Quad	180		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
107 peaks Base: 69.05 Abundance: 406528



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.05	406528	100.00	70.15	4293	1.06
219.05	315200	77.53	220.05	13949	4.43
502.05	21416	5.27	502.95	2336	10.91

Air/Water Check: H2O~3.32% N2~0.75% O2~0.32% CO2~0.26% N2/H2O~22.74%

Column Flow: Front: 1.368 Back: 0 ml/min. Interface Temp: GCCF 4,0

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502; EM Gain 70170
Repeller Maximum 35 volts using ion 219;

MassGain Values @Samples: 214@3 213@2 212@1 212@0 213@FS

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	124.0	124.0	124.0	124.0	124.0	124.0	124.0
Entrance Lens Offset:	21.1	21.1	21.1	21.1	21.1	21.1	21.1

MS60142
Y/M

Response Factor Report GCMS6

Method Path : C:\GCMS6\MS60142\
Method File : AR60142.M
Title : PAH Calibration Table-2013A
Last Update : Sun Aug 18 21:08:57 2013
Response Via : Initial Calibration

Calibration Files
1 =MS60142B.D 2 =MS60142C.D 3 =MS60142D.D 4 =MS60142E.D 5 =MS60142F.D
6 =MS60142G.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	Fluorene-d10	----------ISTD----------							
2)	S	Naphthalene-d8	2.152	1.834	1.714	1.755	1.693	1.700	1.808	9.75
3)	T	cis/trans Decalin	0.396	0.329	0.314	0.311	0.291	0.283	0.320	12.69
4)	un	C1-Decalins	0.396	0.329	0.314	0.311	0.291	0.283	0.320	12.69
5)	un	C2-Decalins	0.396	0.329	0.314	0.311	0.291	0.283	0.320	12.69
6)	un	C3-Decalins	0.396	0.329	0.314	0.311	0.291	0.283	0.320	12.69
7)	un	C4-Decalins	0.396	0.329	0.314	0.311	0.291	0.283	0.320	12.69
8)	T	Naphthalene	2.389	1.999	1.846	1.885	1.833	1.795	1.958	11.35
9)	T	2-Methylnaphth...	1.532	1.273	1.187	1.222	1.205	1.208	1.271	10.32
10)	T	1-Methylnaphth...	1.420	1.199	1.099	1.132	1.108	1.107	1.178	10.57
11)	T	2,6-Dimethylna...	1.293	1.102	1.019	1.055	1.039	1.090	1.099	9.05
12)	T	1,6,7-Trimethy...	1.212	1.019	0.948	0.994	1.023	1.001	1.033	8.88
13)	un	C2-Naphthalenes	2.389	1.999	1.846	1.885	1.833	1.795	1.958	11.35
14)	un	C3-Naphthalenes	2.389	1.999	1.846	1.885	1.833	1.795	1.958	11.35
15)	un	C4-Naphthalenes	2.389	1.999	1.846	1.885	1.833	1.795	1.958	11.35
16)	T	Benzothiophene	1.889	1.592	1.473	1.502	1.456	1.435	1.558	10.99
17)	un	C1-Benzothioph...	1.889	1.592	1.473	1.502	1.456	1.435	1.558	10.99
18)	un	C2-Benzothioph...	1.889	1.592	1.473	1.502	1.456	1.435	1.558	10.99
19)	un	C3-Benzothioph...	1.889	1.592	1.473	1.502	1.456	1.435	1.558	10.99
20)	un	C4-Benzothioph...	1.889	1.592	1.473	1.502	1.456	1.435	1.558	10.99
21)	S	Acenaphthene-d10	1.160	0.975	0.918	0.937	0.960	0.954	0.984	8.99
22)	T	Biphenyl	1.889	1.594	1.476	1.537	1.518	1.529	1.590	9.51
23)	T	Acenaphthylene	2.064	1.796	1.667	1.746	1.717	1.932	1.820	8.23
24)	T	Acenaphthene	1.282	1.087	1.015	1.049	1.066	1.042	1.090	8.91
25)	T	Dibenzofuran	1.944	1.696	1.582	1.640	1.619	1.712	1.699	7.63
26)	T	Fluorene	1.590	1.360	1.257	1.315	1.269	1.395	1.364	8.99
27)	T	1-Methylfluorene	0.849	0.705	0.646	0.685	0.713	0.708	0.718	9.60
28)	un	C1-Fluorenes	1.590	1.360	1.257	1.315	1.269	1.395	1.364	8.99
29)	un	C2-Fluorenes	1.590	1.360	1.257	1.315	1.269	1.395	1.364	8.99
30)	un	C3-Fluorenes	1.590	1.360	1.257	1.315	1.269	1.395	1.364	8.99
31)	I	Pyrene-d10	----------ISTD----------							
32)	S	Phenanthrene-d10	1.076	0.903	0.848	0.933	0.964	0.861	0.931	8.95
33)	T	Carbazole	1.051	0.865	0.815	0.899	0.928	0.902	0.910	8.74
34)	T	Dibenzothiophene	1.262	1.062	0.999	1.113	1.130	1.074	1.107	8.02
35)	T	4-Methyldibenz...	0.743	0.639	0.595	0.648	0.644	0.770	0.673	10.06
36)	un	2/3-Methyldibe...	0.743	0.639	0.595	0.648	0.644	0.770	0.673	10.06
37)	un	1-Methyldibenz...	0.743	0.639	0.595	0.648	0.644	0.770	0.673	10.06
38)	un	C2-Dibenzothio...	1.262	1.062	0.999	1.113	1.130	1.074	1.107	8.02
39)	un	C3-Dibenzothio...	1.262	1.062	0.999	1.113	1.130	1.074	1.107	8.02
40)	un	C4-Dibenzothio...	1.262	1.062	0.999	1.113	1.130	1.074	1.107	8.02
41)	T	Phenanthrene	1.070	0.930	0.880	0.956	0.979	0.941	0.959	6.62
42)	T	Anthracene	1.022	0.868	0.804	0.889	0.912	0.929	0.904	8.01
43)	un	3-Methylphenan...	0.919	0.755	0.716	0.783	0.784	0.895	0.809	9.95
44)	un	2-Methylphenan...	0.919	0.755	0.716	0.783	0.784	0.895	0.809	9.95
45)	un	2-Methylanthra...	0.919	0.755	0.716	0.783	0.784	0.895	0.809	9.95
46)	un	4/9-Methylphen...	0.919	0.755	0.716	0.783	0.784	0.895	0.809	9.95
47)	T	1-Methylphenan...	0.919	0.755	0.716	0.783	0.784	0.895	0.809	9.95
48)	T	3,6-Dimethylph...	0.873	0.720	0.660	0.708	0.761	0.699	0.737	10.09
49)	T	Retene	0.338	0.280	0.265	0.280	0.286	0.346	0.299	11.44
50)	un	C2-Phenanthren...	1.070	0.930	0.880	0.956	0.979	0.941	0.959	6.62
51)	un	C3-Phenanthren...	1.070	0.930	0.880	0.956	0.979	0.941	0.959	6.62
52)	un	C4-Phenanthren...	1.070	0.930	0.880	0.956	0.979	0.941	0.959	6.62
53)	T	Naphthobenzoth...	1.171	1.011	0.934	1.005	1.045	1.375	1.090	14.65

Method Path : C:\GCMS6\MS60142\
Method File : AR60142.M
Title : PAH Calibration Table-2013A

54)	un	C1-Naphthobenz...	1.171	1.011	0.934	1.005	1.045	1.375	1.090	14.65
55)	un	C2-Naphthobenz...	1.171	1.011	0.934	1.005	1.045	1.375	1.090	14.65
56)	un	C3-Naphthobenz...	1.171	1.011	0.934	1.005	1.045	1.375	1.090	14.65
57)	un	C4-Naphthobenz...	1.171	1.011	0.934	1.005	1.045	1.375	1.090	14.65
58)	T	Fluoranthene	1.334	1.119	1.060	1.140	1.186	1.095	1.156	8.42
59)	T	Pyrene	1.363	1.126	1.054	1.114	1.099	1.373	1.188	11.89
60)	T	2-Methylfluora...	0.802	0.672	0.624	0.673	0.675	0.887	0.722	13.88
61)	T	Benzo(b)fluorene	0.790	0.642	0.586	0.637	0.662	0.722	0.673	10.69
62)	un	C1-Fluoranthen...	1.334	1.119	1.060	1.140	1.186	1.095	1.156	8.42
63)	un	C2-Fluoranthen...	1.334	1.119	1.060	1.140	1.186	1.095	1.156	8.42
64)	un	C3-Fluoranthen...	1.334	1.119	1.060	1.140	1.186	1.095	1.156	8.42
65)	un	C4-Fluoranthen...	1.334	1.119	1.060	1.140	1.186	1.095	1.156	8.42
66)	S	Chrysene-d12	1.203	1.018	0.958	1.057	1.108	1.241	1.098	9.94
67)	T	Benz(a)anthracene	1.113	0.927	0.863	0.934	1.011	1.283	1.022	15.07
68)	T	Chrysene/Triph...	1.470	1.228	1.160	1.288	1.285	1.309	1.290	8.03
69)	un	C1-Chrysenes	1.470	1.228	1.160	1.288	1.285	1.309	1.290	8.03
70)	un	C2-Chrysenes	1.470	1.228	1.160	1.288	1.285	1.309	1.290	8.03
71)	un	C3-Chrysenes	1.470	1.228	1.160	1.288	1.285	1.309	1.290	8.03
72)	un	C4-Chrysenes	1.470	1.228	1.160	1.288	1.285	1.309	1.290	8.03
73)	I	Benzo(a)pyrene-d12	----------ISTD----------							
74)	un	C29-Hopane	0.597	0.503	0.446	0.464	0.451	0.431	0.482	12.79
75)	un	18a-Oleanane	0.597	0.503	0.446	0.464	0.451	0.431	0.482	12.79
76)	T	C30-Hopane	0.597	0.503	0.446	0.464	0.451	0.431	0.482	12.79
77)	T	Benzo(b)fluora...	1.810	1.523	1.385	1.432	1.477	1.325	1.492	11.41
78)	T	Benzo(k,j)fluo...	1.740	1.419	1.340	1.334	1.315	1.189	1.389	13.48
79)	un	Benzo(a)fluora...	1.740	1.419	1.340	1.334	1.315	1.189	1.389	13.48
80)	T	Benzo(e)pyrene	1.880	1.496	1.362	1.383	1.358	1.204	1.447	16.02
81)	T	Benzo(a)pyrene	1.599	1.361	1.246	1.312	1.349	1.274	1.357	9.31
82)	T	Indeno(1,2,3-c...	1.695	1.385	1.261	1.335	1.344	1.378	1.400	10.82
83)	T	Dibenzo(a,h)an...	1.317	1.093	1.000	1.062	1.075	1.113	1.110	9.76
84)	un	C1-Dibenzo(a,h...	1.317	1.093	1.000	1.062	1.075	1.113	1.110	9.76
85)	un	C2-Dibenzo(a,h...	1.317	1.093	1.000	1.062	1.075	1.113	1.110	9.76
86)	un	C3-Dibenzo(a,h...	1.317	1.093	1.000	1.062	1.075	1.113	1.110	9.76
87)	T	Benzo(g,h,i)pe...	1.462	1.192	1.066	1.126	1.111	1.122	1.180	12.22
88)	S	Perylene-d12	1.477	1.155	1.061	1.107	1.109	1.207	1.186	12.71
89)	T	Perylene	1.699	1.372	1.276	1.364	1.394	1.232	1.390	11.80
90)	S	5(b)H-Cholane	0.345	0.253	0.238	0.236	0.234	0.213	0.253	18.52
91)	un	C20-TAS	2.409	1.950	1.764	1.791	1.764	1.699	1.896	13.98
92)	un	C21-TAS	2.409	1.950	1.764	1.791	1.764	1.699	1.896	13.98
93)	un	C26(20S)-TAS	2.409	1.950	1.764	1.791	1.764	1.699	1.896	13.98
94)	T	C26(20R)/C27(2...	2.409	1.950	1.764	1.791	1.764	1.699	1.896	13.98
95)	un	C28(20S)-TAS	2.409	1.950	1.764	1.791	1.764	1.699	1.896	13.98
96)	un	C27(20R)-TAS	2.409	1.950	1.764	1.791	1.764	1.699	1.896	13.98
97)	un	C28(20R)-TAS	2.409	1.950	1.764	1.791	1.764	1.699	1.896	13.98

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142B.D
Acq On : 17 Aug 2013 11:32 am
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 18 21:08:48 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Fri Aug 16 09:49:40 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.345	176	165073m	251.05	-0.02
31) Pyrene-d10	29.606	212	307957m	250.63	0.00
73) Benzo(a)pyrene-d12	38.382	264	274069m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.709	136	28309m	24.66	-0.02
21) Acenaphthene-d10	19.561	164	15262m	23.97	-0.02
32) Phenanthrene-d10	24.687	188	26474m	25.93	0.00
66) Chrysene-d12	33.802	240	29568m	20.14	0.00
88) Perylene-d12	38.653	264	32343m	26.06	-0.04
90) 5(b)H-Cholane	34.191	217	7553m	30.80	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.090	138	5153m	25.65	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.793	128	31415m	25.37	
9) 2-Methylnaphthalene	16.022	142	20168m	25.12	
10) 1-Methylnaphthalene	16.357	142	18658m	25.21	
11) 2,6-Dimethylnaphthalene	18.112	156	16998m	23.21	
12) 1,6,7-Trimethylnaphtha...	20.982	170	15938m	24.36	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D. d	
16) Benzothiophene	13.960	134	24690m	25.11	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.583	154	24622m	23.34	
23) Acenaphthylene	19.087	152	26923m	22.29	
24) Acenaphthene	19.673	154	16894m	24.50	
25) Dibenzofuran	20.286	168	25443m	21.83	
26) Fluorene	21.456	166	20955m	22.80	
27) 1-Methylfluorene	23.440	180	11250m	22.79	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.518	167	25603m	24.32	
34) Dibenzothiophene	24.341	184	30581m	24.92	
35) 4-Methyldibenzothiophene	25.865	198	18422m	19.06	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.756	178	26062m	21.20	
42) Anthracene	24.930	178	25195m	21.76	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142B.D
Acq On : 17 Aug 2013 11:32 am
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 18 21:08:48 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Fri Aug 16 09:49:40 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D. d	
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	26.904	192	22342m	21.12	
48) 3,6-Dimethylphenanthrene	27.978	206	21480m	25.38	
49) Retene	30.680	234	7432m	16.41	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53) Naphthobenzothiophene	32.949	234	28968m	17.45	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.878	202	32828m	23.83	
59) Pyrene	29.675	202	33489m	19.64	
60) 2-Methylfluoranthene	30.437	216	19847m	18.48	
61) Benzo(b)fluorene	31.026	216	19588m	21.36	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	33.764	228	27288m	17.92	
68) Chrysene/Triphenylene	33.880	228	35919m	21.92	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	42.736	191	13082m	29.49	
77) Benzo(b)fluoranthene	37.295	252	39703m	23.97	
78) Benzo(k,j)fluoranthene	37.373	252	37956m	25.97	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.265	252	41012m	27.29	
81) Benzo(a)pyrene	38.459	252	34946m	23.57	
82) Indeno(1,2,3-c,d)pyrene	43.142	276	36494m	25.85	
83) Dibenzo(a,h)anthracene	43.178	278	28577m	25.39	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.506	276	31725m	27.85	
89) Perylene	38.770	252	37250m	24.43	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	39.391	231	52750m	27.17	
95) C28(20S)-TAS	0.000		0	N.D. d	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142B.D
Acq On : 17 Aug 2013 11:32 am
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 18 21:08:48 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Fri Aug 16 09:49:40 2013
Response via : Initial Calibration

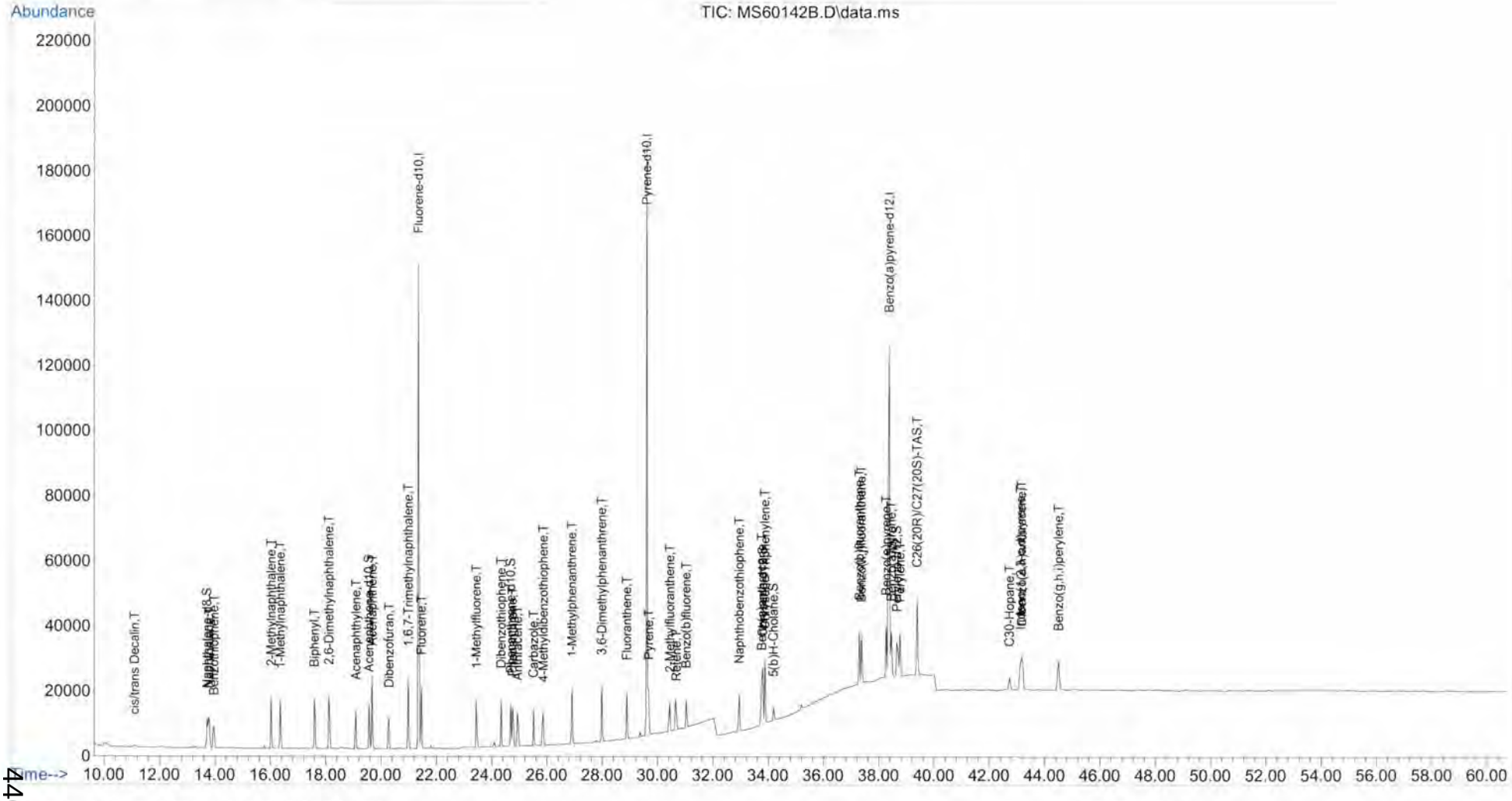
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142B.D
Acq On : 17 Aug 2013 11:32 am
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 18 21:08:48 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Fri Aug 16 09:49:40 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142C.D
Acq On : 17 Aug 2013 12:41 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 18 20:41:10 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 17 19:20:09 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.341	176	167533m	251.05	0.00
31) Pyrene-d10	29.605	212	313631m	250.63	0.00
73) Benzo(a)pyrene-d12	38.380	264	271372m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.706	136	122420m	104.41	0.00
21) Acenaphthene-d10	19.558	164	65126m	100.48	0.00
32) Phenanthrene-d10	24.686	188	113138m	106.27	0.00
66) Chrysene-d12	33.801	240	127436m	87.75	0.00
88) Perylene-d12	38.691	264	125235m	102.05	0.04
90) 5(b)H-Cholane	34.189	217	27470m	108.61	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.086	138	21705m	111.76	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.789	128	133371m	105.28	
9) 2-Methylnaphthalene	16.019	142	85043m	103.55	
10) 1-Methylnaphthalene	16.353	142	79952m	105.72	
11) 2,6-Dimethylnaphthalene	18.136	156	73534m	99.24	
12) 1,6,7-Trimethylnaphtha...	20.979	170	68024m	101.28	
13) C2-Naphthalenes	0.000		0	N.D.	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.956	134	105610m	104.98	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.607	154	105383m	98.65	
23) Acenaphthylene	19.084	152	118881m	97.66	
24) Acenaphthene	19.669	154	72673m	102.66	
25) Dibenzofuran	20.282	168	112629m	96.42	
26) Fluorene	21.452	166	90945m	98.47	
27) 1-Methylfluorene	23.439	180	47382m	94.76	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.518	167	107331m	99.44	
34) Dibenzothiophene	24.340	184	131070m	103.24	
35) 4-Methyldibenzothiophene	25.864	198	80626m	84.59	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.756	178	115283m	92.59	
42) Anthracene	24.929	178	108946m	92.79	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142C.D
Acq On : 17 Aug 2013 12:41 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 18 20:41:10 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 17 19:20:09 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D. d	
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	26.903	192	93497m	89.07	
48) 3,6-Dimethylphenanthrene	27.977	206	90256m	102.93	
49) Retene	30.679	234	31344m	70.61	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	
53) Naphthobenzothiophene	32.947	234	127309m	78.69	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.878	202	140205m	99.29	
59) Pyrene	29.674	202	140899m	83.67	
60) 2-Methylfluoranthene	30.437	216	84701m	80.32	
61) Benzo(b)fluorene	31.025	216	81067m	86.91	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	33.762	228	115755m	77.76	
68) Chrysene/Triphenylene	33.879	228	152796m	93.60	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	42.735	191	54504m	115.39	
77) Benzo(b)fluoranthene	37.294	252	165465m	84.89	
78) Benzo(k,j)fluoranthene	37.371	252	153190m	84.93	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.264	252	161564m	106.62	
81) Benzo(a)pyrene	38.458	252	147255m	101.25	
82) Indeno(1,2,3-c,d)pyrene	43.140	276	147626m	103.78	
83) Dibenzo(a,h)anthracene	43.177	278	117473m	103.45	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.505	276	128107m	110.44	
89) Perylene	38.768	252	148915m	99.02	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	39.389	231	211363m	108.59	
95) C28(20S)-TAS	0.000		0	N.D.	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142C.D
Acq On : 17 Aug 2013 12:41 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 18 20:41:10 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 17 19:20:09 2013
Response via : Initial Calibration

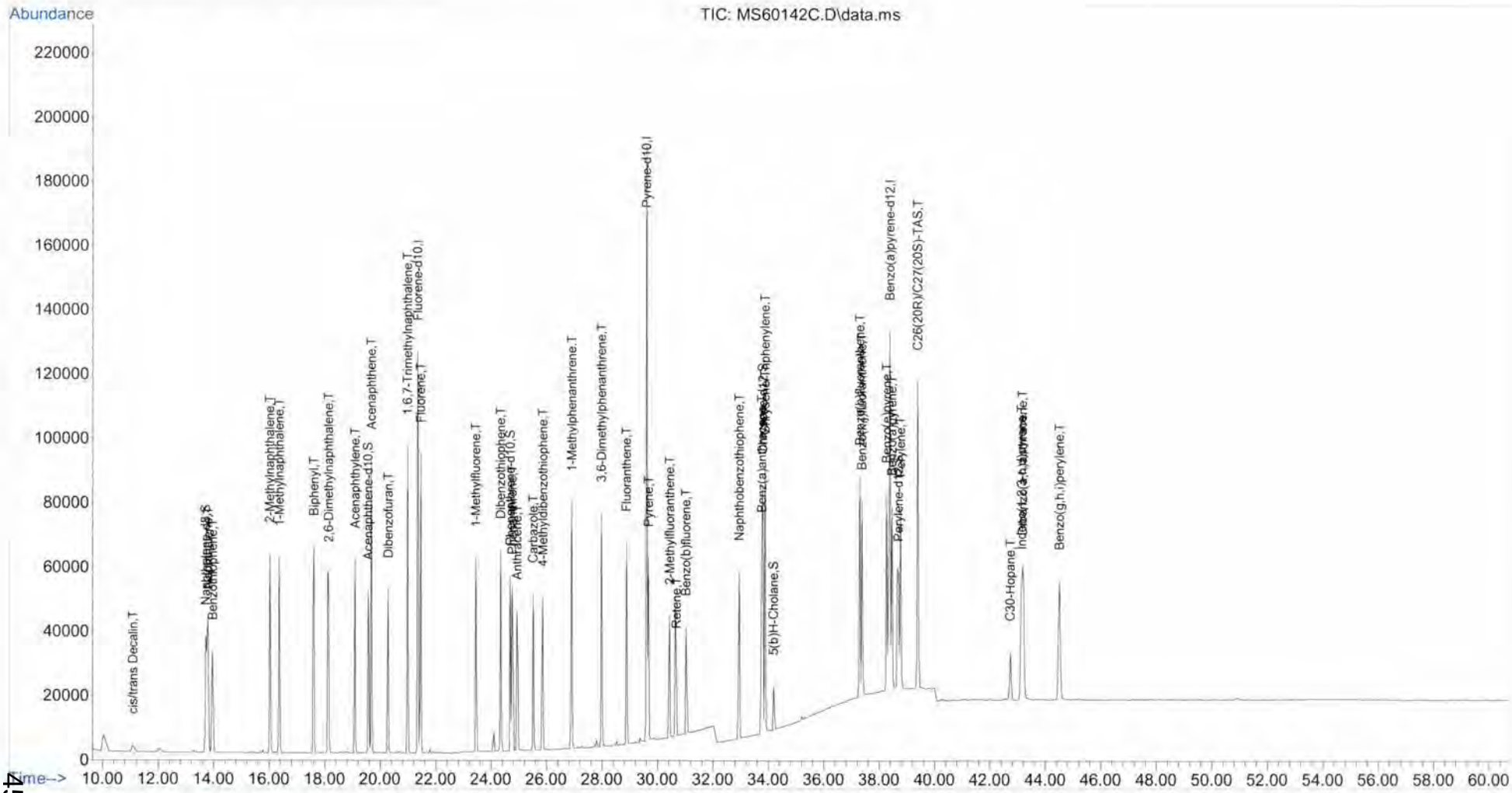
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142C.D
Acq On : 17 Aug 2013 12:41 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 18 20:41:10 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 17 19:20:09 2013
Response via : Initial Calibration



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Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142D.D
Acq On : 17 Aug 2013 1:50 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 18 20:51:22 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 17 19:20:21 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.341	176	162383m	251.05	0.00
31) Pyrene-d10	29.606	212	303446m	250.63	0.00
73) Benzo(a)pyrene-d12	38.382	264	263274m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.706	136	277258m	242.66	0.00
21) Acenaphthene-d10	19.558	164	148477m	235.49	0.00
32) Phenanthrene-d10	24.687	188	256882m	244.67	0.00
66) Chrysene-d12	33.802	240	289872m	211.35	0.00
88) Perylene-d12	38.653	264	279013m	232.56	-0.04
90) 5(b)H-Cholane	34.191	217	62506m	249.99	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.087	138	50151m	286.47	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.790	128	298586m	242.18	
9) 2-Methylnaphthalene	16.019	142	192058m	240.10	
10) 1-Methylnaphthalene	16.353	142	177542m	240.96	
11) 2,6-Dimethylnaphthalene	18.137	156	164826m	229.73	
12) 1,6,7-Trimethylnaphtha...	20.979	170	153297m	234.28	
13) C2-Naphthalenes	0.000		0	N.D.	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.957	134	236725m	241.39	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.607	154	236533m	228.51	
23) Acenaphthylene	19.084	152	267346m	226.87	
24) Acenaphthene	19.669	154	164415m	238.33	
25) Dibenzofuran	20.282	168	254472m	225.57	
26) Fluorene	21.453	166	203633m	228.36	
27) 1-Methylfluorene	23.440	180	105261m	217.18	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.518	167	244336m	233.58	
34) Dibenzothiophene	24.341	184	298101m	240.17	
35) 4-Methyldibenzothiophene	25.865	198	181739m	200.83	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.756	178	263957m	219.00	
42) Anthracene	24.930	178	244011m	215.38	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142D.D
Acq On : 17 Aug 2013 1:50 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 18 20:51:22 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 17 19:20:21 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D. d	
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	26.904	192	214295m	214.46	
48) 3,6-Dimethylphenanthrene	27.978	206	199884m	233.56	
49) Retene	30.680	234	71656m	171.05	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53) Naphthobenzothiophene	32.949	234	284610m	188.11	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.878	202	321201m	234.36	
59) Pyrene	29.675	202	319127m	201.04	
60) 2-Methylfluoranthene	30.437	216	190201m	191.53	
61) Benzo(b)fluorene	31.026	216	179123m	199.33	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	33.764	228	260601m	188.74	
68) Chrysene/Triphenylene	33.880	228	349026m	225.13	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	42.735	191	117269m	249.14	
77) Benzo(b)fluoranthene	37.295	252	365006m	170.04	
78) Benzo(k,j)fluoranthene	37.373	252	350907m	172.54	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.265	252	356683m	239.07	
81) Benzo(a)pyrene	38.459	252	327007m	232.23	
82) Indeno(1,2,3-c,d)pyrene	43.141	276	325924m	231.44	
83) Dibenzo(a,h)anthracene	43.215	278	260592m	232.52	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.505	276	277732m	240.27	
89) Perylene	38.770	252	335966m	229.29	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	39.391	231	463683m	242.00	
95) C28(20S)-TAS	0.000		0	N.D.	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142D.D
Acq On : 17 Aug 2013 1:50 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 18 20:51:22 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 17 19:20:21 2013
Response via : Initial Calibration

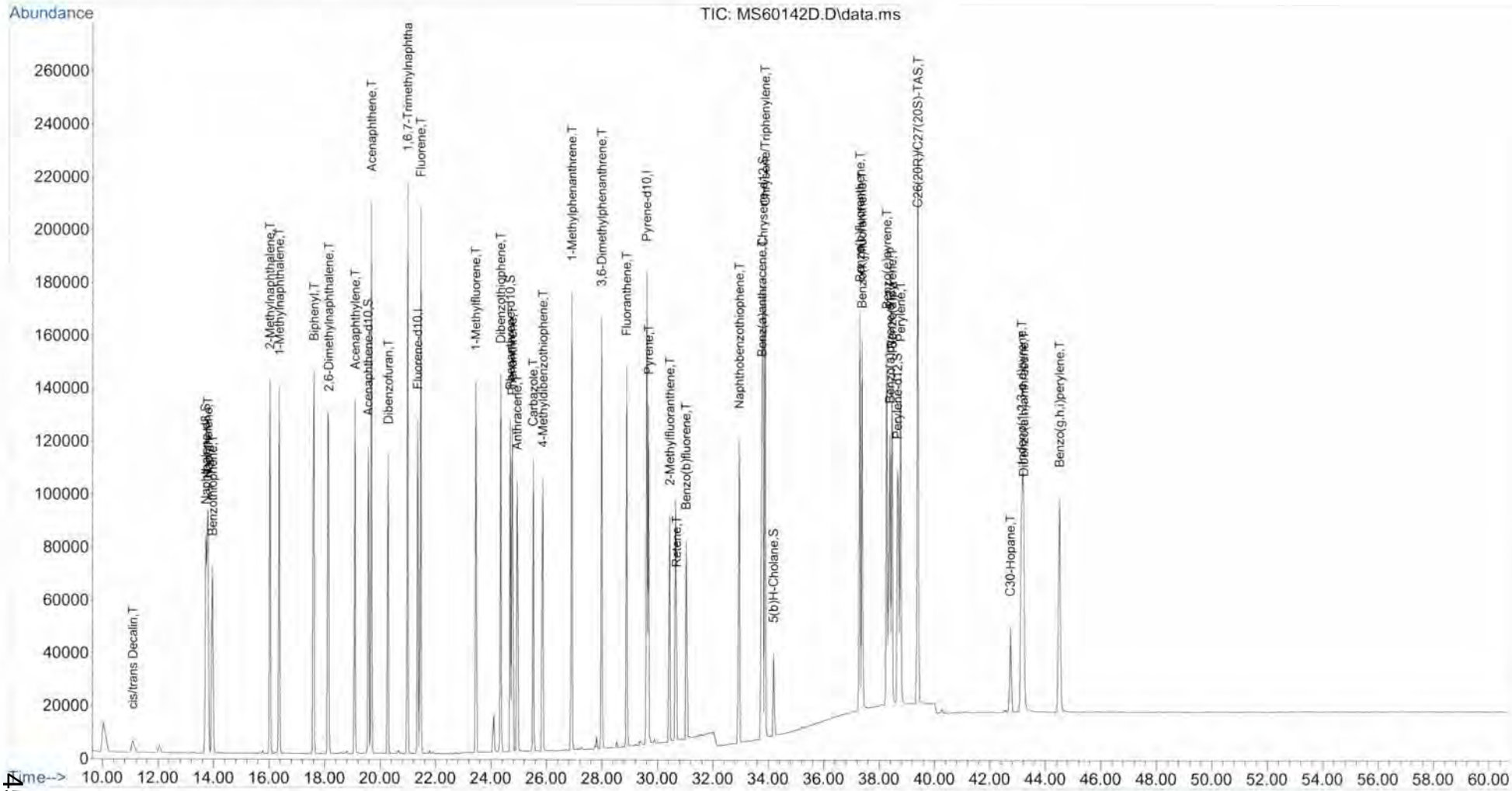
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142D.D
Acq On : 17 Aug 2013 1:50 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 18 20:51:22 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 17 19:20:21 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142E.D
Acq On : 17 Aug 2013 3:00 pm
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 18 20:57:30 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 17 19:20:35 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.341	176	179296m	251.05	0.00
31) Pyrene-d10	29.605	212	318989m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	285208m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.706	136	626843m	493.37	0.00
21) Acenaphthene-d10	19.557	164	334922m	479.35	0.00
32) Phenanthrene-d10	24.687	188	593912m	530.40	0.00
66) Chrysene-d12	33.802	240	672860m	478.49	0.00
88) Perylene-d12	38.692	264	630712m	483.13	0.04
90) 5(b)H-Cholane	34.190	217	134524m	488.41	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.086	138	109672m	601.16	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.789	128	673105m	491.53	
9) 2-Methylnaphthalene	16.018	142	436925m	491.19	
10) 1-Methylnaphthalene	16.353	142	403778m	493.13	
11) 2,6-Dimethylnaphthalene	18.136	156	376621m	475.57	
12) 1,6,7-Trimethylnaphtha...	20.979	170	354929m	489.51	
13) C2-Naphthalenes	0.000		0	N.D.	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.956	134	533228m	489.33	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.607	154	543753m	475.45	
23) Acenaphthylene	19.084	152	618608m	476.02	
24) Acenaphthene	19.669	154	375190m	489.44	
25) Dibenzofuran	20.282	168	582618m	469.47	
26) Fluorene	21.452	166	470507m	480.06	
27) 1-Methylfluorene	23.440	180	246476m	462.38	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.518	167	566655m	515.14	
34) Dibenzothiophene	24.340	184	698074m	531.78	
35) 4-Methyldibenzothiophene	25.864	198	415928m	447.74	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.756	178	603064m	476.79	
42) Anthracene	24.929	178	567535m	478.02	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142E.D
Acq On : 17 Aug 2013 3:00 pm
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 18 20:57:30 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 17 19:20:35 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D.	d
44) 2-Methylphenanthrene	0.000		0	N.D.	d
45) 2-Methylanthracene	0.000		0	N.D.	d
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d
47) 1-Methylphenanthrene	26.904	192	492982m	477.82	
48) 3,6-Dimethylphenanthrene	27.977	206	451169m	499.16	
49) Retene	30.679	234	159109m	370.45	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	
53) Naphthobenzothiophene	32.948	234	643798m	418.39	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d
58) Fluoranthene	28.878	202	726153m	503.16	
59) Pyrene	29.675	202	708962m	436.42	
60) 2-Methylfluoranthene	30.437	216	431316m	425.04	
61) Benzo(b)fluorene	31.026	216	409205m	436.91	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d
67) Benz(a)anthracene	33.763	228	593189m	423.11	
68) Chrysene/Triphenylene	33.880	228	814745m	509.42	
69) C1-Chrysenes	0.000		0	N.D.	d
70) C2-Chrysenes	0.000		0	N.D.	d
71) C3-Chrysenes	0.000		0	N.D.	d
72) C4-Chrysenes	0.000		0	N.D.	d
74) C29-Hopane	0.000		0	N.D.	d
75) 18a-Oleanane	0.000		0	N.D.	d
76) C30-Hopane	42.735	191	264467m	504.28	
77) Benzo(b)fluoranthene	37.295	252	817183m	316.79	
78) Benzo(k,j)fluoranthene	37.372	252	756636m	304.44	
79) Benzo(a)fluoranthene	0.000		0	N.D.	d
80) Benzo(e)pyrene	38.265	252	784770m	480.04	
81) Benzo(a)pyrene	38.459	252	746203m	491.92	
82) Indeno(1,2,3-c,d)pyrene	43.141	276	747724m	483.98	
83) Dibenzo(a,h)anthracene	43.215	278	599657m	487.56	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d
87) Benzo(g,h,i)perylene	44.506	276	635497m	498.11	
89) Perylene	38.769	252	778075m	490.29	
91) C20-TAS	0.000		0	N.D.	d
92) C21-TAS	0.000		0	N.D.	d
93) C26(20S)-TAS	0.000		0	N.D.	d
94) C26(20R)/C27(20S)-TAS	39.390	231	1020102m	485.82	
95) C28(20S)-TAS	0.000		0	N.D.	
96) C27(20R)-TAS	0.000		0	N.D.	d
97) C28(20R)-TAS	0.000		0	N.D.	d

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142E.D
Acq On : 17 Aug 2013 3:00 pm
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 18 20:57:30 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 17 19:20:35 2013
Response via : Initial Calibration

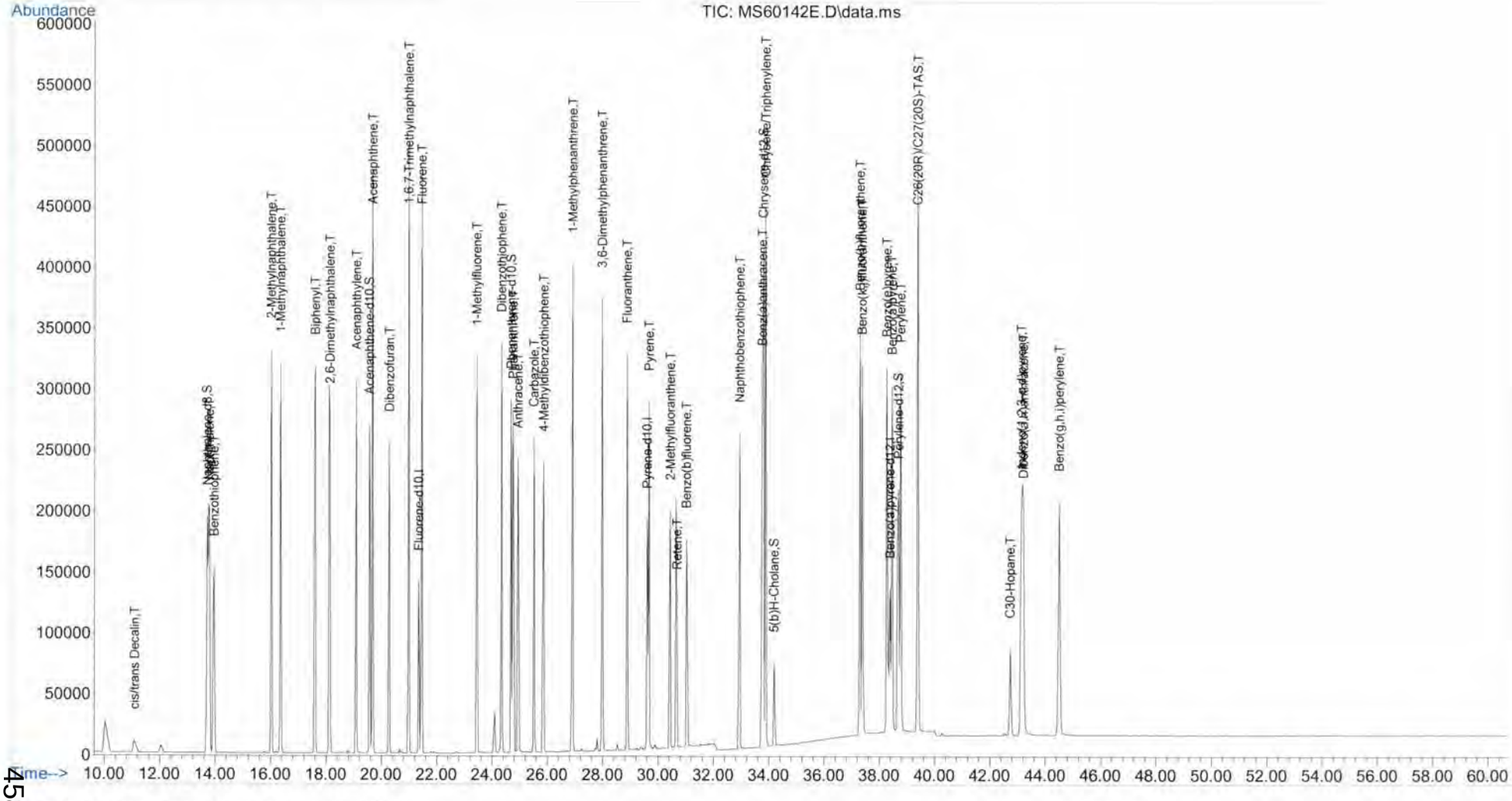
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142E.D
Acq On : 17 Aug 2013 3:00 pm
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 18 20:57:30 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 17 19:20:35 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142F.D
Acq On : 17 Aug 2013 4:09 pm
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 18 21:02:35 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 17 19:20:54 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.345	176	179262m	251.05	0.00
31) Pyrene-d10	29.607	212	317683m	250.63	0.00
73) Benzo(a)pyrene-d12	38.380	264	284994m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.710	136	1209784m	942.96	0.00
21) Acenaphthene-d10	19.561	164	685714m	980.05	0.00
32) Phenanthrene-d10	24.688	188	1222758m	1067.94	0.00
66) Chrysene-d12	33.801	240	1405133m	1028.16	0.00
88) Perylene-d12	38.691	264	1263160m	966.01	0.00
90) 5(b)H-Cholane	34.189	217	265879m	951.27	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.090	138	205163m	1185.79	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.765	128	1309161m	947.14	
9) 2-Methylnaphthalene	16.022	142	861411m	958.74	
10) 1-Methylnaphthalene	16.357	142	790343m	956.66	
11) 2,6-Dimethylnaphthalene	18.112	156	741667m	937.36	
12) 1,6,7-Trimethylnaphtha...	20.983	170	730490m	999.17	
13) C2-Naphthalenes	0.000		0	N.D.	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.960	134	1033419m	939.35	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.583	154	1074255m	937.89	
23) Acenaphthylene	19.088	152	1216064m	934.22	
24) Acenaphthene	19.673	154	762804m	987.33	
25) Dibenzofuran	20.258	168	1150283m	932.21	
26) Fluorene	21.456	166	907747m	927.35	
27) 1-Methylfluorene	23.441	180	513120m	964.64	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.520	167	1166231m	1052.20	
34) Dibenzothiophene	24.342	184	1412752m	1059.25	
35) 4-Methyldibenzothiophene	25.866	198	823311m	912.95	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.758	178	1229170m	974.60	
42) Anthracene	24.931	178	1159804m	978.55	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142F.D
Acq On : 17 Aug 2013 4:09 pm
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 18 21:02:35 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 17 19:20:54 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D. d	
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	26.905	192	983276m	970.46	
48) 3,6-Dimethylphenanthrene	27.979	206	966278m	1059.39	
49) Retene	30.681	234	323615m	782.86	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53) Naphthobenzothiophene	32.947	234	1332466m	903.61	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.880	202	1504988m	1037.35	
59) Pyrene	29.676	202	1393577m	888.92	
60) 2-Methylfluoranthene	30.438	216	861453m	883.30	
61) Benzo(b)fluorene	31.027	216	846198m	914.01	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	33.762	228	1278534m	951.57	
68) Chrysene/Triphenylene	33.879	228	1619404m	1032.75	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	42.735	191	512949m	958.83	
77) Benzo(b)fluoranthene	37.294	252	1684728m	595.20	
78) Benzo(k,j)fluoranthene	37.371	252	1490622m	536.58	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.264	252	1539455m	935.26	
81) Benzo(a)pyrene	38.458	252	1533287m	1016.55	
82) Indeno(1,2,3-c,d)pyrene	43.140	276	1504378m	960.27	
83) Dibenzo(a,h)anthracene	43.214	278	1212408m	972.23	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.505	276	1252984m	963.27	
89) Perylene	38.768	252	1588982m	1002.73	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	39.389	231	2008192m	947.21	
95) C28(20S)-TAS	0.000		0	N.D.	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142F.D
Acq On : 17 Aug 2013 4:09 pm
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 18 21:02:35 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 17 19:20:54 2013
Response via : Initial Calibration

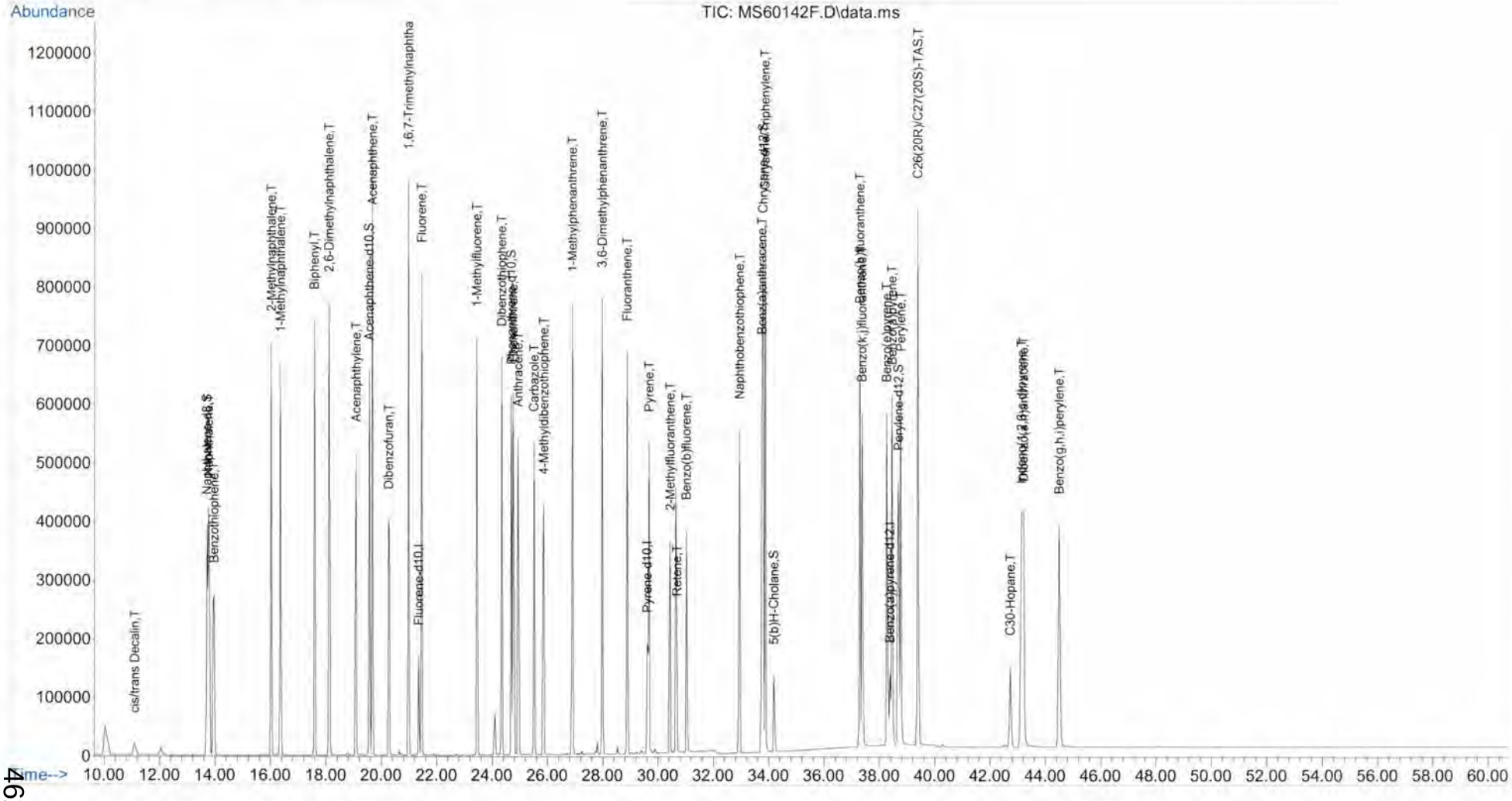
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142F.D
Acq On : 17 Aug 2013 4:09 pm
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 18 21:02:35 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 17 19:20:54 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142G.D
Acq On : 17 Aug 2013 5:18 pm
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 18 21:07:27 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 17 19:21:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.341	176	197272m	251.05	0.00
31) Pyrene-d10	29.606	212	367734m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	353506m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.706	136	6683551m	4729.62	0.00
21) Acenaphthene-d10	19.558	164	3748787m	4853.78	0.00
32) Phenanthrene-d10	24.687	188	6323601m	4629.30	0.00
66) Chrysene-d12	33.802	240	9109057m	5938.54	0.00
88) Perylene-d12	38.692	264	8523835m	5243.38	0.00
90) 5(b)H-Cholane	34.190	217	1501414m	4224.79	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.086	138	1098993m	6158.00	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.789	128	7053481m	4621.98	
9) 2-Methylnaphthalene	16.019	142	4749191m	4784.77	
10) 1-Methylnaphthalene	16.353	142	4344463m	4761.63	
11) 2,6-Dimethylnaphthalene	18.137	156	4280579m	4945.48	
12) 1,6,7-Trimethylnaphtha...	20.979	170	3934637m	4845.62	
13) C2-Naphthalenes	0.000		0	N.D.	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.957	134	5602608m	4617.68	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.607	154	5952992m	4741.12	
23) Acenaphthylene	19.084	152	7530954m	5281.09	
24) Acenaphthene	19.669	154	4102279m	4787.06	
25) Dibenzofuran	20.282	168	6691710m	4974.99	
26) Fluorene	21.453	166	5493232m	5150.80	
27) 1-Methylfluorene	23.440	180	2804214m	4802.44	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.519	167	6554834m	5049.05	
34) Dibenzothiophene	24.341	184	7772478m	4922.62	
35) 4-Methyldibenzothiophene	25.865	198	5694608m	5647.95	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.791	178	6844500m	4672.64	
42) Anthracene	24.964	178	6833637m	4972.63	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142G.D
Acq On : 17 Aug 2013 5:18 pm
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 18 21:07:27 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 17 19:21:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0		N.D.	d
44) 2-Methylphenanthrene	0.000		0		N.D.	d
45) 2-Methylanthracene	0.000		0		N.D.	d
46) 4/9-Methylphenanthrene	0.000		0		N.D.	d
47) 1-Methylphenanthrene	26.904	192	6493382m	5637.04		
48) 3,6-Dimethylphenanthrene	27.978	206	5132756m	4768.15		
49) Retene	30.680	234	2270891m	4934.39		
50) C2-Phenanthrenes/Anthr...	0.000		0		N.D.	d
51) C3-Phenanthrenes/Anthr...	0.000		0		N.D.	d
52) C4-Phenanthrenes/Anthr...	0.000		0		N.D.	
53) Naphthobenzothiophene	32.949	234	10150872m	6258.54		
54) C1-Naphthobenzothiophenes	0.000		0		N.D.	d
55) C2-Naphthobenzothiophenes	0.000		0		N.D.	d
56) C3-Naphthobenzothiophenes	0.000		0		N.D.	d
57) C4-Naphthobenzothiophenes	0.000		0		N.D.	d
58) Fluoranthene	28.879	202	8038586m	4722.29		
59) Pyrene	29.675	202	10074413m	5763.11		
60) 2-Methylfluoranthene	30.437	216	6550396m	6064.70		
61) Benzo(b)fluorene	31.061	216	5342402m	5047.56		
62) C1-Fluoranthenes/Pyrenes	0.000		0		N.D.	d
63) C2-Fluoranthenes/Pyrenes	0.000		0		N.D.	d
64) C3-Fluoranthenes/Pyrenes	0.000		0		N.D.	d
65) C4-Fluoranthenes/Pyrenes	0.000		0		N.D.	d
67) Benz(a)anthracene	33.763	228	9392550m	6370.27		
68) Chrysene/Triphenylene	33.880	228	9549188m	5365.52		
69) C1-Chrysenes	0.000		0		N.D.	d
70) C2-Chrysenes	0.000		0		N.D.	d
71) C3-Chrysenes	0.000		0		N.D.	d
72) C4-Chrysenes	0.000		0		N.D.	d
74) C29-Hopane	0.000		0		N.D.	d
75) 18a-Oleanane	0.000		0		N.D.	d
76) C30-Hopane	42.735	191	3041355m	4456.79		
77) Benzo(b)fluoranthene	37.295	252	9375856m	2434.27		
78) Benzo(k,j)fluoranthene	37.372	252	8362990m	2179.92		
79) Benzo(a)fluoranthene	0.000		0		N.D.	d
80) Benzo(e)pyrene	38.265	252	8467834m	4089.19		
81) Benzo(a)pyrene	38.459	252	8978263m	4773.94		
82) Indeno(1,2,3-c,d)pyrene	43.141	276	9563152m	4840.96		
83) Dibenzo(a,h)anthracene	43.215	278	7788600m	4959.43		
84) C1-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
85) C2-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
86) C3-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
87) Benzo(g,h,i)perylene	44.542	276	7850161m	4762.93		
89) Perylene	38.769	252	8710341m	4396.37		
91) C20-TAS	0.000		0		N.D.	d
92) C21-TAS	0.000		0		N.D.	d
93) C26(20S)-TAS	0.000		0		N.D.	d
94) C26(20R)/C27(20S)-TAS	39.390	231	11994811m	4494.09		
95) C28(20S)-TAS	0.000		0		N.D.	
96) C27(20R)-TAS	0.000		0		N.D.	d
97) C28(20R)-TAS	0.000		0		N.D.	d

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142G.D
Acq On : 17 Aug 2013 5:18 pm
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 18 21:07:27 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 17 19:21:12 2013
Response via : Initial Calibration

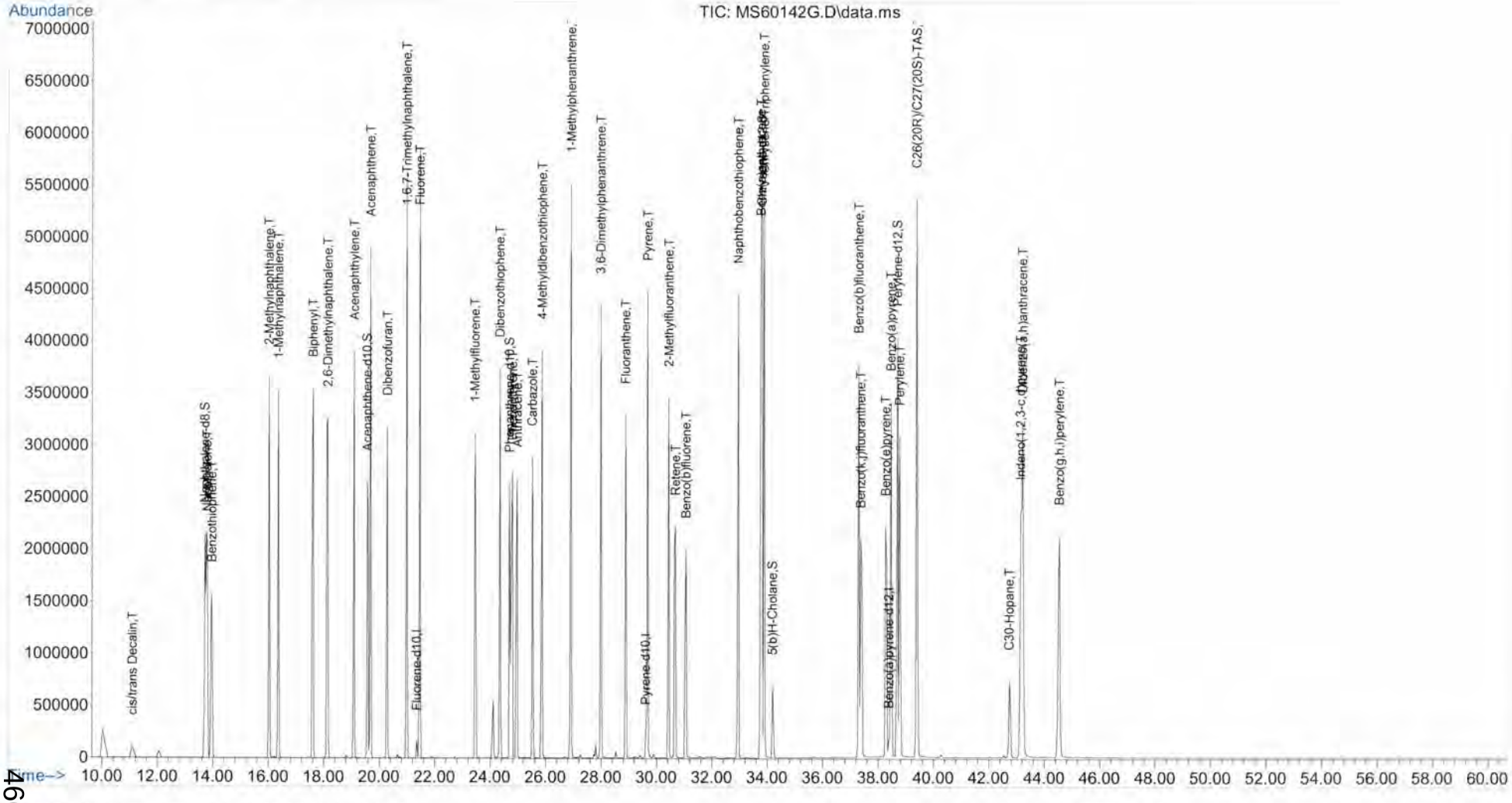
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142G.D
Acq On : 17 Aug 2013 5:18 pm
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 18 21:07:27 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 17 19:21:12 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60142\
Data File : MS60142I.D
Acq On : 17 Aug 2013 7:36 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 18 21:16:47 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorene-d10	1.000	1.000	0.0	115	0.00
2	S	Naphthalene-d8	1.808	1.606	11.2	107	0.00
3	T	cis/trans Decalin	0.320	0.339	-5.9	124	0.00
4	un	C1-Decalins	0.320	0.000	100.0#	0#	-12.26#
5	un	C2-Decalins	0.320	0.000	100.0#	0#	-13.20#
6	un	C3-Decalins	0.320	0.000	100.0#	0#	-16.10#
7	un	C4-Decalins	0.320	0.000	100.0#	0#	-18.75#
8	T	Naphthalene	1.958	2.120	-8.3	131	0.00
9	T	2-Methylnaphthalene	1.271	1.430	-12.5	138	0.00
10	T	1-Methylnaphthalene	1.178	1.330	-12.9	139	0.00
11	T	2,6-Dimethylnaphthalene	1.099	1.209	-10.0	136	0.03
12	T	1,6,7-Trimethylnaphthalene	1.033	1.184	-14.6	143	0.00
13	un	C2-Naphthalenes	1.958	0.000	100.0#	0#	-18.50#
14	un	C3-Naphthalenes	1.958	0.000	100.0#	0#	-20.28#
15	un	C4-Naphthalenes	1.958	0.000	100.0#	0#	-21.96#
16	T	Benzothiophene	1.558	1.721	-10.5	134	0.00
17	un	C1-Benzothiophenes	1.558	0.000	100.0#	0#	-15.41#
18	un	C2-Benzothiophenes	1.558	0.000	100.0#	0#	-18.14#
19	un	C3-Benzothiophenes	1.558	0.000	100.0#	0#	-20.23#
20	un	C4-Benzothiophenes	1.558	0.000	100.0#	0#	-22.18#
21	S	Acenaphthene-d10	0.984	0.882	10.4	110	0.00
22	T	Biphenyl	1.590	1.737	-9.2	135	0.00
23	T	Acenaphthylene	1.820	1.943	-6.8	133	0.00
24	T	Acenaphthene	1.090	1.232	-13.0	139	0.00
25	T	Dibenzofuran	1.699	1.894	-11.5	137	0.00
26	T	Fluorene	1.364	1.466	-7.5	134	0.00
27	T	1-Methylfluorene	0.718	0.000	100.0#	0#	-23.44#
28	un	C1-Fluorenes	1.364	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.364	0.000	100.0#	0#	-25.35#
30	un	C3-Fluorenes	1.364	0.000	100.0#	0#	-26.35#
31	I	Pyrene-d10	1.000	1.000	0.0	109	0.00
32	S	Phenanthrene-d10	0.931	0.889	4.5	114	0.00
33	T	Carbazole	0.910	1.022	-12.3	137	0.00
34	T	Dibenzothiophene	1.107	1.272	-14.9	139	0.00
35	T	4-Methyldibenzothiophene	0.673	0.000	100.0#	0#	-25.86#
36	un	2/3-Methyldibenzothiophene	0.673	0.000	100.0#	0#	-26.14#
37	un	1-Methyldibenzothiophene	0.673	0.000	100.0#	0#	-26.49#
38	un	C2-Dibenzothiophenes	1.107	0.000	100.0#	0#	-27.25#
39	un	C3-Dibenzothiophenes	1.107	0.000	100.0#	0#	-28.77#
40	un	C4-Dibenzothiophenes	1.107	0.000	100.0#	0#	-30.68#
41	T	Phenanthrene	0.959	1.116	-16.4	138	0.00
42	T	Anthracene	0.904	1.016	-12.4	138	0.00
43	un	3-Methylphenanthrene	0.809	0.000	100.0#	0#	-26.90#
44	un	2-Methylphenanthrene	0.809	0.000	100.0#	0#	-26.90#
45	un	2-Methylanthracene	0.809	0.000	100.0#	0#	-26.90#
46	un	4/9-Methylphenanthrene	0.809	0.000	100.0#	0#	-26.90#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60142\
Data File : MS60142I.D
Acq On : 17 Aug 2013 7:36 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 18 21:16:47 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
47	T	1-Methylphenanthrene	0.809	0.887	-9.6	135	0.00
48	T	3,6-Dimethylphenanthrene	0.737	0.000	100.0#	0#	-27.98#
49	T	Retene	0.299	0.000	100.0#	0#	-30.68#
50	un	C2-Phenanthrenes/Anthracene	0.959	0.000	100.0#	0#	-28.53#
51	un	C3-Phenanthrenes/Anthracene	0.959	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	0.959	0.000	100.0#	0#	-32.03#
53	T	Naphthobenzothiophene	1.090	0.000	100.0#	0#	-32.95#
54	un	C1-Naphthobenzothiophenes	1.090	0.000	100.0#	0#	-34.23#
55	un	C2-Naphthobenzothiophenes	1.090	0.000	100.0#	0#	-35.82#
56	un	C3-Naphthobenzothiophenes	1.090	0.000	100.0#	0#	-37.14#
57	un	C4-Naphthobenzothiophenes	1.090	0.000	100.0#	0#	-37.53#
58	T	Fluoranthene	1.156	1.336	-15.6	137	0.00
59	T	Pyrene	1.188	1.290	-8.6	133	0.00
60	T	2-Methylfluoranthene	0.722	0.000	100.0#	0#	-30.44#
61	T	Benzo(b)fluorene	0.673	0.000	100.0#	0#	-31.03#
62	un	C1-Fluoranthenes/Pyrenes	1.156	0.000	100.0#	0#	-30.65#
63	un	C2-Fluoranthenes/Pyrenes	1.156	0.000	100.0#	0#	-32.13#
64	un	C3-Fluoranthenes/Pyrenes	1.156	0.000	100.0#	0#	-33.53#
65	un	C4-Fluoranthenes/Pyrenes	1.156	0.000	100.0#	0#	-35.66#
66	S	Chrysene-d12	1.098	0.941	14.3	107	0.00
67	T	Benz(a)anthracene	1.022	1.079	-5.6	136	0.00
68	T	Chrysene/Triphenylene	1.290	1.444	-11.9	136	0.00
69	un	C1-Chrysenes	1.290	0.000	100.0#	0#	-35.39#
70	un	C2-Chrysenes	1.290	0.000	100.0#	0#	-36.01#
71	un	C3-Chrysenes	1.290	0.000	100.0#	0#	-38.07#
72	un	C4-Chrysenes	1.290	0.000	100.0#	0#	-39.43#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	106	0.00
74	un	C29-Hopane	0.482	0.000	100.0#	0#	-41.00#
75	un	18a-Oleanane	0.482	0.000	100.0#	0#	-41.81#
76	T	C30-Hopane	0.482	0.000	100.0#	0#	-42.74#
77	T	Benzo(b)fluoranthene	1.492	1.612	-8.0	123	0.00
78	T	Benzo(k,j)fluoranthene	1.389	1.620	-16.6	128	0.00
79	un	Benzo(a)fluoranthene	1.389	0.000	100.0#	0#	-37.29#
80	T	Benzo(e)pyrene	1.447	1.650	-14.0	129	0.00
81	T	Benzo(a)pyrene	1.357	1.518	-11.9	129	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.400	1.589	-13.5	134	0.00
83	T	Dibenzo(a,h)anthracene	1.110	1.291	-16.3	137	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.110	0.000	100.0#	0#	-48.86#
85	un	C2-Dibenzo(a,h)anthracenes	1.110	0.000	100.0#	0#	-50.41#
86	un	C3-Dibenzo(a,h)anthracenes	1.110	0.000	100.0#	0#	-50.85#
87	T	Benzo(g,h,i)perylene	1.180	1.323	-12.1	132	0.00
88	S	Perylene-d12	1.186	1.039	12.4	104	0.04
89	T	Perylene	1.390	1.556	-11.9	129	0.00
90	S	5(b)H-Cholane	0.253	0.248	2.0	111	0.00
91	un	C20-TAS	1.896	0.000	100.0#	0#	-33.26#
92	un	C21-TAS	1.896	0.000	100.0#	0#	-34.23#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60142\
Data File : MS60142I.D
Acq On : 17 Aug 2013 7:36 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 18 21:16:47 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
93	un	C26(20S)-TAS	1.896	0.000	100.0#	0#	-38.69#
94	T	C26(20R)/C27(20S)-TAS	1.896	0.000	100.0#	0#	-39.39#
95	un	C28(20S)-TAS	1.896	0.000	100.0#	0#	-39.82#
96	un	C27(20R)-TAS	1.896	0.000	100.0#	0#	-40.63#
97	un	C28(20R)-TAS	1.896	0.000	100.0#	0#	-41.56#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142I.D
Acq On : 17 Aug 2013 7:36 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 18 21:16:47 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.342	176	185972m	251.05	0.00
31) Pyrene-d10	29.605	212	330947m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	279327m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.707	136	297589m	222.21	0.00
21) Acenaphthene-d10	19.559	164	163540m	224.39	0.00
32) Phenanthrene-d10	24.686	188	293677m	238.90	0.00
66) Chrysene-d12	33.802	240	310540m	214.26	0.00
88) Perylene-d12	38.691	264	289800m	218.97	0.04
90) 5(b)H-Cholane	34.190	217	69158m	244.91	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.087	138	62075m	261.52	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.790	128	392579m	270.67	
9) 2-Methylnaphthalene	16.020	142	265144m	281.58	
10) 1-Methylnaphthalene	16.354	142	246010m	282.03	
11) 2,6-Dimethylnaphthalene	18.137	156	223956m	274.98	
12) 1,6,7-Trimethylnaphtha...	20.980	170	219360m	286.67	
13) C2-Naphthalenes	0.000		0	N.D.	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.958	134	316742m	274.48	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.580	154	318827m	270.62	
23) Acenaphthylene	19.085	152	356875m	264.66	
24) Acenaphthene	19.670	154	228703m	283.22	
25) Dibenzofuran	20.283	168	348968m	277.30	
26) Fluorene	21.454	166	271956m	269.08	
27) 1-Methylfluorene	0.000		0	N.D. d	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.518	167	334245m	278.17	
34) Dibenzothiophene	24.340	184	414000m	283.28	
35) 4-Methyldibenzothiophene	0.000		0	N.D. d	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.756	178	364972m	288.11	
42) Anthracene	24.929	178	336320m	281.74	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142I.D
Acq On : 17 Aug 2013 7:36 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 18 21:16:47 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43)	3-Methylphenanthrene	0.000		0	N.D. d	
44)	2-Methylphenanthrene	0.000		0	N.D. d	
45)	2-Methylanthracene	0.000		0	N.D. d	
46)	4/9-Methylphenanthrene	0.000		0	N.D. d	
47)	1-Methylphenanthrene	26.903	192	289446m	271.00	
48)	3,6-Dimethylphenanthrene	0.000		0	N.D. d	
49)	Retene	0.000		0	N.D. d	
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51)	C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52)	C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53)	Naphthobenzothiophene	0.000		0	N.D. d	
54)	C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55)	C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56)	C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57)	C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58)	Fluoranthene	28.878	202	441423m	289.24	
59)	Pyrene	29.674	202	425934m	271.45	
60)	2-Methylfluoranthene	0.000		0	N.D. d	
61)	Benzo(b)fluorene	0.000		0	N.D. d	
62)	C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63)	C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64)	C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65)	C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67)	Benz(a)anthracene	33.763	228	355346m	263.41	
68)	Chrysene/Triphenylene	33.879	228	473806m	278.09	
69)	C1-Chrysenes	0.000		0	N.D. d	
70)	C2-Chrysenes	0.000		0	N.D. d	
71)	C3-Chrysenes	0.000		0	N.D. d	
72)	C4-Chrysenes	0.000		0	N.D. d	
74)	C29-Hopane	0.000		0	N.D. d	
75)	18a-Oleanane	0.000		0	N.D. d	
76)	C30-Hopane	0.000		0	N.D. d	
77)	Benzo(b)fluoranthene	37.294	252	450473m	270.58	
78)	Benzo(k,j)fluoranthene	37.372	252	450152m	290.35	
79)	Benzo(a)fluoranthene	0.000		0	N.D. d	
80)	Benzo(e)pyrene	38.264	252	458577m	283.96	
81)	Benzo(a)pyrene	38.458	252	422695m	279.14	
82)	Indeno(1,2,3-c,d)pyrene	43.141	276	435611m	278.88	
83)	Dibenzo(a,h)anthracene	43.178	278	356817m	288.07	
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87)	Benzo(g,h,i)perylene	44.505	276	365679m	277.78	
89)	Perylene	38.769	252	434456m	280.13	
91)	C20-TAS	0.000		0	N.D. d	
92)	C21-TAS	0.000		0	N.D. d	
93)	C26(20S)-TAS	0.000		0	N.D. d	
94)	C26(20R)/C27(20S)-TAS	0.000		0	N.D. d	
95)	C28(20S)-TAS	0.000		0	N.D. d	
96)	C27(20R)-TAS	0.000		0	N.D. d	
97)	C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142I.D
Acq On : 17 Aug 2013 7:36 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 18 21:16:47 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration

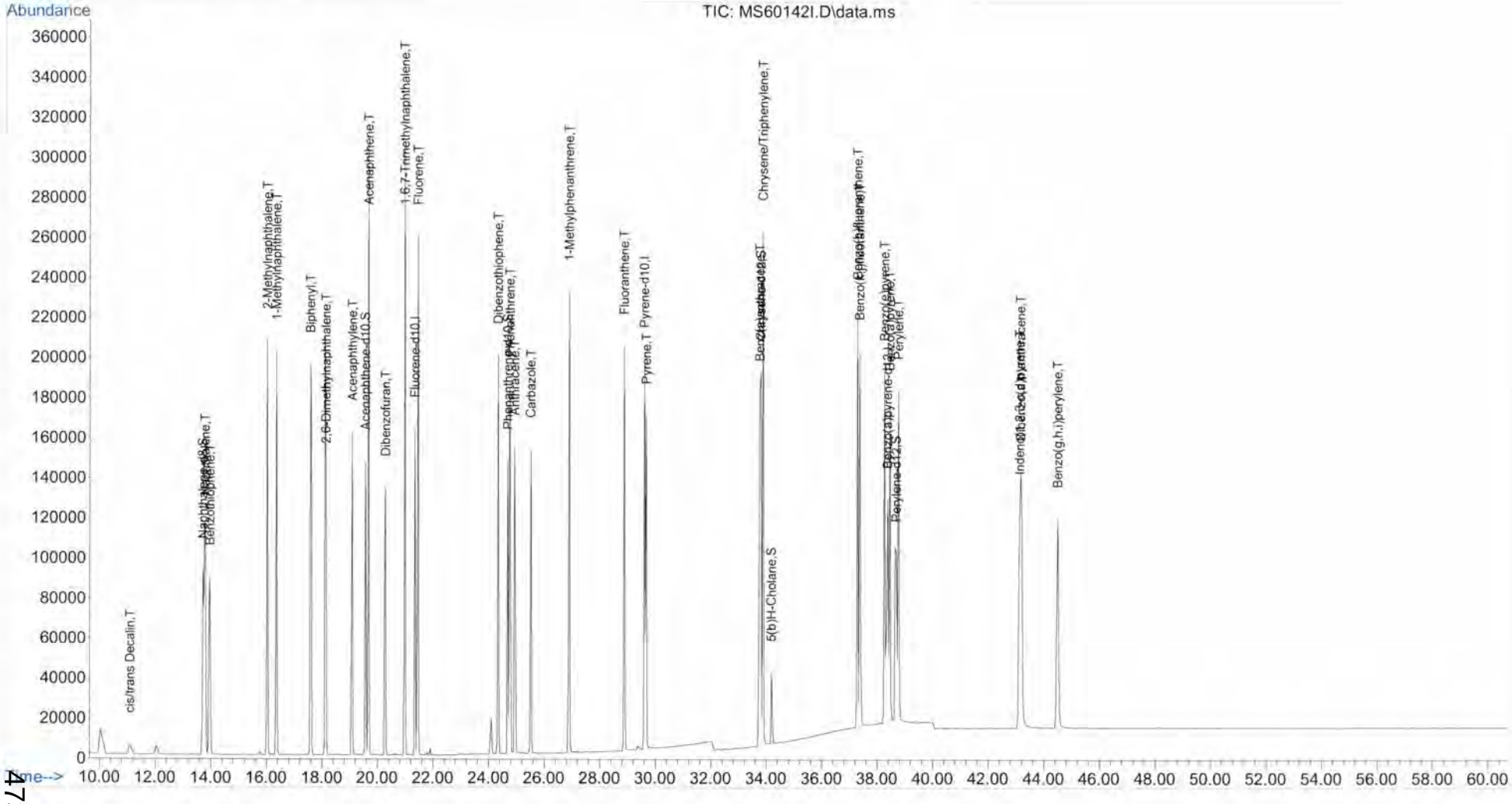
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60142\
Data File : MS60142I.D
Acq On : 17 Aug 2013 7:36 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 18 21:16:47 2013
Quant Method : C:\GCMS6\MS60142\AR60142.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Aug 18 21:08:57 2013
Response via : Initial Calibration



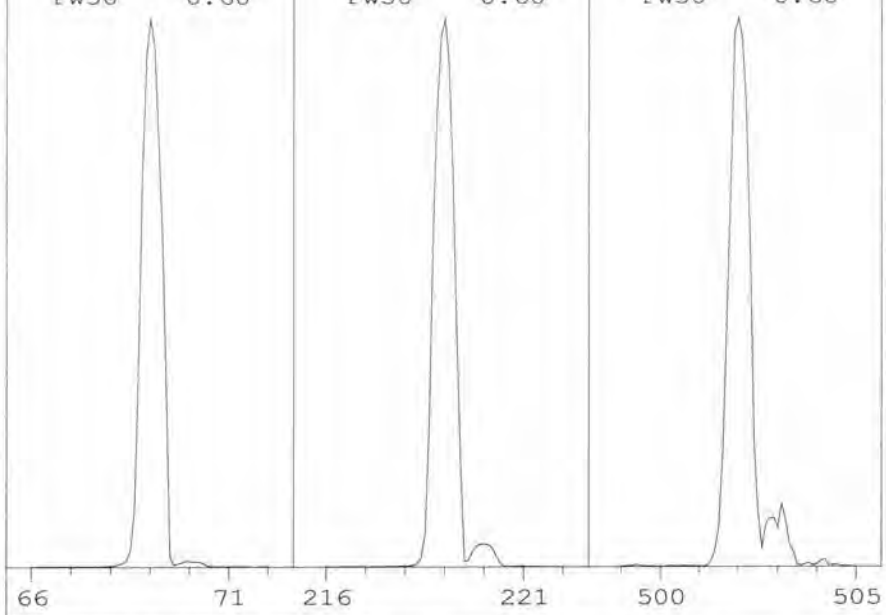
PAH ICAL
AR 70060.M

GC/MS 7
(PAH-2012)

Autotune

Thu Aug 29 18:22:17 2013 Instrument: GCMSD
C:\MSDCHEM\1\5973N\atune.u US21854533

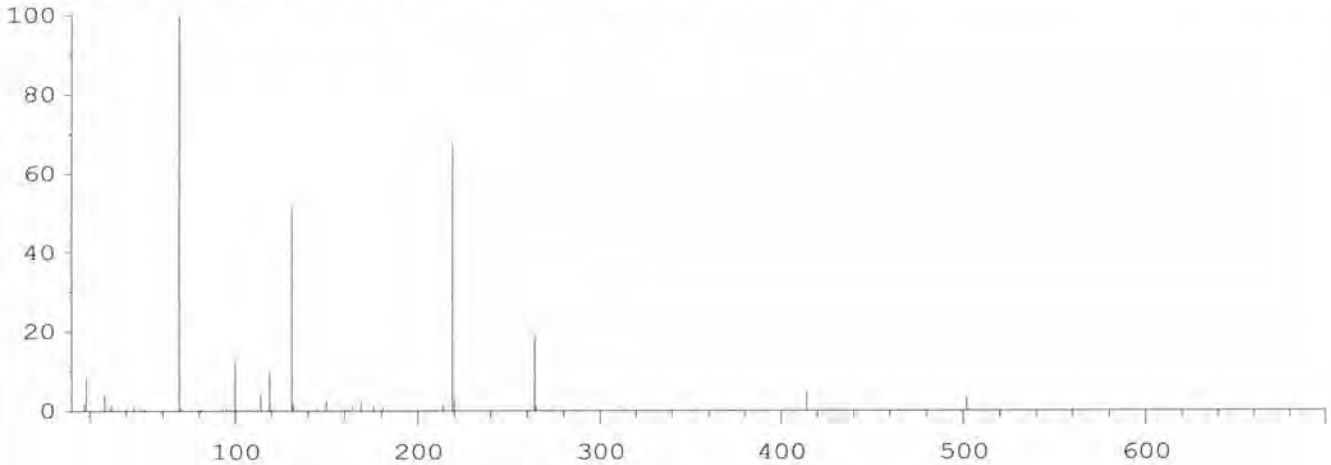
Mass	69.00	Mass	219.00	Mass	502.00
Ab	403443	Ab	267781	Ab	13878
Pw50	0.60	Pw50	0.60	Pw50	0.60



Ion Pol	Pos	MassGain	421
		MassOffs	-9
Emission	34.6	AmuGain	2309
EIEnrgy	69.9	AmuOffs	129
Filament	1	Wid219	0.006
		DC Pol	Neg
Repeller	23.42		
IonFcus	86.4	HEDEnab	On
EntLens	16.5	EMVolts	2047
EntOffs	19.07		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:
MS Source 290 Turbo Speed100
MS Quad 180

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
130 peaks Base: 69.00 Abundance: 359744



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	359744	100.00	70.00	3812	1.06
219.00	244096	67.85	220.00	10674	4.37
502.00	12833	3.57	503.00	1369	10.67

Air/Water Check: H2O~8.74% N2~4.40% O2~1.53% CO2~1.17% N2/H2O~50.32%

Column(1) Flow: 1.38 Column(2): 0 ml/min. Interface Temp: 290

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502; EM Gain 222668
Repeller Maximum 35 volts using ion 219; Gain Factor 2.23

MassGain Values(Samples): 423(3) 417(2) 420(1) 420(0) 421(FS)

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	129.0	129.0	129.0	129.0	129.0	129.0	129.0
Entrance Lens Offset:	19.1	19.1	19.1	19.1	19.1	19.1	19.1

MS70080

Response Factor Report GCMSD

Method Path : C:\GCMS7\MS70060\
Method File : AR70060.M
Title : PAH Calibration Table-2013A
Last Update : Sat Aug 31 14:43:01 2013
Response Via : Initial Calibration

Calibration Files
1 =MS70060B.D 2 =MS70060C.D 3 =MS70060D.D 4 =MS70060E.D 5 =MS70060F.D
6 =MS70060G.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	Fluorene-d10	----------ISTD----------							
2)	S	Naphthalene-d8	1.965	1.720	1.628	1.709	1.734	1.759	1.752	6.45
3)	T	cis/trans Decalin	0.306	0.319	0.277	0.282	0.286	0.274	0.291	6.17
4)	un	C1-Decalins	0.306	0.319	0.277	0.282	0.286	0.274	0.291	6.17
5)	un	C2-Decalins	0.306	0.319	0.277	0.282	0.286	0.274	0.291	6.17
6)	un	C3-Decalins	0.306	0.319	0.277	0.282	0.286	0.274	0.291	6.17
7)	un	C4-Decalins	0.306	0.319	0.277	0.282	0.286	0.274	0.291	6.17
8)	T	Naphthalene	2.101	1.762	1.656	1.712	1.737	1.784	1.792	8.80
9)	T	2-Methylnaphth...	1.311	1.184	1.096	1.149	1.178	1.213	1.188	6.04
10)	T	1-Methylnaphth...	1.281	1.116	1.037	1.074	1.077	1.106	1.115	7.70
11)	T	2,6-Dimethylna...	1.128	0.985	0.919	0.996	1.028	1.039	1.016	6.81
12)	T	1,6,7-Trimethy...	1.103	0.924	0.862	0.901	0.922	0.974	0.948	8.91
13)	un	C2-Naphthalenes	2.101	1.762	1.656	1.712	1.737	1.784	1.792	8.80
14)	un	C3-Naphthalenes	2.101	1.762	1.656	1.712	1.737	1.784	1.792	8.80
15)	un	C4-Naphthalenes	2.101	1.762	1.656	1.712	1.737	1.784	1.792	8.80
16)	T	Benzothiophene	1.610	1.372	1.277	1.327	1.342	1.367	1.383	8.43
17)	un	C1-Benzothioph...	1.610	1.372	1.277	1.327	1.342	1.367	1.383	8.43
18)	un	C2-Benzothioph...	1.610	1.372	1.277	1.327	1.342	1.367	1.383	8.43
19)	un	C3-Benzothioph...	1.610	1.372	1.277	1.327	1.342	1.367	1.383	8.43
20)	un	C4-Benzothioph...	1.610	1.372	1.277	1.327	1.342	1.367	1.383	8.43
21)	S	Acenaphthene-d10	1.163	0.973	0.908	0.950	0.960	0.980	0.989	9.01
22)	T	Biphenyl	1.713	1.423	1.364	1.442	1.465	1.503	1.485	8.14
23)	T	Acenaphthylene	1.951	1.633	1.529	1.608	1.649	1.793	1.694	9.01
24)	T	Acenaphthene	1.236	1.017	0.957	1.001	1.018	1.058	1.048	9.35
25)	T	Dibenzofuran	1.764	1.591	1.491	1.594	1.595	1.656	1.615	5.59
26)	T	Fluorene	1.465	1.270	1.180	1.248	1.263	1.280	1.284	7.44
27)	T	1-Methylfluorene	0.959	0.783	0.721	0.750	0.775	0.850	0.806	10.72
28)	un	C1-Fluorenes	1.465	1.270	1.180	1.248	1.263	1.280	1.284	7.44
29)	un	C2-Fluorenes	1.465	1.270	1.180	1.248	1.263	1.280	1.284	7.44
30)	un	C3-Fluorenes	1.465	1.270	1.180	1.248	1.263	1.280	1.284	7.44
31)	I	Pyrene-d10	----------ISTD----------							
32)	S	Phenanthrene-d10	0.916	0.775	0.714	0.764	0.780	0.866	0.803	9.26
33)	T	Carbazole	0.868	0.757	0.682	0.745	0.764	0.863	0.780	9.28
34)	T	Dibenzothiophene	0.951	0.839	0.771	0.855	0.870	0.903	0.865	7.05
35)	T	4-Methyldibenz...	0.807	0.705	0.669	0.718	0.746	0.821	0.744	8.00
36)	un	2/3-Methyldibe...	0.807	0.705	0.669	0.718	0.746	0.821	0.744	8.00
37)	un	1-Methyldibenz...	0.807	0.705	0.669	0.718	0.746	0.821	0.744	8.00
38)	un	C2-Dibenzothio...	0.951	0.839	0.771	0.855	0.870	0.903	0.865	7.05
39)	un	C3-Dibenzothio...	0.951	0.839	0.771	0.855	0.870	0.903	0.865	7.05
40)	un	C4-Dibenzothio...	0.951	0.839	0.771	0.855	0.870	0.903	0.865	7.05
41)	T	Phenanthrene	1.190	1.015	0.938	1.006	1.032	1.184	1.061	9.69
42)	T	Anthracene	0.988	0.898	0.848	0.962	1.000	1.165	0.977	11.12
43)	un	3-Methylphenan...	0.885	0.766	0.733	0.791	0.824	0.862	0.810	7.15
44)	un	2-Methylphenan...	0.885	0.766	0.733	0.791	0.824	0.862	0.810	7.15
45)	un	2-Methylanthra...	0.885	0.766	0.733	0.791	0.824	0.862	0.810	7.15
46)	un	4/9-Methylphen...	0.885	0.766	0.733	0.791	0.824	0.862	0.810	7.15
47)	T	1-Methylphenan...	0.885	0.766	0.733	0.791	0.824	0.862	0.810	7.15
48)	T	3,6-Dimethylph...	0.710	0.647	0.593	0.654	0.674	0.690	0.661	6.13
49)	T	Retene	0.311	0.259	0.239	0.261	0.268	0.291	0.272	9.36
50)	un	C2-Phenanthren...	1.190	1.015	0.938	1.006	1.032	1.184	1.061	9.69
51)	un	C3-Phenanthren...	1.190	1.015	0.938	1.006	1.032	1.184	1.061	9.69
52)	un	C4-Phenanthren...	1.190	1.015	0.938	1.006	1.032	1.184	1.061	9.69
53)	T	Naphthobenzoth...	1.292	1.175	1.078	1.179	1.232	1.225	1.197	6.01

Method Path : C:\GCMS7\MS70060\
Method File : AR70060.M
Title : PAH Calibration Table-2013A

54)	un	C1-Naphthobenz...	1.292	1.175	1.078	1.179	1.232	1.225	1.197	6.01
55)	un	C2-Naphthobenz...	1.292	1.175	1.078	1.179	1.232	1.225	1.197	6.01
56)	un	C3-Naphthobenz...	1.292	1.175	1.078	1.179	1.232	1.225	1.197	6.01
57)	un	C4-Naphthobenz...	1.292	1.175	1.078	1.179	1.232	1.225	1.197	6.01
58)	T	Fluoranthene	1.228	1.104	1.040	1.144	1.187	1.179	1.147	5.86
59)	T	Pyrene	1.374	1.152	1.057	1.123	1.163	1.340	1.201	10.53
60)	T	2-Methylfluora...	0.766	0.641	0.591	0.629	0.655	0.773	0.676	11.20
61)	T	Benzo(b)fluorene	0.784	0.691	0.628	0.696	0.725	0.734	0.710	7.36
62)	un	C1-Fluoranthen...	1.228	1.104	1.040	1.144	1.187	1.179	1.147	5.86
63)	un	C2-Fluoranthen...	1.228	1.104	1.040	1.144	1.187	1.179	1.147	5.86
64)	un	C3-Fluoranthen...	1.228	1.104	1.040	1.144	1.187	1.179	1.147	5.86
65)	un	C4-Fluoranthen...	1.228	1.104	1.040	1.144	1.187	1.179	1.147	5.86
66)	S	Chrysene-d12	1.182	1.065	0.996	1.089	1.115	0.917	1.061	8.76
67)	T	Benz(a)anthracene	1.340	1.184	1.088	1.181	1.238	1.214	1.208	6.85
68)	T	Chrysene/Triph...	1.195	1.110	1.006	1.115	1.132	0.966	1.087	7.84
69)	un	C1-Chrysenes	1.195	1.110	1.006	1.115	1.132	0.966	1.087	7.84
70)	un	C2-Chrysenes	1.195	1.110	1.006	1.115	1.132	0.966	1.087	7.84
71)	un	C3-Chrysenes	1.195	1.110	1.006	1.115	1.132	0.966	1.087	7.84
72)	un	C4-Chrysenes	1.195	1.110	1.006	1.115	1.132	0.966	1.087	7.84
73)	I	Benzo(a)pyrene-d12	----------ISTD----------							
74)	un	C29-Hopane	0.545	0.467	0.409	0.430	0.438	0.444	0.456	10.51
75)	un	18a-Oleanane	0.545	0.467	0.409	0.430	0.438	0.444	0.456	10.51
76)	T	C30-Hopane	0.545	0.467	0.409	0.430	0.438	0.444	0.456	10.51
77)	T	Benzo(b)fluora...	1.754	1.470	1.382	1.467	1.541	1.453	1.511	8.55
78)	T	Benzo(k,j)fluo...	1.609	1.410	1.297	1.394	1.445	1.382	1.423	7.28
79)	un	Benzo(a)fluora...	1.609	1.410	1.297	1.394	1.445	1.382	1.423	7.28
80)	T	Benzo(e)pyrene	1.812	1.488	1.398	1.459	1.527	1.463	1.524	9.63
81)	T	Benzo(a)pyrene	1.558	1.354	1.254	1.321	1.395	1.625	1.418	10.14
82)	T	Indeno(1,2,3-c...	1.709	1.598	1.487	1.476	1.500	1.677	1.574	6.49
83)	T	Dibenzo(a,h)an...	1.294	1.260	1.111	1.181	1.162	1.280	1.215	6.07
84)	un	C1-Dibenzo(a,h...	1.294	1.260	1.111	1.181	1.162	1.280	1.215	6.07
85)	un	C2-Dibenzo(a,h...	1.294	1.260	1.111	1.181	1.162	1.280	1.215	6.07
86)	un	C3-Dibenzo(a,h...	1.294	1.260	1.111	1.181	1.162	1.280	1.215	6.07
87)	T	Benzo(g,h,i)pe...	1.632	1.428	1.306	1.345	1.414	1.309	1.406	8.70
88)	S	Perylene-d12	1.468	1.273	1.114	1.171	1.264	1.276	1.261	9.58
89)	T	Perylene	1.637	1.360	1.262	1.314	1.429	1.633	1.439	11.21
90)	S	5(b)H-Cholane	0.258	0.208	0.191	0.199	0.206	0.217	0.213	11.04
91)	un	C20-TAS	2.009	1.601	1.460	1.515	1.568	1.749	1.650	12.20
92)	un	C21-TAS	2.009	1.601	1.460	1.515	1.568	1.749	1.650	12.20
93)	un	C26(20S)-TAS	2.009	1.601	1.460	1.515	1.568	1.749	1.650	12.20
94)	T	C26(20R)/C27(2...	2.009	1.601	1.460	1.515	1.568	1.749	1.650	12.20
95)	un	C28(20S)-TAS	2.009	1.601	1.460	1.515	1.568	1.749	1.650	12.20
96)	un	C27(20R)-TAS	2.009	1.601	1.460	1.515	1.568	1.749	1.650	12.20
97)	un	C28(20R)-TAS	2.009	1.601	1.460	1.515	1.568	1.749	1.650	12.20

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060B.D
Acq On : 29 Aug 2013 11:02 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 31 14:41:18 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Fri Aug 30 18:33:45 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	396762m	251.05	0.00
31) Pyrene-d10	29.566	212	828948m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	694178m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.766	136	62135m	22.85	0.03
21) Acenaphthene-d10	19.588	164	36794m	23.86	0.00
32) Phenanthrene-d10	24.683	188	60664m	22.68	0.00
66) Chrysene-d12	33.731	240	78210m	22.32	0.00
88) Perylene-d12	38.580	264	81453m	23.74	-0.04
90) 5(b)H-Cholane	34.158	217	14290m	24.26	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.120	138	9581m	30.85	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	66414m	23.51	
9) 2-Methylnaphthalene	16.078	142	41465m	22.36	
10) 1-Methylnaphthalene	16.385	142	40449m	23.40	
11) 2,6-Dimethylnaphthalene	18.168	156	35650m	22.08	
12) 1,6,7-Trimethylnaphtha...	21.009	170	34866m	23.36	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D. d	
16) Benzothiophene	13.989	134	50591m	23.27	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.638	154	53665m	22.94	
23) Acenaphthylene	19.115	152	61189m	22.84	
24) Acenaphthene	19.700	154	39161m	23.95	
25) Dibenzofuran	20.313	168	55479m	21.85	
26) Fluorene	21.483	166	46412m	22.94	
27) 1-Methylfluorene	23.436	180	30553m	23.93	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.514	167	56910m	21.62	
34) Dibenzothiophene	24.337	184	62060m	21.73	
35) 4-Methyldibenzothiophene	25.826	198	53853m	21.82	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	77978m	22.92	
42) Anthracene	24.925	178	65532m	20.58	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060B.D
Acq On : 29 Aug 2013 11:02 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 31 14:41:18 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Fri Aug 30 18:33:45 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D. d	
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	26.865	192	57931m	21.51	
48) 3,6-Dimethylphenanthrene	27.938	206	46995m	21.48	
49) Retene	30.639	234	18361m	20.52	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53) Naphthobenzothiophene	32.878	234	85989m	21.63	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.838	202	81323m	21.31	
59) Pyrene	29.635	202	90899m	22.85	
60) 2-Methylfluoranthene	30.397	216	51019m	22.99	
61) Benzo(b)fluorene	30.985	216	52356m	22.23	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	33.692	228	88489m	22.94	
68) Chrysene/Triphenylene	33.809	228	78552m	22.99	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	42.636	191	30248m	23.99	
77) Benzo(b)fluoranthene	37.223	252	97471m	11.91	
78) Benzo(k,j)fluoranthene	37.300	252	88897m	10.79	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.192	252	100072m	24.49	
81) Benzo(a)pyrene	38.386	252	86215m	22.57	
82) Indeno(1,2,3-c,d)pyrene	43.041	276	93173m	20.23	
83) Dibenzo(a,h)anthracene	43.115	278	71118m	19.25	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.368	276	89722m	22.22	
89) Perylene	38.697	252	90875m	23.30	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	39.318	231	111436m	24.73	
95) C28(20S)-TAS	0.000		0	N.D. d	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060B.D
Acq On : 29 Aug 2013 11:02 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 31 14:41:18 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Fri Aug 30 18:33:45 2013
Response via : Initial Calibration

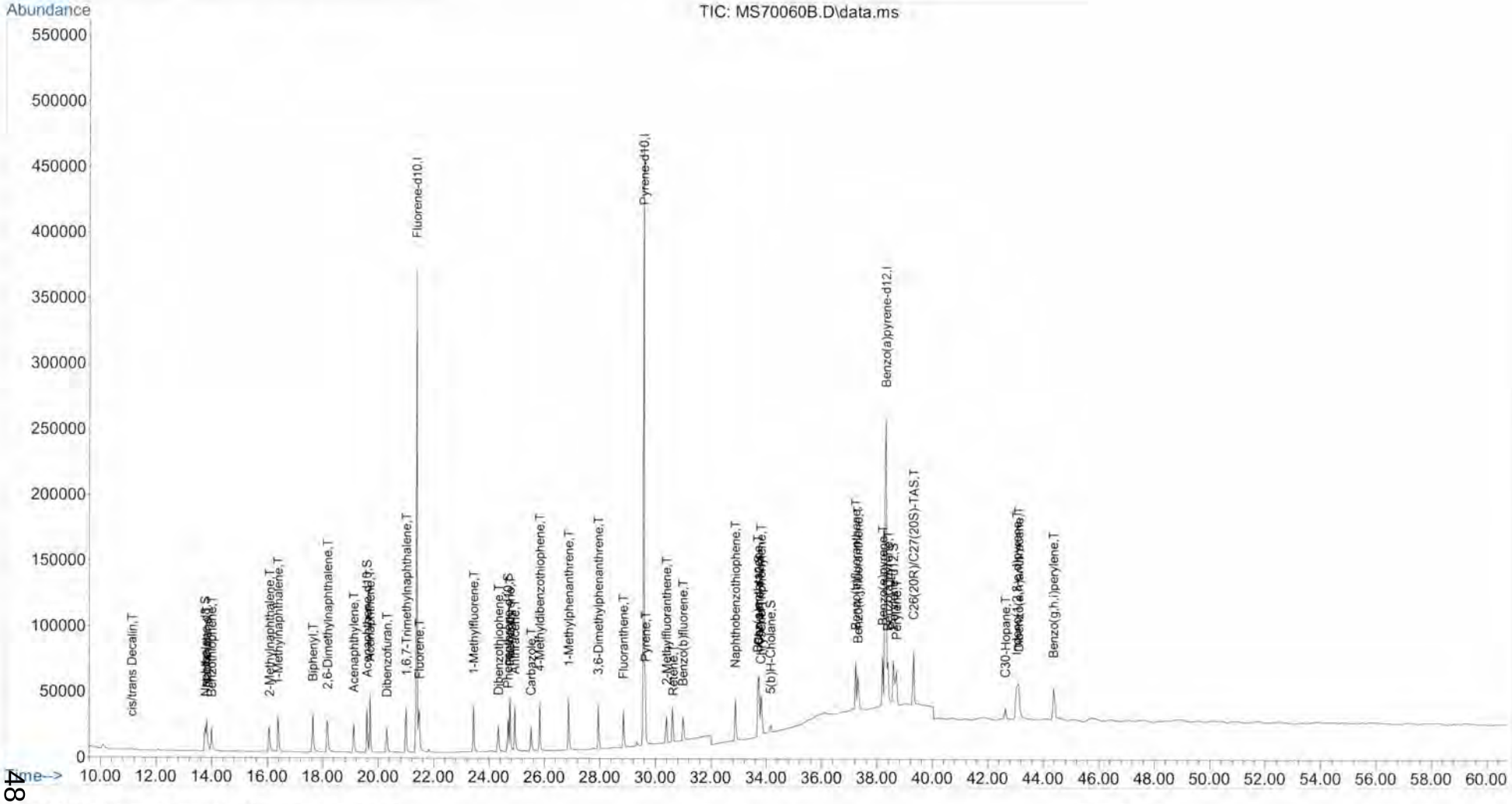
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060B.D
Acq On : 29 Aug 2013 11:02 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 31 14:41:18 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Fri Aug 30 18:33:45 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060C.D
Acq On : 30 Aug 2013 12:10 am
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 31 14:41:38 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 07:30:31 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	396643m	251.05	0.00
31) Pyrene-d10	29.566	212	792849m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	661795m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.739	136	271844m	98.34	-0.03
21) Acenaphthene-d10	19.589	164	153800m	98.56	0.00
32) Phenanthrene-d10	24.683	188	245417m	96.72	0.00
66) Chrysene-d12	33.731	240	337068m	100.59	0.00
88) Perylene-d12	38.580	264	336519m	104.97	0.00
90) 5(b)H-Cholane	34.158	217	55096m	102.03	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.120	138	49798m	108.59	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	278430m	98.22	
9) 2-Methylnaphthalene	16.051	142	187242m	100.10	
10) 1-Methylnaphthalene	16.385	142	176128m	100.30	
11) 2,6-Dimethylnaphthalene	18.168	156	155679m	97.06	
12) 1,6,7-Trimethylnaphtha...	21.009	170	145958m	97.46	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.989	134	215397m	98.69	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.639	154	222811m	95.11	
23) Acenaphthylene	19.115	152	255975m	95.62	
24) Acenaphthene	19.700	154	161023m	97.38	
25) Dibenzofuran	20.285	168	250071m	98.14	
26) Fluorene	21.455	166	201117m	99.36	
27) 1-Methylfluorene	23.436	180	124654m	97.98	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.514	167	237244m	96.47	
34) Dibenzothiophene	24.337	184	261659m	95.72	
35) 4-Methyldibenzothiophene	25.826	198	224890m	95.57	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	318234m	94.89	
42) Anthracene	24.925	178	284866m	92.06	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060C.D
Acq On : 30 Aug 2013 12:10 am
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 31 14:41:38 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 07:30:31 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43)	3-Methylphenanthrene	0.000		0	N.D.	d	
44)	2-Methylphenanthrene	0.000		0	N.D.	d	
45)	2-Methylanthracene	0.000		0	N.D.	d	
46)	4/9-Methylphenanthrene	0.000		0	N.D.	d	
47)	1-Methylphenanthrene	26.865	192	239716m	93.51		
48)	3,6-Dimethylphenanthrene	27.938	206	204821m	98.07		
49)	Retene	30.604	234	73334m	85.42		
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51)	C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52)	C4-Phenanthrenes/Anthr...	0.000		0	N.D.		
53)	Naphthobenzothiophene	32.878	234	374105m	98.95		
54)	C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55)	C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56)	C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57)	C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58)	Fluoranthene	28.838	202	349741m	96.22		
59)	Pyrene	29.635	202	364389m	96.10		
60)	2-Methylfluoranthene	30.397	216	204174m	95.55		
61)	Benzo(b)fluorene	30.985	216	220598m	98.41		
62)	C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63)	C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64)	C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65)	C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67)	Benz(a)anthracene	33.692	228	373912m	97.94		
68)	Chrysene/Triphenylene	33.809	228	349069m	101.61		
69)	C1-Chrysenes	0.000		0	N.D.	d	
70)	C2-Chrysenes	0.000		0	N.D.	d	
71)	C3-Chrysenes	0.000		0	N.D.	d	
72)	C4-Chrysenes	0.000		0	N.D.	d	
74)	C29-Hopane	0.000		0	N.D.	d	
75)	18a-Oleanane	0.000		0	N.D.	d	
76)	C30-Hopane	42.636	191	123510m	107.85		
77)	Benzo(b)fluoranthene	37.223	252	389349m	101.64		
78)	Benzo(k,j)fluoranthene	37.300	252	371365m	103.26		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.193	252	391821m	101.25		
81)	Benzo(a)pyrene	38.386	252	357264m	100.02		
82)	Indeno(1,2,3-c,d)pyrene	43.041	276	415226m	98.84		
83)	Dibenzo(a,h)anthracene	43.115	278	329990m	104.34		
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87)	Benzo(g,h,i)perylene	44.368	276	374071m	103.63		
89)	Perylene	38.697	252	359934m	98.76		
91)	C20-TAS	0.000		0	N.D.	d	
92)	C21-TAS	0.000		0	N.D.	d	
93)	C26(20S)-TAS	0.000		0	N.D.	d	
94)	C26(20R)/C27(20S)-TAS	39.318	231	423171m	101.34		
95)	C28(20S)-TAS	0.000		0	N.D.	d	
96)	C27(20R)-TAS	0.000		0	N.D.	d	
97)	C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060C.D
Acq On : 30 Aug 2013 12:10 am
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 31 14:41:38 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 07:30:31 2013
Response via : Initial Calibration

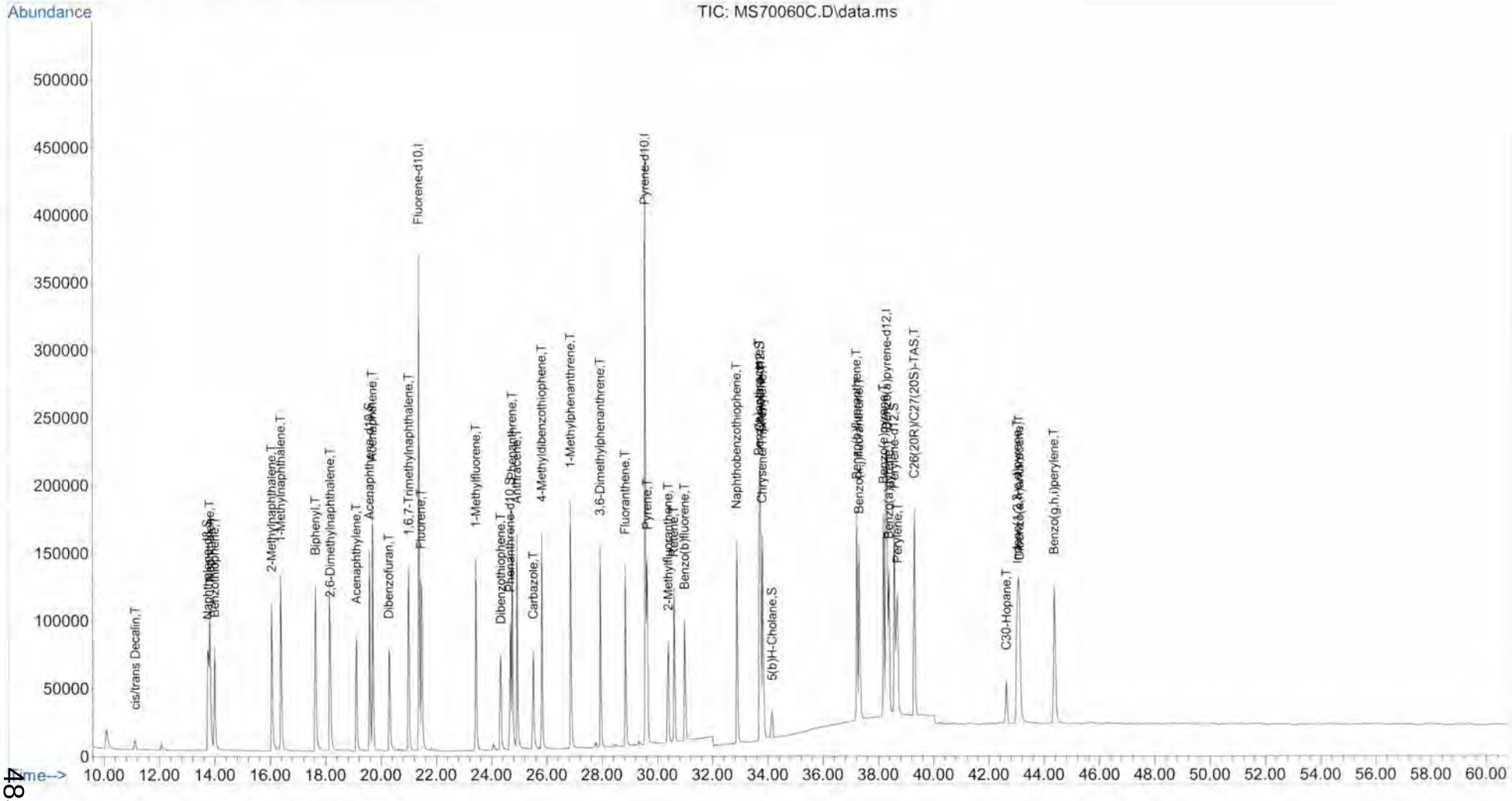
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060C.D
Acq On : 30 Aug 2013 12:10 am
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 31 14:41:38 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 07:30:31 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060D.D
Acq On : 30 Aug 2013 1:19 am
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 31 14:41:59 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 06:51:35 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	395717m	251.05	0.00
31) Pyrene-d10	29.566	212	791250m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	642168m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.739	136	641804m	234.07	0.00
21) Acenaphthene-d10	19.588	164	358007m	230.99	0.00
32) Phenanthrene-d10	24.683	188	563878m	222.16	0.00
66) Chrysene-d12	33.731	240	786320m	234.81	0.00
88) Perylene-d12	38.580	264	714494m	223.16	0.00
90) 5(b)H-Cholane	34.158	217	122438m	229.01	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.120	138	107992m	277.87	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	652696m	230.76	
9) 2-Methylnaphthalene	16.051	142	432229m	231.47	
10) 1-Methylnaphthalene	16.385	142	408071m	234.16	
11) 2,6-Dimethylnaphthalene	18.140	156	362162m	224.98	
12) 1,6,7-Trimethylnaphtha...	21.009	170	339500m	227.85	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.989	134	500328m	229.47	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.638	154	532836m	227.81	
23) Acenaphthylene	19.115	152	597628m	223.10	
24) Acenaphthene	19.700	154	377970m	229.63	
25) Dibenzofuran	20.285	168	584417m	228.65	
26) Fluorene	21.455	166	465904m	230.62	
27) 1-Methylfluorene	23.436	180	286292m	225.13	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.514	167	533559m	215.08	
34) Dibenzothiophene	24.337	184	599857m	219.63	
35) 4-Methyldibenzothiophene	25.826	198	532777m	226.60	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	733429m	221.32	
42) Anthracene	24.925	178	671413m	219.79	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060D.D
Acq On : 30 Aug 2013 1:19 am
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 31 14:41:59 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 06:51:35 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D. d	
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	26.865	192	572289m	221.99	
48) 3,6-Dimethylphenanthrene	27.938	206	468717m	224.77	
49) Retene	30.604	234	168487m	196.86	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	
53) Naphthobenzothiophene	32.878	234	856252m	226.26	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.838	202	821483m	226.10	
59) Pyrene	29.635	202	834019m	220.46	
60) 2-Methylfluoranthene	30.397	216	469765m	221.07	
61) Benzo(b)fluorene	30.985	216	499907m	222.66	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	33.692	228	856979m	228.48	
68) Chrysene/Triphenylene	33.809	228	788989m	235.40	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	42.636	191	262382m	230.09	
77) Benzo(b)fluoranthene	37.223	252	888254m	143.00	
78) Benzo(k,j)fluoranthene	37.300	252	828627m	134.70	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.192	252	893286m	234.24	
81) Benzo(a)pyrene	38.386	252	802424m	227.40	
82) Indeno(1,2,3-c,d)pyrene	43.041	276	937332m	222.09	
83) Dibenzo(a,h)anthracene	43.115	278	706105m	212.11	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.368	276	830051m	224.74	
89) Perylene	38.697	252	810203m	224.44	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	39.318	231	936207m	225.10	
95) C28(20S)-TAS	0.000		0	N.D. d	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060D.D
Acq On : 30 Aug 2013 1:19 am
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 31 14:41:59 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 06:51:35 2013
Response via : Initial Calibration

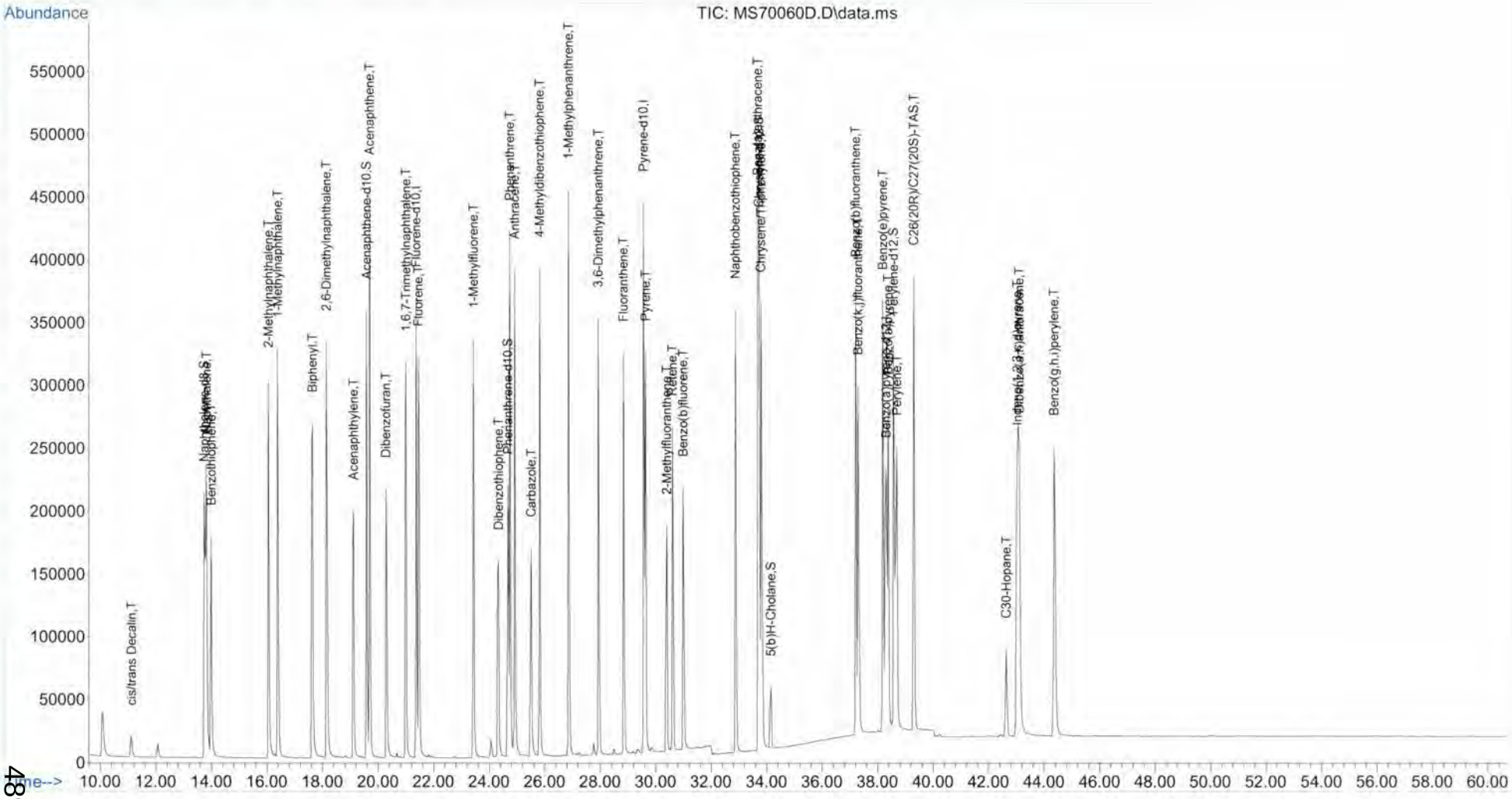
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060D.D
Acq On : 30 Aug 2013 1:19 am
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 31 14:41:59 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 06:51:35 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060E.D
Acq On : 30 Aug 2013 2:28 am
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 31 14:36:20 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:24:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.372	176	399297m	251.05	0.00
31) Pyrene-d10	29.566	212	769589m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	631739m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.739	136	1359803m	488.17	0.00
21) Acenaphthene-d10	19.589	164	755757m	480.75	0.00
32) Phenanthrene-d10	24.683	188	1173721m	476.56	0.00
66) Chrysene-d12	33.731	240	1672144m	519.93	0.00
88) Perylene-d12	38.581	264	1478235m	447.96	0.00
90) 5(b)H-Cholane	34.158	217	250957m	451.83	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.120	138	221757m	479.21	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	1361270m	477.46	
9) 2-Methylnaphthalene	16.051	142	914471m	484.15	
10) 1-Methylnaphthalene	16.385	142	853571m	481.47	
11) 2,6-Dimethylnaphthalene	18.140	156	791898m	490.42	
12) 1,6,7-Trimethylnaphtha...	21.009	170	716726m	475.79	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.989	134	1049113m	477.86	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.611	154	1136213m	481.80	
23) Acenaphthylene	19.087	152	1268723m	471.18	
24) Acenaphthene	19.700	154	797350m	479.02	
25) Dibenzofuran	20.285	168	1261442m	491.78	
26) Fluorene	21.455	166	994318m	488.22	
27) 1-Methylfluorene	23.437	180	600590m	468.92	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.514	167	1133806m	474.98	
34) Dibenzothiophene	24.302	184	1293717m	487.56	
35) 4-Methyldibenzothiophene	25.826	198	1110921m	486.34	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	1530712m	470.24	
42) Anthracene	24.926	178	1481370m	494.95	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060E.D
Acq On : 30 Aug 2013 2:28 am
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 31 14:36:20 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:24:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D. d	
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	26.865	192	1200576m	482.92	
48) 3,6-Dimethylphenanthrene	27.938	206	1005677m	495.64	
49) Retene	30.605	234	358371m	430.04	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	
53) Naphthobenzothiophene	32.878	234	1821690m	496.39	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.839	202	1758855m	499.23	
59) Pyrene	29.635	202	1724520m	467.80	
60) 2-Methylfluoranthene	30.397	216	971874m	468.58	
61) Benzo(b)fluorene	30.985	216	1078743m	495.33	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	33.692	228	1809403m	488.28	
68) Chrysene/Triphenylene	33.809	228	1702266m	509.98	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	0.000		0	N.D. d	
77) Benzo(b)fluoranthene	37.223	252	1855430m	471.15	
78) Benzo(k,j)fluoranthene	37.300	252	1751916m	473.09	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.193	252	1833294m	461.75	
81) Benzo(a)pyrene	38.387	252	1663464m	449.09	
82) Indeno(1,2,3-c,d)pyrene	43.041	276	1830402m	486.97	
83) Dibenzo(a,h)anthracene	43.115	278	1476880m	501.42	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.369	276	1682489m	505.75	
89) Perylene	38.697	252	1659136m	440.34	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	39.318	231	1911793m	444.38	
95) C28(20S)-TAS	0.000		0	N.D.	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060E.D
Acq On : 30 Aug 2013 2:28 am
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 31 14:36:20 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:24:49 2013
Response via : Initial Calibration

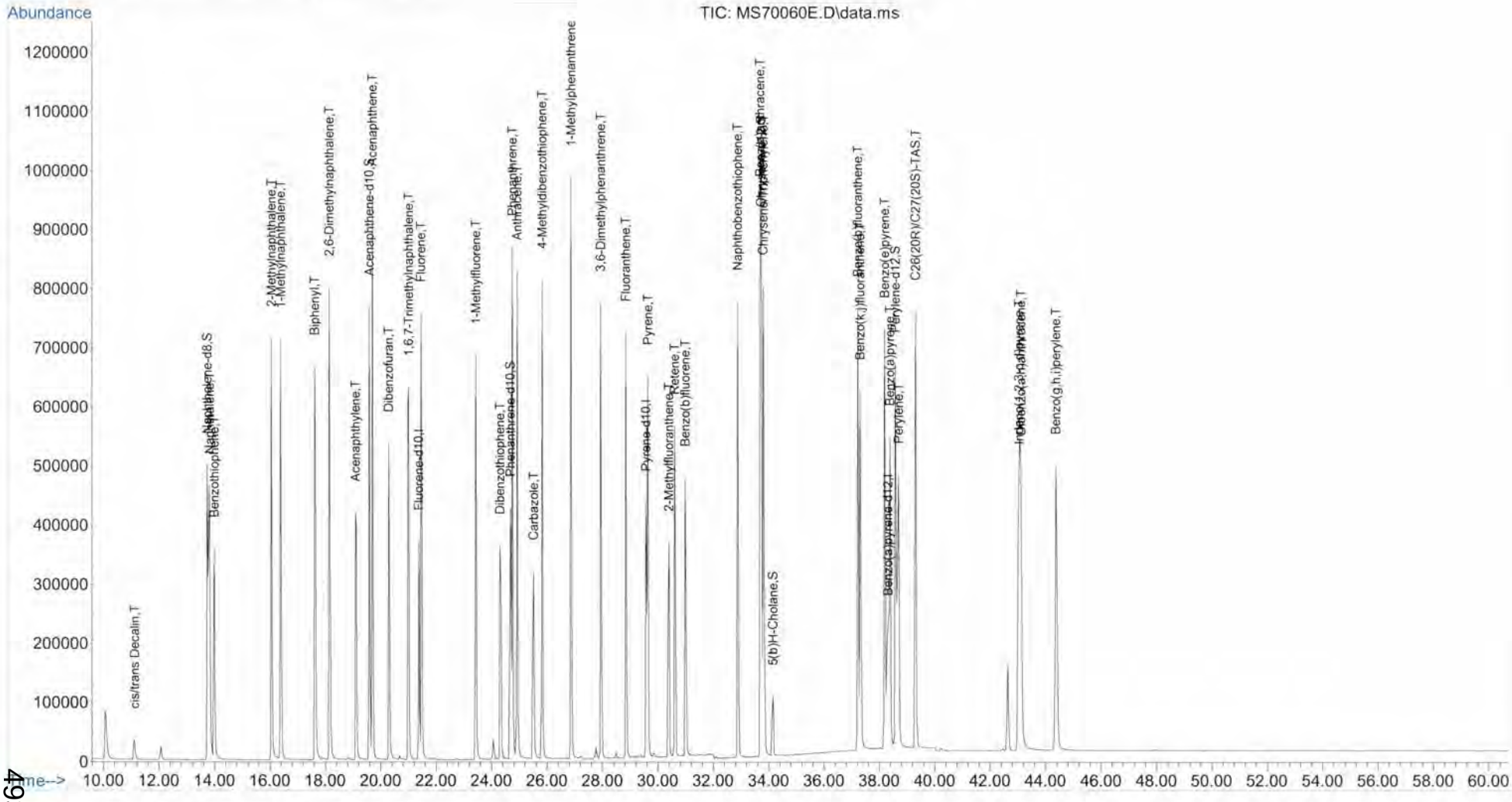
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060E.D
Acq On : 30 Aug 2013 2:28 am
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 31 14:36:20 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:24:49 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060F.D
Acq On : 30 Aug 2013 3:36 am
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 31 14:42:34 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 07:03:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	396476m	251.05	0.00
31) Pyrene-d10	29.566	212	763198m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	622169m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.739	136	2740202m	994.25	0.00
21) Acenaphthene-d10	19.589	164	1517333m	974.23	0.00
32) Phenanthrene-d10	24.683	188	2377621m	973.65	0.00
66) Chrysene-d12	33.731	240	3394774m	1051.57	0.00
88) Perylene-d12	38.580	264	3142078m	1023.24	0.00
90) 5(b)H-Cholane	34.158	217	512070m	990.94	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.092	138	446594m	1016.74	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	2742788m	967.59	
9) 2-Methylnaphthalene	16.051	142	1862533m	996.10	
10) 1-Methylnaphthalene	16.385	142	1699060m	968.62	
11) 2,6-Dimethylnaphthalene	18.140	156	1623859m	1010.70	
12) 1,6,7-Trimethylnaphtha...	21.009	170	1456626m	973.99	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.989	134	2107279m	965.40	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.611	154	2293198m	977.32	
23) Acenaphthylene	19.087	152	2583805m	963.66	
24) Acenaphthene	19.700	154	1610437m	974.88	
25) Dibenzofuran	20.285	168	2506614m	978.38	
26) Fluorene	21.455	166	1998857m	986.36	
27) 1-Methylfluorene	23.436	180	1233470m	969.97	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.514	167	2306093m	971.50	
34) Dibenzothiophene	24.302	184	2612218m	992.52	
35) 4-Methyldibenzothiophene	25.826	198	2289805m	1011.28	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	3115800m	968.59	
42) Anthracene	24.925	178	3054473m	1031.01	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060F.D
Acq On : 30 Aug 2013 3:36 am
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 31 14:42:34 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 07:03:24 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43)	3-Methylphenanthrene	0.000		0		N.D.	d
44)	2-Methylphenanthrene	0.000		0		N.D.	d
45)	2-Methylanthracene	0.000		0		N.D.	d
46)	4/9-Methylphenanthrene	0.000		0		N.D.	d
47)	1-Methylphenanthrene	26.865	192	2481492m	1000.77		
48)	3,6-Dimethylphenanthrene	27.938	206	2054172m	1021.15		
49)	Retene	30.604	234	730196m	883.86		
50)	C2-Phenanthrenes/Anthr...	0.000		0		N.D.	d
51)	C3-Phenanthrenes/Anthr...	0.000		0		N.D.	d
52)	C4-Phenanthrenes/Anthr...	0.000		0		N.D.	
53)	Naphthobenzothiophene	32.878	234	3774614m	1035.82		
54)	C1-Naphthobenzothiophenes	0.000		0		N.D.	d
55)	C2-Naphthobenzothiophenes	0.000		0		N.D.	d
56)	C3-Naphthobenzothiophenes	0.000		0		N.D.	d
57)	C4-Naphthobenzothiophenes	0.000		0		N.D.	d
58)	Fluoranthene	28.838	202	3619212m	1032.94		
59)	Pyrene	29.635	202	3540039m	970.12		
60)	2-Methylfluoranthene	30.397	216	2009664m	978.38		
61)	Benzo(b)fluorene	30.985	216	2226633m	1029.95		
62)	C1-Fluoranthenes/Pyrenes	0.000		0		N.D.	d
63)	C2-Fluoranthenes/Pyrenes	0.000		0		N.D.	d
64)	C3-Fluoranthenes/Pyrenes	0.000		0		N.D.	d
65)	C4-Fluoranthenes/Pyrenes	0.000		0		N.D.	d
67)	Benz(a)anthracene	33.692	228	3762294m	1030.38		
68)	Chrysene/Triphenylene	33.809	228	3426807m	1046.04		
69)	C1-Chrysenes	0.000		0		N.D.	d
70)	C2-Chrysenes	0.000		0		N.D.	d
71)	C3-Chrysenes	0.000		0		N.D.	d
72)	C4-Chrysenes	0.000		0		N.D.	d
74)	C29-Hopane	0.000		0		N.D.	d
75)	18a-Oleanane	0.000		0		N.D.	d
76)	C30-Hopane	42.636	191	1088537m	990.69		
77)	Benzo(b)fluoranthene	37.223	252	3838523m	789.07		
78)	Benzo(k,j)fluoranthene	37.300	252	3578080m	757.46		
79)	Benzo(a)fluoranthene	0.000		0		N.D.	d
80)	Benzo(e)pyrene	38.193	252	3779512m	1023.91		
81)	Benzo(a)pyrene	38.387	252	3459381m	1013.96		
82)	Indeno(1,2,3-c,d)pyrene	43.041	276	3663949m	904.44		
83)	Dibenzo(a,h)anthracene	43.115	278	2862032m	912.79		
84)	C1-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
85)	C2-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
86)	C3-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
87)	Benzo(g,h,i)perylene	44.368	276	3483275m	986.37		
89)	Perylene	38.697	252	3555778m	1019.78		
91)	C20-TAS	0.000		0		N.D.	d
92)	C21-TAS	0.000		0		N.D.	d
93)	C26(20S)-TAS	0.000		0		N.D.	d
94)	C26(20R)/C27(20S)-TAS	39.318	231	3896086m	972.83		
95)	C28(20S)-TAS	0.000		0		N.D.	
96)	C27(20R)-TAS	0.000		0		N.D.	d
97)	C28(20R)-TAS	0.000		0		N.D.	d

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060F.D
Acq On : 30 Aug 2013 3:36 am
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 31 14:42:34 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 07:03:24 2013
Response via : Initial Calibration

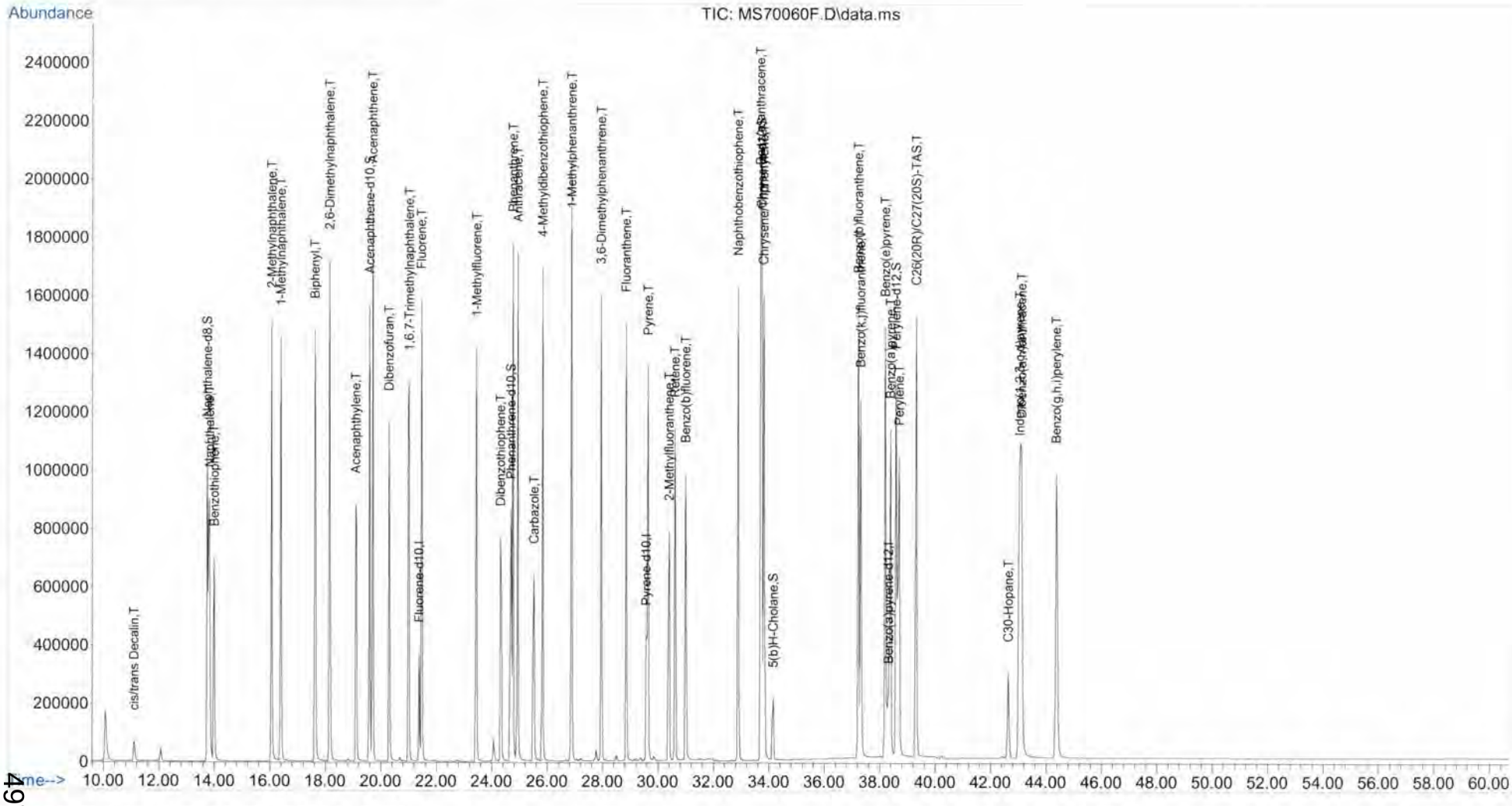
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060F.D
Acq On : 30 Aug 2013 3:36 am
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 31 14:42:34 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 07:03:24 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060G.D
Acq On : 30 Aug 2013 4:45 am
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 31 14:42:54 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 07:08:03 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	394655m	251.05	0.00
31) Pyrene-d10	29.565	212	740105m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	622139m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.738	136	13834445m	5033.44	0.00
21) Acenaphthene-d10	19.588	164	7710101m	4968.17	0.00
32) Phenanthrene-d10	24.683	188	12800421m	5409.22	0.00
66) Chrysene-d12	33.731	240	13547306m	4329.63	0.00
88) Perylene-d12	38.619	264	15854659m	5182.83	0.04
90) 5(b)H-Cholane	34.158	217	2697197m	5240.93	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.092	138	2127316m	4602.63	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.794	128	14019189m	4972.63	
9) 2-Methylnaphthalene	16.051	142	9542221m	5127.24	
10) 1-Methylnaphthalene	16.385	142	8686469m	4972.26	
11) 2,6-Dimethylnaphthalene	18.140	156	8168046m	5107.61	
12) 1,6,7-Trimethylnaphtha...	21.009	170	7658338m	5140.99	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.989	134	10681454m	4916.85	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.611	154	11704282m	5014.01	
23) Acenaphthylene	19.087	152	13982084m	5244.60	
24) Acenaphthene	19.700	154	8333969m	5065.11	
25) Dibenzofuran	20.285	168	12952133m	5099.30	
26) Fluorene	21.455	166	10079954m	4997.59	
27) 1-Methylfluorene	23.436	180	6732770m	5318.72	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.514	167	12625799m	5499.48	
34) Dibenzothiophene	24.302	184	13142046m	5148.79	
35) 4-Methyldibenzothiophene	25.826	198	12224625m	5566.54	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	17325426m	5541.46	
42) Anthracene	24.925	178	17247635m	5981.84	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060G.D
Acq On : 30 Aug 2013 4:45 am
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 31 14:42:54 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 07:08:03 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D. d	
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	26.865	192	12582466m	5246.20	
48) 3,6-Dimethylphenanthrene	27.938	206	10195966m	5228.71	
49) Retene	30.639	234	3836989m	4789.09	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	
53) Naphthobenzothiophene	32.878	234	18196113m	5153.31	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.838	202	17432149m	5135.11	
59) Pyrene	29.635	202	19780403m	5589.41	
60) 2-Methylfluoranthene	30.397	216	11496212m	5765.43	
61) Benzo(b)fluorene	30.985	216	10937103m	5223.22	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	33.692	228	17893425m	5033.84	
68) Chrysene/Triphenylene	33.809	228	14173535m	4436.25	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D.	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	42.635	191	5514745m	5041.33	
77) Benzo(b)fluoranthene	37.223	252	18090894m	4266.40	
78) Benzo(k,j)fluoranthene	37.339	252	17108655m	4220.41	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.192	252	18102811m	4917.25	
81) Benzo(a)pyrene	38.386	252	20153483m	5921.98	
82) Indeno(1,2,3-c,d)pyrene	43.041	276	20483771m	5088.68	
83) Dibenzo(a,h)anthracene	43.115	278	15758102m	5124.45	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.405	276	16121913m	4601.64	
89) Perylene	38.697	252	20311183m	5841.93	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	39.317	231	21740282m	5454.79	
95) C28(20S)-TAS	0.000		0	N.D.	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060G.D
Acq On : 30 Aug 2013 4:45 am
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 31 14:42:54 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 07:08:03 2013
Response via : Initial Calibration

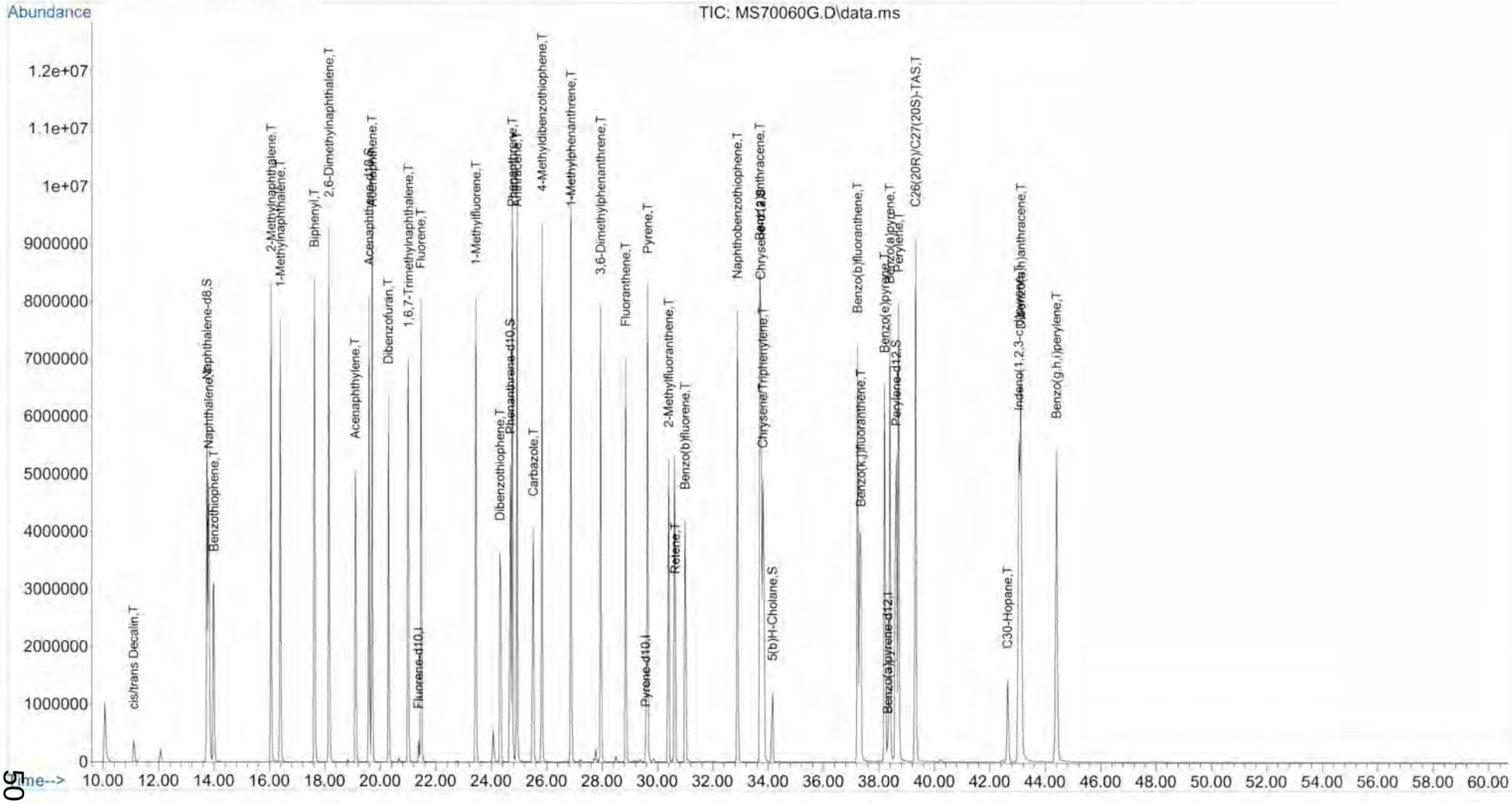
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060G.D
Acq On : 30 Aug 2013 4:45 am
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 31 14:42:54 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 07:08:03 2013
Response via : Initial Calibration



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Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70060\
Data File : MS70060I.D
Acq On : 30 Aug 2013 7:02 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 31 16:17:17 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorene-d10	1.000	1.000	0.0	107	0.00
2	S	Naphthalene-d8	1.752	1.611	8.0	106	0.00
3	T	cis/trans Decalin	0.291	0.327	-12.4	127	0.00
4	un	C1-Decalins	0.291	0.000	100.0#	0#	-12.46#
5	un	C2-Decalins	0.291	0.000	100.0#	0#	-13.40#
6	un	C3-Decalins	0.291	0.000	100.0#	0#	-15.91#
7	un	C4-Decalins	0.291	0.000	100.0#	0#	-18.17#
8	T	Naphthalene	1.792	1.978	-10.4	128	0.03
9	T	2-Methylnaphthalene	1.188	1.321	-11.2	130	0.00
10	T	1-Methylnaphthalene	1.115	1.289	-15.6	134	0.00
11	T	2,6-Dimethylnaphthalene	1.016	1.140	-12.2	133	0.00
12	T	1,6,7-Trimethylnaphthalene	0.948	1.069	-12.8	133	0.00
13	un	C2-Naphthalenes	1.792	0.000	100.0#	0#	-18.84#
14	un	C3-Naphthalenes	1.792	0.000	100.0#	0#	-20.28#
15	un	C4-Naphthalenes	1.792	0.000	100.0#	0#	-22.12#
16	T	Benzothiophene	1.383	1.568	-13.4	132	0.00
17	un	C1-Benzothiophenes	1.383	0.000	100.0#	0#	-15.41#
18	un	C2-Benzothiophenes	1.383	0.000	100.0#	0#	-17.89#
19	un	C3-Benzothiophenes	1.383	0.000	100.0#	0#	-20.26#
20	un	C4-Benzothiophenes	1.383	0.000	100.0#	0#	-22.23#
21	S	Acenaphthene-d10	0.989	0.892	9.8	106	0.00
22	T	Biphenyl	1.485	1.667	-12.3	131	0.03
23	T	Acenaphthylene	1.694	1.790	-5.7	126	0.03
24	T	Acenaphthene	1.048	1.156	-10.3	130	0.00
25	T	Dibenzofuran	1.615	1.868	-15.7	135	0.00
26	T	Fluorene	1.284	1.443	-12.4	131	0.00
27	T	1-Methylfluorene	0.806	0.000	100.0#	0#	-23.44#
28	un	C1-Fluorenes	1.284	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.284	0.000	100.0#	0#	-24.82#
30	un	C3-Fluorenes	1.284	0.000	100.0#	0#	-27.21#
31	I	Pyrene-d10	1.000	1.000	0.0	105	0.00
32	S	Phenanthrene-d10	0.803	0.716	10.8	106	0.00
33	T	Carbazole	0.780	0.813	-4.2	125	0.00
34	T	Dibenzothiophene	0.865	0.991	-14.6	135	0.00
35	T	4-Methyldibenzothiophene	0.744	0.000	100.0#	0#	-25.83#
36	un	2/3-Methyldibenzothiophene	0.744	0.000	100.0#	0#	-26.14#
37	un	1-Methyldibenzothiophene	0.744	0.000	100.0#	0#	-26.45#
38	un	C2-Dibenzothiophenes	0.865	0.000	100.0#	0#	-27.56#
39	un	C3-Dibenzothiophenes	0.865	0.000	100.0#	0#	-28.60#
40	un	C4-Dibenzothiophenes	0.865	0.000	100.0#	0#	-31.02#
41	T	Phenanthrene	1.061	1.128	-6.3	127	0.00
42	T	Anthracene	0.977	1.057	-8.2	131	0.00
43	un	3-Methylphenanthrene	0.810	0.000	100.0#	0#	-26.86#
44	un	2-Methylphenanthrene	0.810	0.000	100.0#	0#	-26.86#
45	un	2-Methylanthracene	0.810	0.000	100.0#	0#	-26.86#
46	un	4/9-Methylphenanthrene	0.810	0.000	100.0#	0#	-26.86#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70060\
Data File : MS70060I.D
Acq On : 30 Aug 2013 7:02 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 31 16:17:17 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
47	T	1-Methylphenanthrene	0.810	0.885	-9.3	127	0.00
48	T	3,6-Dimethylphenanthrene	0.661	0.000	100.0#	0#	-27.94#
49	T	Retene	0.272	0.000	100.0#	0#	-30.64#
50	un	C2-Phenanthrenes/Anthracene	1.061	0.000	100.0#	0#	-28.49#
51	un	C3-Phenanthrenes/Anthracene	1.061	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.061	0.000	100.0#	0#	-31.99#
53	T	Naphthobenzothiophene	1.197	0.000	100.0#	0#	-32.88#
54	un	C1-Naphthobenzothiophenes	1.197	0.000	100.0#	0#	-34.16#
55	un	C2-Naphthobenzothiophenes	1.197	0.000	100.0#	0#	-35.94#
56	un	C3-Naphthobenzothiophenes	1.197	0.000	100.0#	0#	-37.34#
57	un	C4-Naphthobenzothiophenes	1.197	0.000	100.0#	0#	-37.61#
58	T	Fluoranthene	1.147	1.309	-14.1	133	0.00
59	T	Pyrene	1.201	1.292	-7.6	129	0.00
60	T	2-Methylfluoranthene	0.676	0.000	100.0#	0#	-30.40#
61	T	Benzo(b)fluorene	0.710	0.000	100.0#	0#	-30.99#
62	un	C1-Fluoranthenes/Pyrenes	1.147	0.000	100.0#	0#	-30.60#
63	un	C2-Fluoranthenes/Pyrenes	1.147	0.000	100.0#	0#	-32.10#
64	un	C3-Fluoranthenes/Pyrenes	1.147	0.000	100.0#	0#	-33.92#
65	un	C4-Fluoranthenes/Pyrenes	1.147	0.000	100.0#	0#	-35.24#
66	S	Chrysene-d12	1.061	1.041	1.9	110	0.00
67	T	Benz(a)anthracene	1.208	1.361	-12.7	132	0.00
68	T	Chrysene/Triphenylene	1.087	1.297	-19.3	136	0.00
69	un	C1-Chrysenes	1.087	0.000	100.0#	0#	-35.75#
70	un	C2-Chrysenes	1.087	0.000	100.0#	0#	-36.91#
71	un	C3-Chrysenes	1.087	0.000	100.0#	0#	-38.00#
72	un	C4-Chrysenes	1.087	0.000	100.0#	0#	-39.51#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	105	0.00
74	un	C29-Hopane	0.456	0.000	100.0#	0#	-40.39#
75	un	18a-Oleanane	0.456	0.000	100.0#	0#	-42.45#
76	T	C30-Hopane	0.456	0.000	100.0#	0#	-42.64#
77	T	Benzo(b)fluoranthene	1.511	1.737	-15.0	132	0.00
78	T	Benzo(k,j)fluoranthene	1.423	1.637	-15.0	132	-0.04
79	un	Benzo(a)fluoranthene	1.423	0.000	100.0#	0#	-37.22#
80	T	Benzo(e)pyrene	1.524	1.686	-10.6	126	0.00
81	T	Benzo(a)pyrene	1.418	1.472	-3.8	123	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.574	1.839	-16.8	130	-0.04
83	T	Dibenzo(a,h)anthracene	1.215	1.392	-14.6	131	-0.04
84	un	C1-Dibenzo(a,h)anthracenes	1.215	0.000	100.0#	0#	-48.42#
85	un	C2-Dibenzo(a,h)anthracenes	1.215	0.000	100.0#	0#	-50.34#
86	un	C3-Dibenzo(a,h)anthracenes	1.215	0.000	100.0#	0#	-51.04#
87	T	Benzo(g,h,i)perylene	1.406	1.585	-12.7	127	-0.04
88	S	Perylene-d12	1.261	1.109	12.1	104	-0.04
89	T	Perylene	1.439	1.485	-3.2	123	0.00
90	S	5(b)H-Cholane	0.213	0.183	14.1	101	-0.04
91	un	C20-TAS	1.650	0.000	100.0#	0#	-33.58#
92	un	C21-TAS	1.650	0.000	100.0#	0#	-34.16#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70060\
Data File : MS70060I.D
Acq On : 30 Aug 2013 7:02 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 31 16:17:17 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
93 un	C26(20S)-TAS	1.650	0.000	100.0#	0#	-38.58#
94 T	C26(20R)/C27(20S)-TAS	1.650	0.000	100.0#	0#	-39.32#
95 un	C28(20S)-TAS	1.650	0.000	100.0#	0#	-40.02#
96 un	C27(20R)-TAS	1.650	0.000	100.0#	0#	-41.31#
97 un	C28(20R)-TAS	1.650	0.000	100.0#	0#	-41.31#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060I.D
Acq On : 30 Aug 2013 7:02 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 31 16:17:17 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	425136m	251.05	0.00
31) Pyrene-d10	29.565	212	832639m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	673198m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.738	136	682312m	229.91	0.00
21) Acenaphthene-d10	19.588	164	378041m	225.71	0.00
32) Phenanthrene-d10	24.683	188	595196m	223.21	0.00
66) Chrysene-d12	33.731	240	865090m	245.48	0.00
88) Perylene-d12	38.580	264	745959m	219.96	-0.04
90) 5(b)H-Cholane	34.119	217	123329m	215.15	-0.04
Target Compounds					Qvalue
3) cis/trans Decalin	11.092	138	137014m	278.39	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	837535m	276.00	
9) 2-Methylnaphthalene	16.051	142	559792m	278.18	
10) 1-Methylnaphthalene	16.385	142	545274m	288.74	
11) 2,6-Dimethylnaphthalene	18.140	156	482582m	280.51	
12) 1,6,7-Trimethylnaphtha...	21.009	170	452532m	281.97	
13) C2-Naphthalenes	0.000		0	N.D.	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.989	134	659784m	281.79	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.638	154	699488m	278.14	
23) Acenaphthylene	19.115	152	751754m	262.05	
24) Acenaphthene	19.700	154	490213m	276.25	
25) Dibenzofuran	20.285	168	786699m	287.63	
26) Fluorene	21.455	166	612062m	281.39	
27) 1-Methylfluorene	0.000		0	N.D. d	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.514	167	668912m	258.17	
34) Dibenzothiophene	24.302	184	811398m	282.43	
35) 4-Methyldibenzothiophene	0.000		0	N.D. d	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	928682m	263.51	
42) Anthracene	24.925	178	880935m	271.49	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060I.D
Acq On : 30 Aug 2013 7:02 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 31 16:17:17 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D. d	
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	26.864	192	727038m	270.11	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D. d	
49) Retene	0.000		0	N.D. d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53) Naphthobenzothiophene	0.000		0	N.D. d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.838	202	1088673m	285.63	
59) Pyrene	29.635	202	1073332m	268.93	
60) 2-Methylfluoranthene	0.000		0	N.D. d	
61) Benzo(b)fluorene	0.000		0	N.D. d	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	33.692	228	1127741m	281.09	
68) Chrysene/Triphenylene	33.809	228	1070964m	296.48	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	0.000		0	N.D. d	
77) Benzo(b)fluoranthene	37.222	252	1170237m	287.93	
78) Benzo(k,j)fluoranthene	37.300	252	1096308m	286.46	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.192	252	1128728m	275.34	
81) Benzo(a)pyrene	38.386	252	987600m	259.04	
82) Indeno(1,2,3-c,d)pyrene	43.004	276	1215611m	287.12	
83) Dibenzo(a,h)anthracene	43.078	278	927157m	283.87	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.368	276	1056214m	279.37	
89) Perylene	38.697	252	999503m	258.26	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D. d	
95) C28(20S)-TAS	0.000		0	N.D. d	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060I.D
Acq On : 30 Aug 2013 7:02 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 31 16:17:17 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration

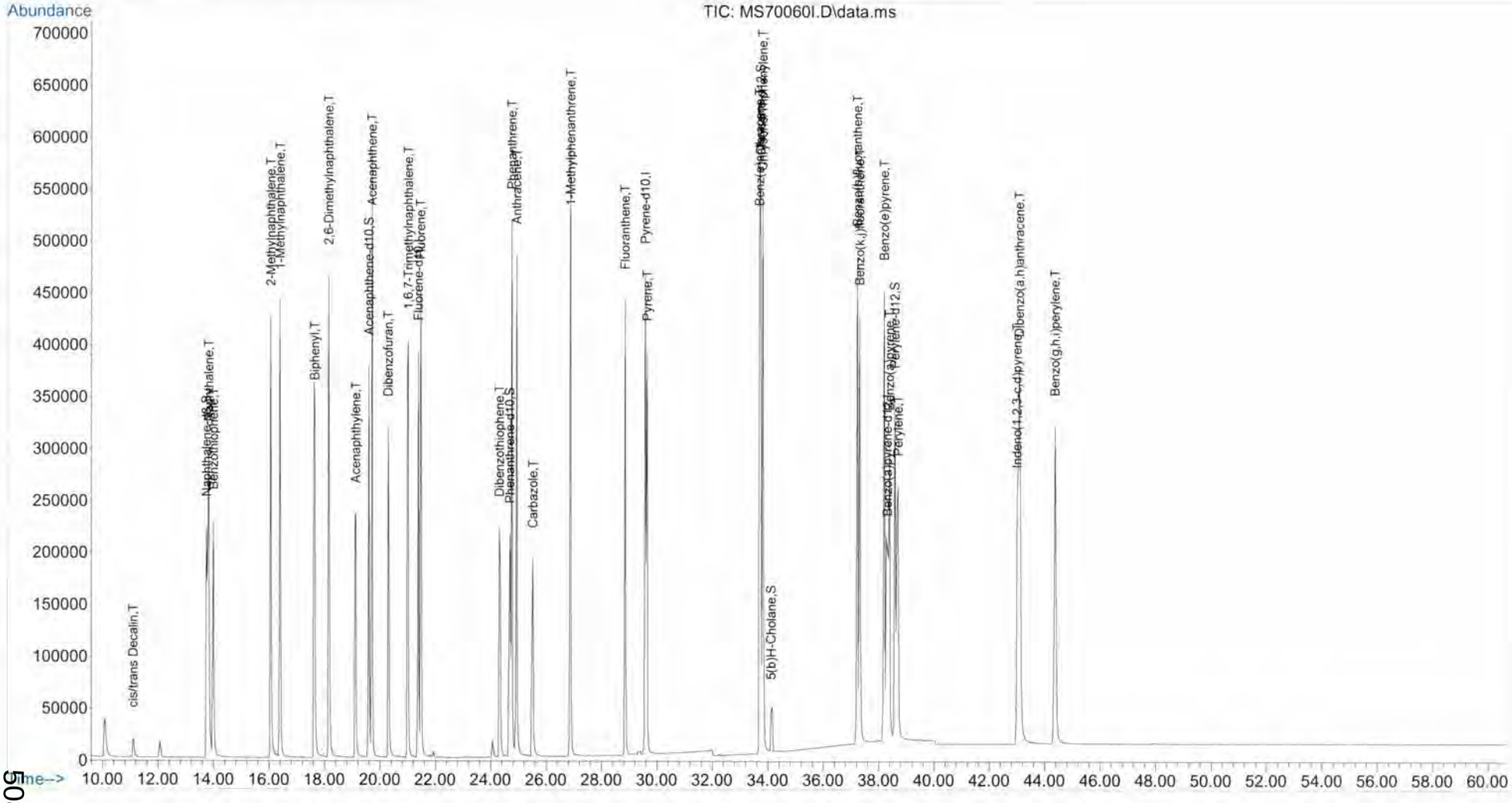
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70060\
Data File : MS70060I.D
Acq On : 30 Aug 2013 7:02 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 31 16:17:17 2013
Quant Method : C:\GCMS7\MS70060\AR70060.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 14:43:01 2013
Response via : Initial Calibration



508

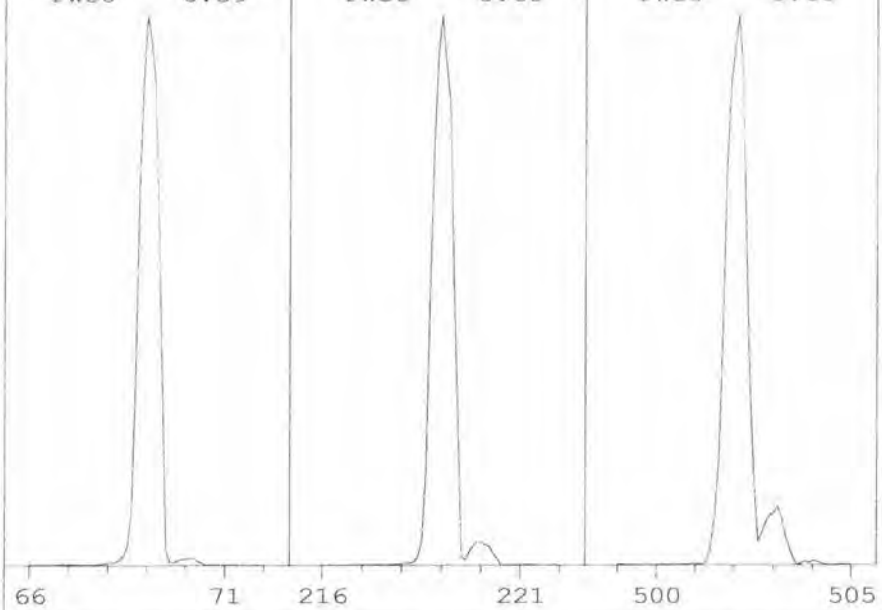
PAH ICAL
AR 70061.M

GC/MS 7
(PAH-2012)

Autotune

Sat Aug 31 10:22:39 2013 Instrument: GCMSD
C:\MSDCHEM\1\5973N\atune.u US21854533

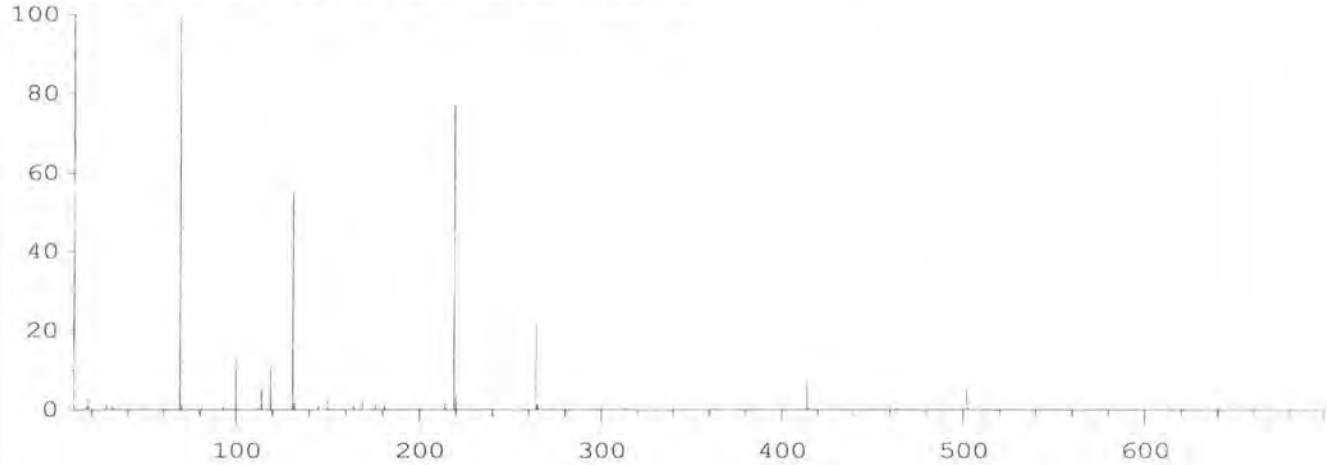
Mass	69.00	Mass	219.00	Mass	502.10
Ab	384244	Ab	300512	Ab	21171
Pw50	0.59	Pw50	0.60	Pw50	0.60



Ion Pol	Pos	MassGain	424
		MassOffs	-9
Emission	34.6	AmuGain	2303
EIEnrgy	69.9	AmuOffs	129
Filament	1	Wid219	-0.017
		DC Pol	Neg
Repeller	26.44		
IonFcus	86.4	HEDEnab	On
EntLens	16.5	EMVolts	2235
EntOffs	18.07		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:
MS Source 290 Turbo Speed100
MS Quad 180

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
155 peaks Base: 69.00 Abundance: 348416



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	348416	100.00	70.10	4002	1.15
219.00	269376	77.31	220.00	11750	4.36
502.00	18720	5.37	503.00	2135	11.40

Air/Water Check: H2O~2.98% N2~1.44% O2~0.61% CO2~0.12% N2/H2O~48.24%

Column(1) Flow: 1.38 Column(2): 0 ml/min. Interface Temp: 290

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502; EM Gain 304023
Repeller Maximum 35 volts using ion 219; Gain Factor 3.04

MassGain Values(Samples): 423(3) 424(2) 424(1) 426(0) 424(FS)

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	129.0	129.0	129.0	129.0	129.0	129.0	129.0
Entrance Lens Offset:	18.1	18.1	18.1	18.1	18.1	18.1	18.1

MS Tuned
YM

Response Factor Report GCMSD

Method Path : C:\GCMS7\MS70061\
Method File : AR70061.M
Title : PAH Calibration Table-2013A
Last Update : Sun Sep 01 20:58:36 2013
Response Via : Initial Calibration

Calibration Files
1 =MS70061B.D 2 =MS70061C.D 3 =MS70061D.D 4 =MS70061E.D 5 =MS70061F.D
6 =MS70061G.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	Fluorene-d10	----------ISTD----------							
2)	S	Naphthalene-d8	1.818	1.584	1.515	1.577	1.603	1.627	1.621	6.40
3)	T	cis/trans Decalin	0.289	0.288	0.259	0.264	0.264	0.262	0.271	5.05
4)	un	C1-Decalins	0.289	0.288	0.259	0.264	0.264	0.262	0.271	5.05
5)	un	C2-Decalins	0.289	0.288	0.259	0.264	0.264	0.262	0.271	5.05
6)	un	C3-Decalins	0.289	0.288	0.259	0.264	0.264	0.262	0.271	5.05
7)	un	C4-Decalins	0.289	0.288	0.259	0.264	0.264	0.262	0.271	5.05
8)	T	Naphthalene	2.039	1.741	1.620	1.689	1.680	1.716	1.747	8.52
9)	T	2-Methylnaphth...	1.273	1.100	1.076	1.135	1.154	1.182	1.154	6.06
10)	T	1-Methylnaphth...	1.257	1.088	1.031	1.066	1.073	1.080	1.099	7.25
11)	T	2,6-Dimethylna...	1.147	0.976	0.921	0.967	0.992	1.008	1.002	7.68
12)	T	1,6,7-Trimethy...	1.131	0.939	0.884	0.917	0.927	0.968	0.961	9.12
13)	un	C2-Naphthalenes	2.039	1.741	1.620	1.689	1.680	1.716	1.747	8.52
14)	un	C3-Naphthalenes	2.039	1.741	1.620	1.689	1.680	1.716	1.747	8.52
15)	un	C4-Naphthalenes	2.039	1.741	1.620	1.689	1.680	1.716	1.747	8.52
16)	T	Benzothiophene	1.655	1.410	1.300	1.342	1.357	1.371	1.406	9.06
17)	un	C1-Benzothioph...	1.655	1.410	1.300	1.342	1.357	1.371	1.406	9.06
18)	un	C2-Benzothioph...	1.655	1.410	1.300	1.342	1.357	1.371	1.406	9.06
19)	un	C3-Benzothioph...	1.655	1.410	1.300	1.342	1.357	1.371	1.406	9.06
20)	un	C4-Benzothioph...	1.655	1.410	1.300	1.342	1.357	1.371	1.406	9.06
21)	S	Acenaphthene-d10	1.104	0.946	0.887	0.919	0.929	0.933	0.953	8.04
22)	T	Biphenyl	1.673	1.419	1.322	1.400	1.420	1.451	1.447	8.19
23)	T	Acenaphthylene	2.061	1.695	1.569	1.644	1.677	1.781	1.738	9.94
24)	T	Acenaphthene	1.257	1.052	0.982	1.023	1.025	1.047	1.064	9.18
25)	T	Dibenzofuran	1.851	1.598	1.528	1.591	1.615	1.648	1.639	6.80
26)	T	Fluorene	1.522	1.270	1.193	1.229	1.244	1.269	1.288	9.18
27)	T	1-Methylfluorene	0.996	0.840	0.786	0.812	0.818	0.884	0.856	8.88
28)	un	C1-Fluorenes	1.522	1.270	1.193	1.229	1.244	1.269	1.288	9.18
29)	un	C2-Fluorenes	1.522	1.270	1.193	1.229	1.244	1.269	1.288	9.18
30)	un	C3-Fluorenes	1.522	1.270	1.193	1.229	1.244	1.269	1.288	9.18
31)	I	Pyrene-d10	----------ISTD----------							
32)	S	Phenanthrene-d10	0.976	0.817	0.745	0.787	0.791	0.884	0.833	10.00
33)	T	Carbazole	0.972	0.803	0.740	0.775	0.797	0.926	0.836	11.01
34)	T	Dibenzothiophene	1.056	0.875	0.828	0.867	0.886	0.942	0.909	8.89
35)	T	4-Methyldibenz...	0.882	0.762	0.721	0.783	0.791	0.830	0.795	7.01
36)	un	2/3-Methyldibe...	0.882	0.762	0.721	0.783	0.791	0.830	0.795	7.01
37)	un	1-Methyldibenz...	0.882	0.762	0.721	0.783	0.791	0.830	0.795	7.01
38)	un	C2-Dibenzothio...	1.056	0.875	0.828	0.867	0.886	0.942	0.909	8.89
39)	un	C3-Dibenzothio...	1.056	0.875	0.828	0.867	0.886	0.942	0.909	8.89
40)	un	C4-Dibenzothio...	1.056	0.875	0.828	0.867	0.886	0.942	0.909	8.89
41)	T	Phenanthrene	1.293	1.084	1.018	1.081	1.082	1.202	1.127	8.97
42)	T	Anthracene	1.124	0.953	0.948	1.048	1.065	1.196	1.056	9.16
43)	un	3-Methylphenan...	0.855	0.730	0.712	0.758	0.800	0.804	0.777	6.85
44)	un	2-Methylphenan...	0.855	0.730	0.712	0.758	0.800	0.804	0.777	6.85
45)	un	2-Methylanthra...	0.855	0.730	0.712	0.758	0.800	0.804	0.777	6.85
46)	un	4/9-Methylphen...	0.855	0.730	0.712	0.758	0.800	0.804	0.777	6.85
47)	T	1-Methylphenan...	0.855	0.730	0.712	0.758	0.800	0.804	0.777	6.85
48)	T	3,6-Dimethylph...	0.722	0.599	0.568	0.599	0.630	0.646	0.627	8.58
49)	T	Retene	0.332	0.280	0.255	0.272	0.278	0.313	0.288	9.86
50)	un	C2-Phenanthren...	1.293	1.084	1.018	1.081	1.082	1.202	1.127	8.97
51)	un	C3-Phenanthren...	1.293	1.084	1.018	1.081	1.082	1.202	1.127	8.97
52)	un	C4-Phenanthren...	1.293	1.084	1.018	1.081	1.082	1.202	1.127	8.97
53)	T	Naphthobenzoth...	1.325	1.102	1.071	1.102	1.146	1.096	1.140	8.22

Method Path : C:\GCMS7\MS70061\
Method File : AR70061.M
Title : PAH Calibration Table-2013A

54)	un	C1-Naphthobenz...	1.325	1.102	1.071	1.102	1.146	1.096	1.140	8.22
55)	un	C2-Naphthobenz...	1.325	1.102	1.071	1.102	1.146	1.096	1.140	8.22
56)	un	C3-Naphthobenz...	1.325	1.102	1.071	1.102	1.146	1.096	1.140	8.22
57)	un	C4-Naphthobenz...	1.325	1.102	1.071	1.102	1.146	1.096	1.140	8.22
58)	T	Fluoranthene	1.247	1.049	0.996	1.059	1.098	1.098	1.091	7.82
59)	T	Pyrene	1.509	1.261	1.158	1.231	1.236	1.364	1.293	9.66
60)	T	2-Methylfluora...	0.864	0.710	0.644	0.693	0.706	0.847	0.744	12.04
61)	T	Benzo(b)fluorene	0.808	0.661	0.620	0.661	0.692	0.738	0.696	9.64
62)	un	C1-Fluoranthen...	1.247	1.049	0.996	1.059	1.098	1.098	1.091	7.82
63)	un	C2-Fluoranthen...	1.247	1.049	0.996	1.059	1.098	1.098	1.091	7.82
64)	un	C3-Fluoranthen...	1.247	1.049	0.996	1.059	1.098	1.098	1.091	7.82
65)	un	C4-Fluoranthen...	1.247	1.049	0.996	1.059	1.098	1.098	1.091	7.82
66)	S	Chrysene-d12	1.149	0.950	0.910	0.958	0.981	0.872	0.970	9.88
67)	T	Benz(a)anthracene	1.341	1.130	1.088	1.121	1.169	1.107	1.159	8.04
68)	T	Chrysene/Triph...	1.160	0.958	0.919	0.978	0.995	1.014	1.004	8.28
69)	un	C1-Chrysenes	1.160	0.958	0.919	0.978	0.995	1.014	1.004	8.28
70)	un	C2-Chrysenes	1.160	0.958	0.919	0.978	0.995	1.014	1.004	8.28
71)	un	C3-Chrysenes	1.160	0.958	0.919	0.978	0.995	1.014	1.004	8.28
72)	un	C4-Chrysenes	1.160	0.958	0.919	0.978	0.995	1.014	1.004	8.28
73)	I	Benzo(a)pyrene-d12	----------ISTD----------							
74)	un	C29-Hopane	0.495	0.420	0.359	0.376	0.375	0.369	0.399	12.92
75)	un	18a-Oleanane	0.495	0.420	0.359	0.376	0.375	0.369	0.399	12.92
76)	T	C30-Hopane	0.495	0.420	0.359	0.376	0.375	0.369	0.399	12.92
77)	T	Benzo(b)fluora...	1.582	1.360	1.275	1.300	1.332	1.525	1.396	9.09
78)	T	Benzo(k,j)fluo...	1.461	1.240	1.166	1.184	1.242	0.972	1.211	12.99
79)	un	Benzo(a)fluora...	1.461	1.240	1.166	1.184	1.242	0.972	1.211	12.99
80)	T	Benzo(e)pyrene	1.651	1.390	1.272	1.317	1.330	1.217	1.363	11.19
81)	T	Benzo(a)pyrene	1.598	1.346	1.253	1.319	1.364	1.357	1.373	8.56
82)	T	Indeno(1,2,3-c...	1.872	1.578	1.483	1.535	1.591	1.600	1.610	8.42
83)	T	Dibenzo(a,h)an...	1.489	1.262	1.171	1.210	1.276	1.225	1.272	8.85
84)	un	C1-Dibenzo(a,h...	1.489	1.262	1.171	1.210	1.276	1.225	1.272	8.85
85)	un	C2-Dibenzo(a,h...	1.489	1.262	1.171	1.210	1.276	1.225	1.272	8.85
86)	un	C3-Dibenzo(a,h...	1.489	1.262	1.171	1.210	1.276	1.225	1.272	8.85
87)	T	Benzo(g,h,i)pe...	1.669	1.410	1.297	1.330	1.363	1.303	1.395	10.07
88)	S	Perylene-d12	1.326	1.123	1.017	1.054	1.086	1.164	1.128	9.71
89)	T	Perylene	1.578	1.339	1.223	1.273	1.336	1.337	1.348	9.07
90)	S	5(b)H-Cholane	0.229	0.194	0.172	0.180	0.182	0.189	0.191	10.63
91)	un	C20-TAS	1.864	1.565	1.407	1.454	1.484	1.536	1.552	10.50
92)	un	C21-TAS	1.864	1.565	1.407	1.454	1.484	1.536	1.552	10.50
93)	un	C26(20S)-TAS	1.864	1.565	1.407	1.454	1.484	1.536	1.552	10.50
94)	T	C26(20R)/C27(2...	1.864	1.565	1.407	1.454	1.484	1.536	1.552	10.50
95)	un	C28(20S)-TAS	1.864	1.565	1.407	1.454	1.484	1.536	1.552	10.50
96)	un	C27(20R)-TAS	1.864	1.565	1.407	1.454	1.484	1.536	1.552	10.50
97)	un	C28(20R)-TAS	1.864	1.565	1.407	1.454	1.484	1.536	1.552	10.50

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061B.D
Acq On : 31 Aug 2013 3:11 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 01 20:11:19 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 18:28:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	405652m	251.05	0.00
31) Pyrene-d10	29.566	212	814882m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	789575m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.766	136	58788m	22.64	0.03
21) Acenaphthene-d10	19.589	164	35706m	23.32	0.00
32) Phenanthrene-d10	24.683	188	63488m	23.38	0.00
66) Chrysene-d12	33.731	240	74753m	23.77	-0.04
88) Perylene-d12	38.619	264	83631m	23.34	0.00
90) 5(b)H-Cholane	34.158	217	14471m	23.92	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.120	138	9243m	31.04	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	65909m	23.25	
9) 2-Methylnaphthalene	16.079	142	41190m	21.84	
10) 1-Methylnaphthalene	16.385	142	40565m	22.97	
11) 2,6-Dimethylnaphthalene	18.168	156	37072m	22.72	
12) 1,6,7-Trimethylnaphtha...	21.009	170	36536m	23.51	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D. d	
16) Benzothiophene	13.989	134	53170m	23.29	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.639	154	53563m	22.70	
23) Acenaphthylene	19.115	152	66066m	23.49	
24) Acenaphthene	19.700	154	40715m	23.80	
25) Dibenzofuran	20.313	168	59532m	22.62	
26) Fluorene	21.483	166	49285m	23.66	
27) 1-Methylfluorene	23.436	180	32424m	23.41	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.514	167	62656m	22.67	
34) Dibenzothiophene	24.337	184	67705m	22.92	
35) 4-Methyldibenzothiophene	25.826	198	57806m	22.28	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	83324m	23.32	
42) Anthracene	24.925	178	73300m	21.50	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061B.D
Acq On : 31 Aug 2013 3:11 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 01 20:11:19 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 18:28:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D. d	
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	26.865	192	54999m	21.51	
48) 3,6-Dimethylphenanthrene	27.938	206	47017m	23.11	
49) Retene	30.639	234	19281m	20.70	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53) Naphthobenzothiophene	32.878	234	86727m	23.33	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.838	202	81193m	22.88	
59) Pyrene	29.635	202	98120m	23.26	
60) 2-Methylfluoranthene	30.397	216	56569m	23.53	
61) Benzo(b)fluorene	31.020	216	53001m	23.32	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	33.692	228	87043m	23.73	
68) Chrysene/Triphenylene	33.809	228	74978m	23.75	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	42.636	191	31246m	24.66	
77) Benzo(b)fluoranthene	37.223	252	99994m	13.12	
78) Benzo(k,j)fluoranthene	37.339	252	91779m	11.97	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.193	252	103711m	24.24	
81) Benzo(a)pyrene	38.386	252	100612m	23.26	
82) Indeno(1,2,3-c,d)pyrene	43.041	276	116099m	22.24	
83) Dibenzo(a,h)anthracene	43.115	278	93064m	22.25	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.405	276	104335m	23.01	
89) Perylene	38.697	252	99674m	23.12	
91) C20-TAS	0.000		0	N.D.	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	39.318	231	117565m	23.69	
95) C28(20S)-TAS	0.000		0	N.D. d	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061B.D
Acq On : 31 Aug 2013 3:11 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 01 20:11:19 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 18:28:14 2013
Response via : Initial Calibration

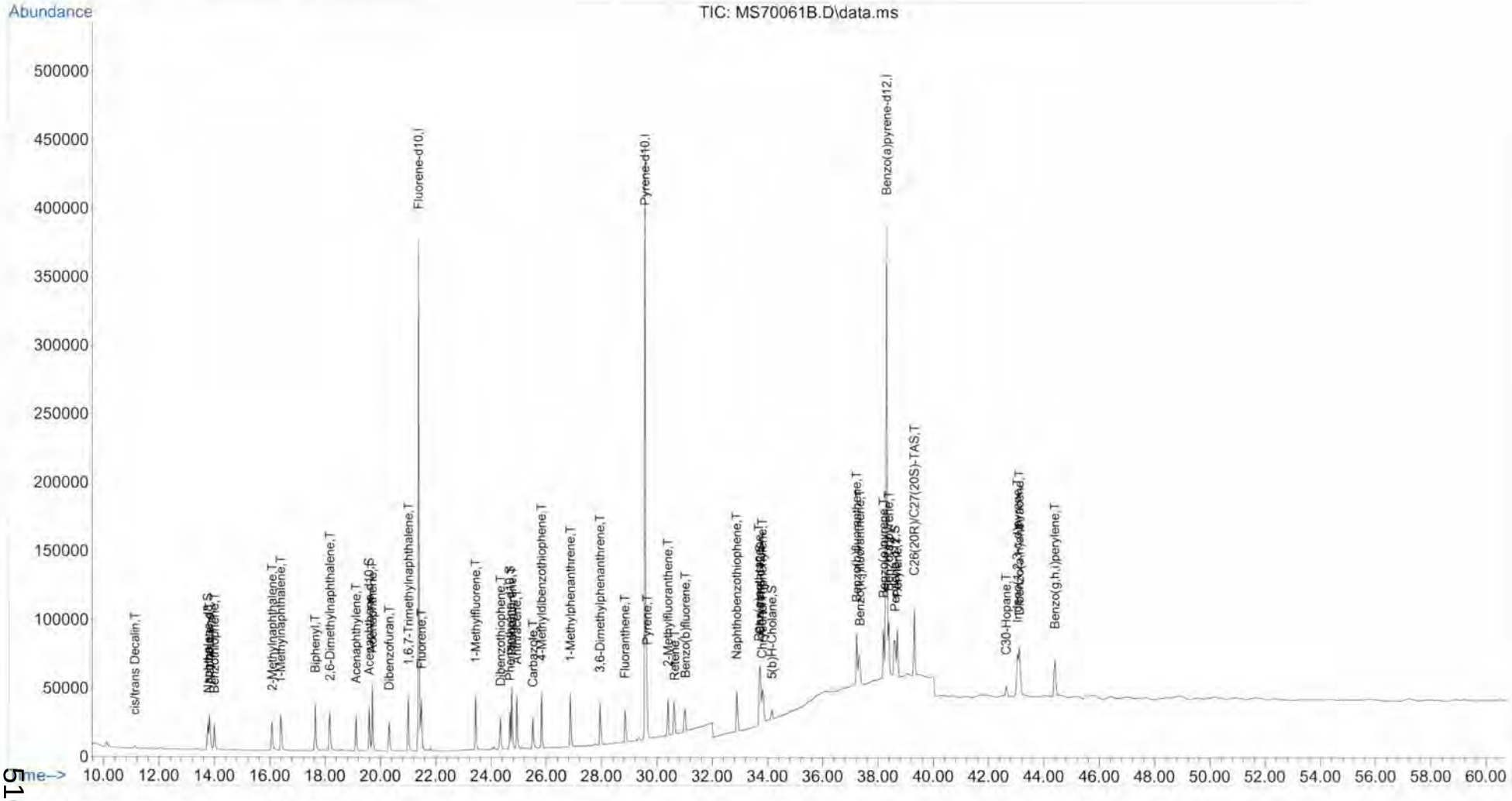
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061B.D
Acq On : 31 Aug 2013 3:11 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 01 20:11:19 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 18:28:14 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061C.D
Acq On : 31 Aug 2013 4:19 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 01 20:19:08 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:11:25 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	397820m	251.05	0.00
31) Pyrene-d10	29.566	212	787416m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	740401m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.767	136	251133m	98.53	0.00
21) Acenaphthene-d10	19.589	164	149925m	99.91	0.00
32) Phenanthrene-d10	24.683	188	256862m	98.22	0.00
66) Chrysene-d12	33.731	240	298413m	98.04	0.00
88) Perylene-d12	38.581	264	332269m	98.69	-0.04
90) 5(b)H-Cholane	34.158	217	57398m	101.12	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.120	138	45085m	146.47	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	275942m	99.72	
9) 2-Methylnaphthalene	16.051	142	174419m	94.78	
10) 1-Methylnaphthalene	16.385	142	172288m	99.71	
11) 2,6-Dimethylnaphthalene	18.168	156	154727m	96.96	
12) 1,6,7-Trimethylnaphtha...	21.009	170	148865m	97.97	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.989	134	222121m	99.49	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.639	154	222757m	96.63	
23) Acenaphthylene	19.115	152	266498m	96.34	
24) Acenaphthene	19.700	154	167071m	99.36	
25) Dibenzofuran	20.313	168	252009m	97.48	
26) Fluorene	21.483	166	201671m	99.04	
27) 1-Methylfluorene	23.437	180	134092m	99.06	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.514	167	250028m	94.15	
34) Dibenzothiophene	24.337	184	271038m	95.02	
35) 4-Methyldibenzothiophene	25.826	198	241235m	96.61	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	337520m	96.59	
42) Anthracene	24.926	178	300252m	91.06	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061C.D
Acq On : 31 Aug 2013 4:19 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 01 20:19:08 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:11:25 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43)	3-Methylphenanthrene	0.000		0	N.D. d	
44)	2-Methylphenanthrene	0.000		0	N.D. d	
45)	2-Methylanthracene	0.000		0	N.D. d	
46)	4/9-Methylphenanthrene	0.000		0	N.D. d	
47)	1-Methylphenanthrene	26.865	192	226935m	92.18	
48)	3,6-Dimethylphenanthrene	27.938	206	188400m	95.73	
49)	Retene	30.639	234	78682m	87.18	
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51)	C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52)	C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53)	Naphthobenzothiophene	32.878	234	348229m	97.18	
54)	C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55)	C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56)	C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57)	C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58)	Fluoranthene	28.838	202	329851m	96.30	
59)	Pyrene	29.635	202	396298m	97.77	
60)	2-Methylfluoranthene	30.397	216	224509m	96.54	
61)	Benzo(b)fluorene	31.020	216	209433m	95.48	
62)	C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63)	C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64)	C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65)	C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67)	Benz(a)anthracene	33.692	228	354189m	99.09	
68)	Chrysene/Triphenylene	33.809	228	299121m	97.23	
69)	C1-Chrysenes	0.000		0	N.D. d	
70)	C2-Chrysenes	0.000		0	N.D. d	
71)	C3-Chrysenes	0.000		0	N.D. d	
72)	C4-Chrysenes	0.000		0	N.D. d	
74)	C29-Hopane	0.000		0	N.D. d	
75)	18a-Oleanane	0.000		0	N.D. d	
76)	C30-Hopane	42.636	191	124135m	105.07	
77)	Benzo(b)fluoranthene	37.223	252	403082m	63.45	
78)	Benzo(k,j)fluoranthene	37.300	252	365245m	57.74	
79)	Benzo(a)fluoranthene	0.000		0	N.D. d	
80)	Benzo(e)pyrene	38.193	252	409339m	101.44	
81)	Benzo(a)pyrene	38.387	252	397189m	97.49	
82)	Indeno(1,2,3-c,d)pyrene	43.041	276	458927m	94.49	
83)	Dibenzo(a,h)anthracene	43.115	278	369843m	95.21	
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87)	Benzo(g,h,i)perylene	44.405	276	413268m	97.86	
89)	Perylene	38.697	252	396423m	98.37	
91)	C20-TAS	0.000		0	N.D. d	
92)	C21-TAS	0.000		0	N.D. d	
93)	C26(20S)-TAS	0.000		0	N.D. d	
94)	C26(20R)/C27(20S)-TAS	39.318	231	462773m	99.78	
95)	C28(20S)-TAS	0.000		0	N.D. d	
96)	C27(20R)-TAS	0.000		0	N.D. d	
97)	C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061C.D
Acq On : 31 Aug 2013 4:19 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 01 20:19:08 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:11:25 2013
Response via : Initial Calibration

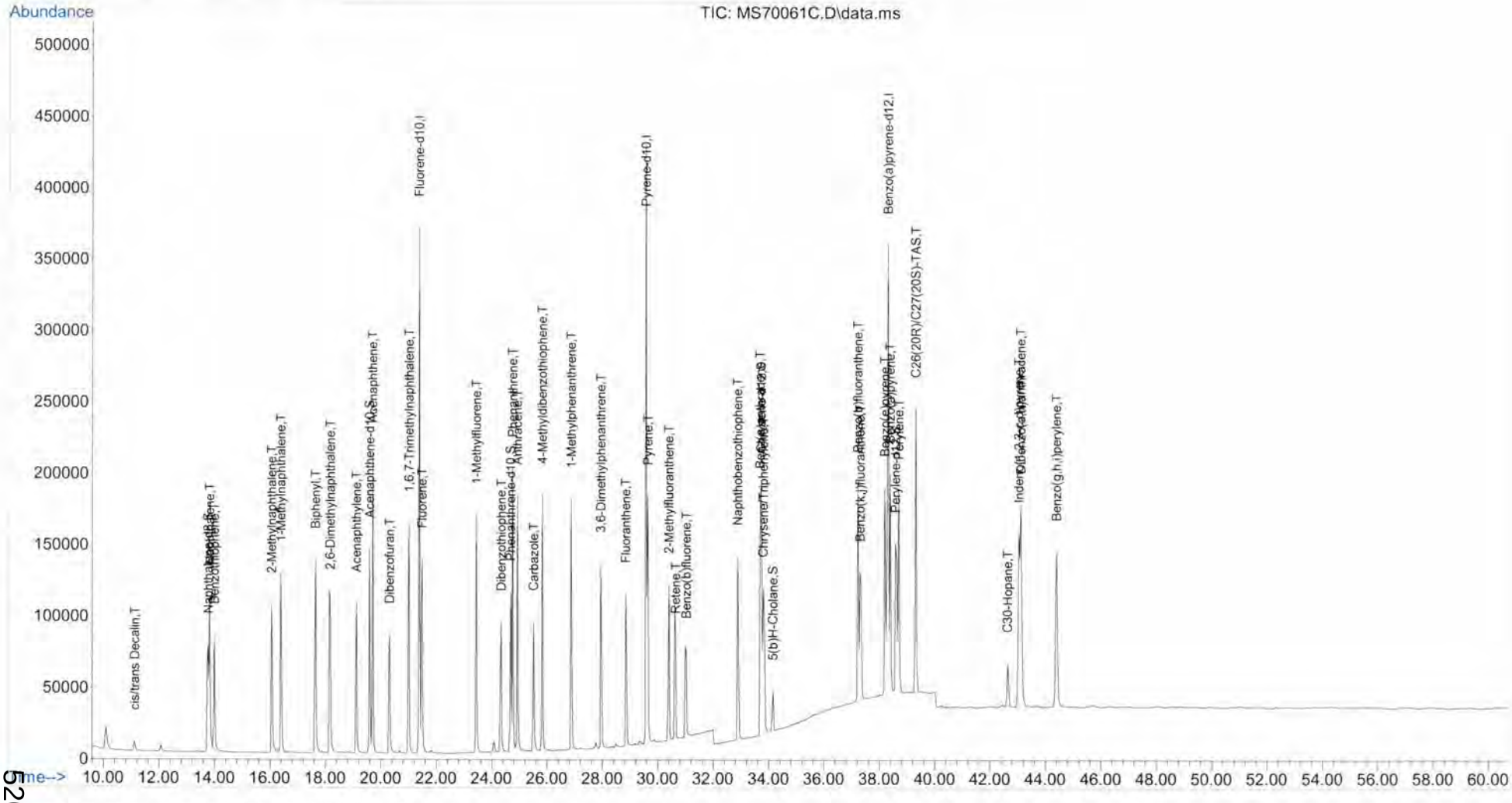
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061C.D
Acq On : 31 Aug 2013 4:19 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 01 20:19:08 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:11:25 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061D.D
Acq On : 31 Aug 2013 5:28 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 01 20:33:51 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:19:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	399117m	251.05	0.00
31) Pyrene-d10	29.566	212	786460m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	737226m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.739	136	602629m	235.25	-0.03
21) Acenaphthene-d10	19.589	164	352866m	233.94	0.00
32) Phenanthrene-d10	24.683	188	585196m	224.05	0.00
66) Chrysene-d12	33.731	240	714356m	234.82	0.00
88) Perylene-d12	38.581	264	748674m	222.92	0.00
90) 5(b)H-Cholane	34.158	217	126471m	223.20	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.120	138	101811m	302.04	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	643697m	231.85	
9) 2-Methylnaphthalene	16.051	142	428144m	233.02	
10) 1-Methylnaphthalene	16.385	142	409264m	235.58	
11) 2,6-Dimethylnaphthalene	18.168	156	366172m	229.23	
12) 1,6,7-Trimethylnaphtha...	21.009	170	351260m	230.41	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.989	134	513693m	229.30	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.639	154	520711m	225.48	
23) Acenaphthylene	19.115	152	618597m	223.09	
24) Acenaphthene	19.700	154	391064m	231.63	
25) Dibenzofuran	0.000		0	N.D. d	
26) Fluorene	0.000		0	N.D. d	
27) 1-Methylfluorene	0.000		0	N.D. d	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.514	167	575036m	217.81	
34) Dibenzothiophene	24.337	184	640634m	224.92	
35) 4-Methyldibenzothiophene	25.826	198	570324m	228.81	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	791336m	225.79	
42) Anthracene	24.926	178	745687m	227.37	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061D.D
Acq On : 31 Aug 2013 5:28 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 01 20:33:51 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:19:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D. d	
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	26.865	192	552229m	225.31	
48) 3,6-Dimethylphenanthrene	27.938	206	446401m	226.76	
49) Retene	30.639	234	178973m	198.25	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	
53) Naphthobenzothiophene	32.878	234	845553m	236.21	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.838	202	781981m	228.46	
59) Pyrene	29.635	202	908393m	224.32	
60) 2-Methylfluoranthene	30.397	216	509078m	218.86	
61) Benzo(b)fluorene	30.985	216	490993m	224.38	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	33.692	228	851528m	237.14	
68) Chrysene/Triphenylene	33.809	228	716784m	232.18	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	42.636	191	264433m	223.23	
77) Benzo(b)fluoranthene	37.223	252	940559m	165.19	
78) Benzo(k,j)fluoranthene	37.300	252	855349m	152.72	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.193	252	932760m	231.41	
81) Benzo(a)pyrene	38.387	252	920662m	226.93	
82) Indeno(1,2,3-c,d)pyrene	43.041	276	1073558m	222.91	
83) Dibenzo(a,h)anthracene	43.115	278	854195m	221.63	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.405	276	946436m	225.51	
89) Perylene	38.697	252	901223m	224.51	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	39.318	231	1036250m	224.45	
95) C28(20S)-TAS	0.000		0	N.D.	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061D.D
Acq On : 31 Aug 2013 5:28 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 01 20:33:51 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:19:14 2013
Response via : Initial Calibration

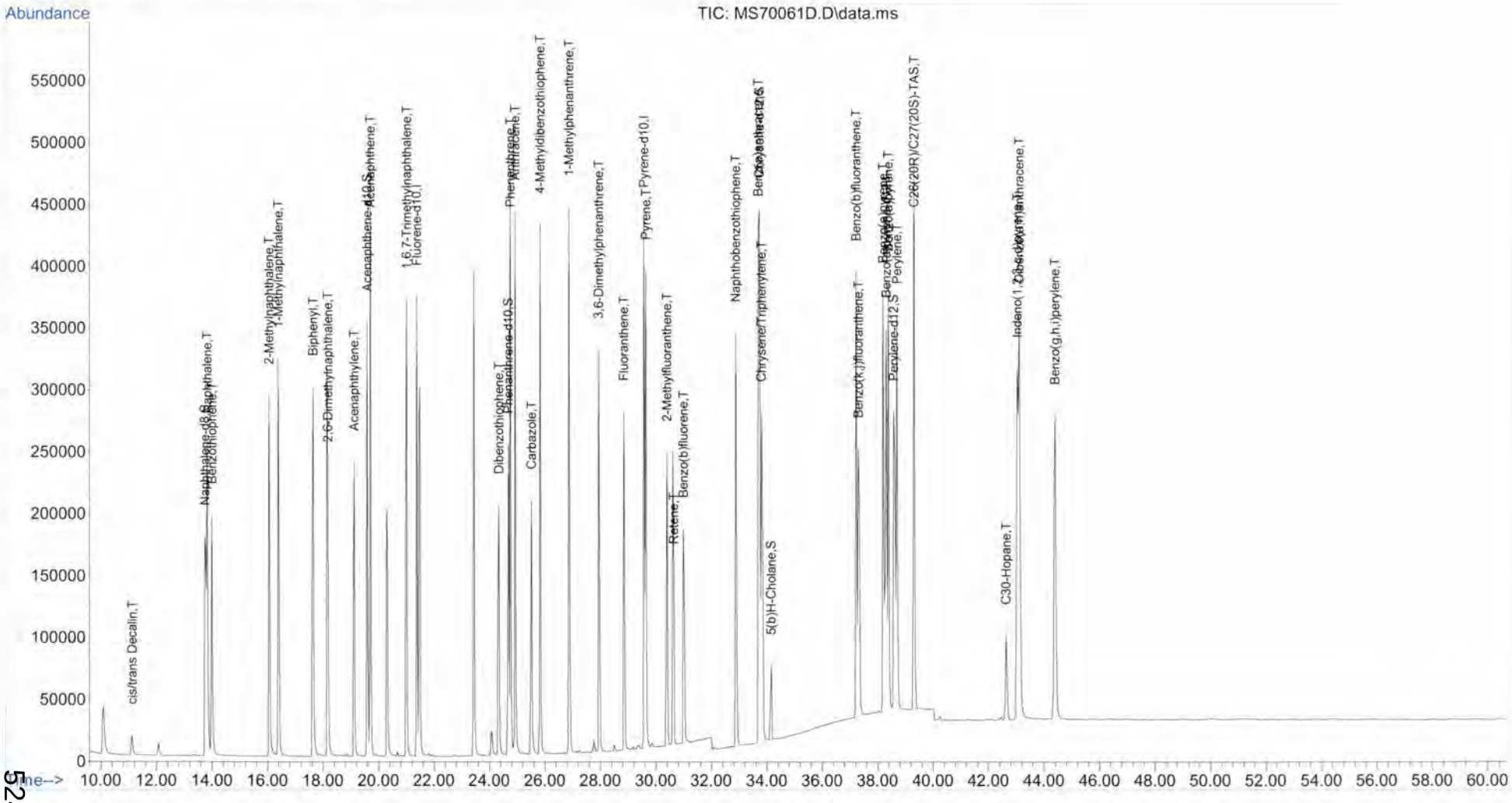
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061D.D
Acq On : 31 Aug 2013 5:28 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 01 20:33:51 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:19:14 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061E.D
Acq On : 31 Aug 2013 6:37 pm
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 01 20:42:06 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:33:58 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	406894m	251.05	0.00
31) Pyrene-d10	29.565	212	786968m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	749199m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.738	136	1278298m	488.59	0.00
21) Acenaphthene-d10	19.588	164	745220m	483.87	0.00
32) Phenanthrene-d10	24.683	188	1236303m	472.97	0.00
66) Chrysene-d12	33.731	240	1504311m	494.09	0.00
88) Perylene-d12	38.619	264	1577370m	462.33	0.04
90) 5(b)H-Cholane	34.158	217	269414m	467.62	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.120	138	211362m	574.47	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	1368409m	483.33	
9) 2-Methylnaphthalene	16.051	142	921099m	492.22	
10) 1-Methylnaphthalene	16.385	142	862648m	486.01	
11) 2,6-Dimethylnaphthalene	18.140	156	783974m	481.89	
12) 1,6,7-Trimethylnaphtha...	21.009	170	742938m	477.52	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.989	134	1080747m	473.85	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.638	154	1124334m	478.59	
23) Acenaphthylene	19.115	152	1321556m	468.14	
24) Acenaphthene	19.700	154	831058m	482.10	
25) Dibenzofuran	20.285	168	1282509m	483.37	
26) Fluorene	21.483	166	998328m	478.12	
27) 1-Methylfluorene	23.436	180	662881m	477.71	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.514	167	1206292m	457.69	
34) Dibenzothiophene	24.337	184	1341504m	470.14	
35) 4-Methyldibenzothiophene	25.826	198	1239158m	496.82	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	1682160m	477.99	
42) Anthracene	24.925	178	1650578m	501.96	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061E.D
Acq On : 31 Aug 2013 6:37 pm
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 01 20:42:06 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:33:58 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D. d	
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	26.865	192	1177469m	480.83	
48) 3,6-Dimethylphenanthrene	27.938	206	940759m	477.50	
49) Retene	30.639	234	380958m	421.32	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	
53) Naphthobenzothiophene	32.878	234	1741557m	486.04	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.838	202	1664577m	485.71	
59) Pyrene	29.635	202	1932004m	476.44	
60) 2-Methylfluoranthene	30.397	216	1095150m	469.86	
61) Benzo(b)fluorene	30.985	216	1046385m	477.91	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	33.692	228	1755943m	486.51	
68) Chrysene/Triphenylene	33.809	228	1525659m	491.09	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	42.635	191	562870m	468.37	
77) Benzo(b)fluoranthene	37.223	252	1949048m	374.98	
78) Benzo(k,j)fluoranthene	37.300	252	1765035m	350.08	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.192	252	1963099m	478.66	
81) Benzo(a)pyrene	38.386	252	1969949m	477.55	
82) Indeno(1,2,3-c,d)pyrene	43.041	276	2257494m	462.20	
83) Dibenzo(a,h)anthracene	43.115	278	1794769m	459.84	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.405	276	1971804m	463.27	
89) Perylene	38.697	252	1907291m	467.84	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	39.317	231	2175992m	464.09	
95) C28(20S)-TAS	0.000		0	N.D. d	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061E.D
Acq On : 31 Aug 2013 6:37 pm
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 01 20:42:06 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:33:58 2013
Response via : Initial Calibration

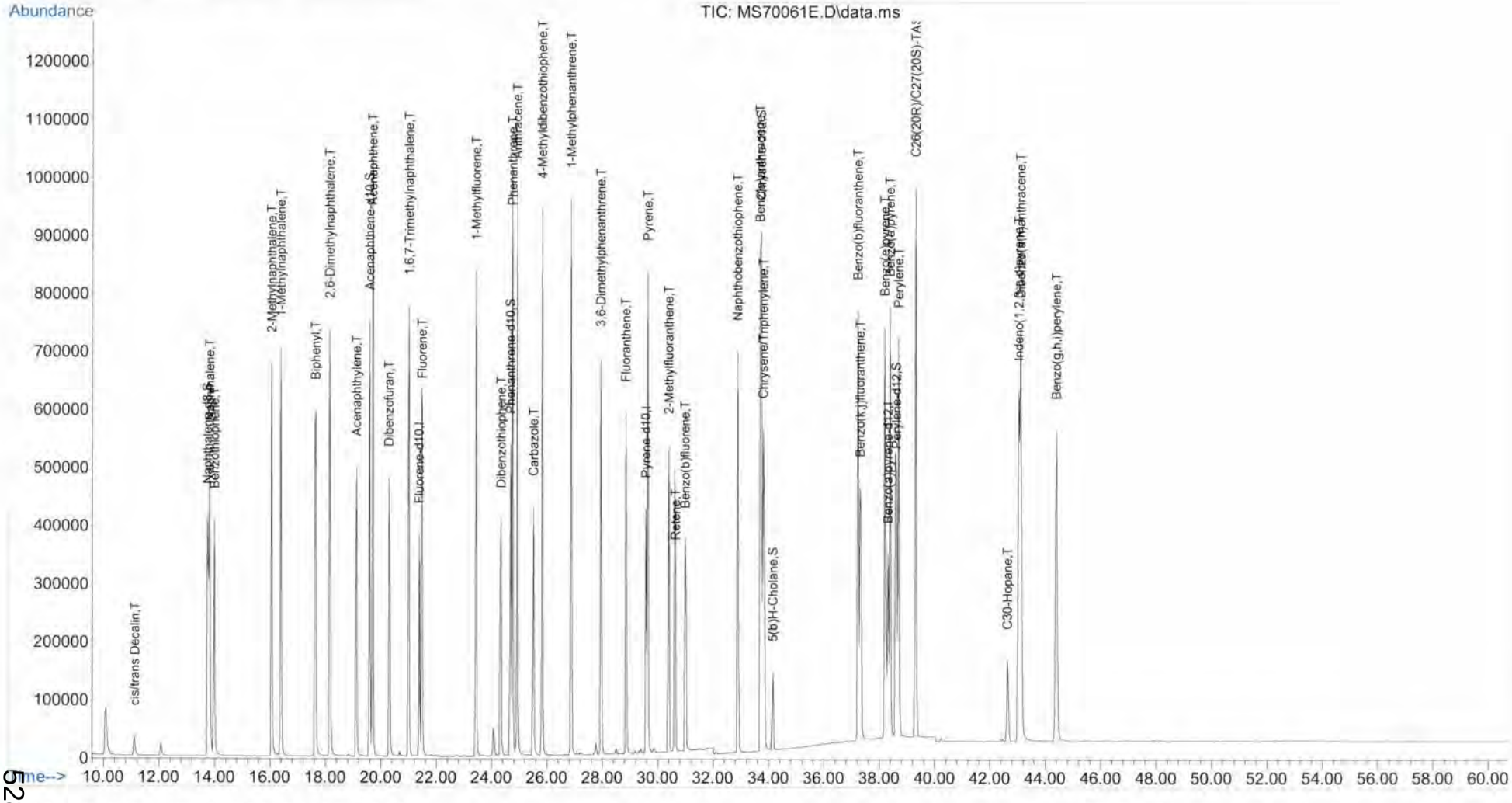
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061E.D
Acq On : 31 Aug 2013 6:37 pm
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 01 20:42:06 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:33:58 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061F.D
Acq On : 31 Aug 2013 7:45 pm
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 01 20:51:03 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:42:16 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	396612m	251.05	0.00
31) Pyrene-d10	29.566	212	758607m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	722858m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.739	136	2534246m	992.42	0.00
21) Acenaphthene-d10	19.588	164	1469151m	977.43	0.00
32) Phenanthrene-d10	24.683	188	2395767m	951.75	0.00
66) Chrysene-d12	33.731	240	2968684m	1011.35	0.00
88) Perylene-d12	38.619	264	3136410m	954.42	0.00
90) 5(b)H-Cholane	34.158	217	524908m	944.75	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.120	138	412361m	1079.23	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	2653624m	961.19	
9) 2-Methylnaphthalene	16.051	142	1825379m	1001.48	
10) 1-Methylnaphthalene	16.385	142	1693203m	977.10	
11) 2,6-Dimethylnaphthalene	18.140	156	1566605m	988.51	
12) 1,6,7-Trimethylnaphtha...	21.009	170	1463978m	965.06	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.989	134	2131176m	959.47	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.611	154	2223117m	971.97	
23) Acenaphthylene	19.115	152	2627952m	956.14	
24) Acenaphthene	19.700	154	1622039m	964.61	
25) Dibenzofuran	20.285	168	2538875m	981.16	
26) Fluorene	21.455	166	1969336m	967.38	
27) 1-Methylfluorene	23.436	180	1302723m	963.46	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.514	167	2390688m	944.05	
34) Dibenzothiophene	24.337	184	2644346m	961.62	
35) 4-Methyldibenzothiophene	25.826	198	2414961m	1004.50	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	3244758m	954.42	
42) Anthracene	24.925	178	3233102m	1016.51	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061F.D
Acq On : 31 Aug 2013 7:45 pm
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 01 20:51:03 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:42:16 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D. d	
44) 2-Methylphenanthrene	0.000		0	N.D. d	
45) 2-Methylanthracene	0.000		0	N.D. d	
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	26.865	192	2394266m	1016.39	
48) 3,6-Dimethylphenanthrene	27.938	206	1907633m	1004.34	
49) Retene	30.639	234	750601m	860.83	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	
53) Naphthobenzothiophene	32.878	234	3489260m	1010.47	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.838	202	3327823m	1007.44	
59) Pyrene	29.635	202	3741502m	957.15	
60) 2-Methylfluoranthene	30.397	216	2151221m	956.62	
61) Benzo(b)fluorene	30.985	216	2112081m	1001.23	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	33.692	228	3532749m	1012.05	
68) Chrysene/Triphenylene	33.809	228	2992453m	992.97	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	42.636	191	1083870m	933.25	
77) Benzo(b)fluoranthene	37.223	252	3855014m	872.17	
78) Benzo(k,j)fluoranthene	37.300	252	3570736m	848.85	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.192	252	3825432m	967.19	
81) Benzo(a)pyrene	38.386	252	3931304m	987.28	
82) Indeno(1,2,3-c,d)pyrene	43.041	276	4517074m	962.51	
83) Dibenzo(a,h)anthracene	43.115	278	3650865m	975.31	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.405	276	3900986m	953.10	
89) Perylene	38.697	252	3863094m	983.92	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	39.318	231	4284320m	948.81	
95) C28(20S)-TAS	0.000		0	N.D.	
96) C27(20R)-TAS	0.000		0	N.D. d	
97) C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061F.D
Acq On : 31 Aug 2013 7:45 pm
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 01 20:51:03 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:42:16 2013
Response via : Initial Calibration

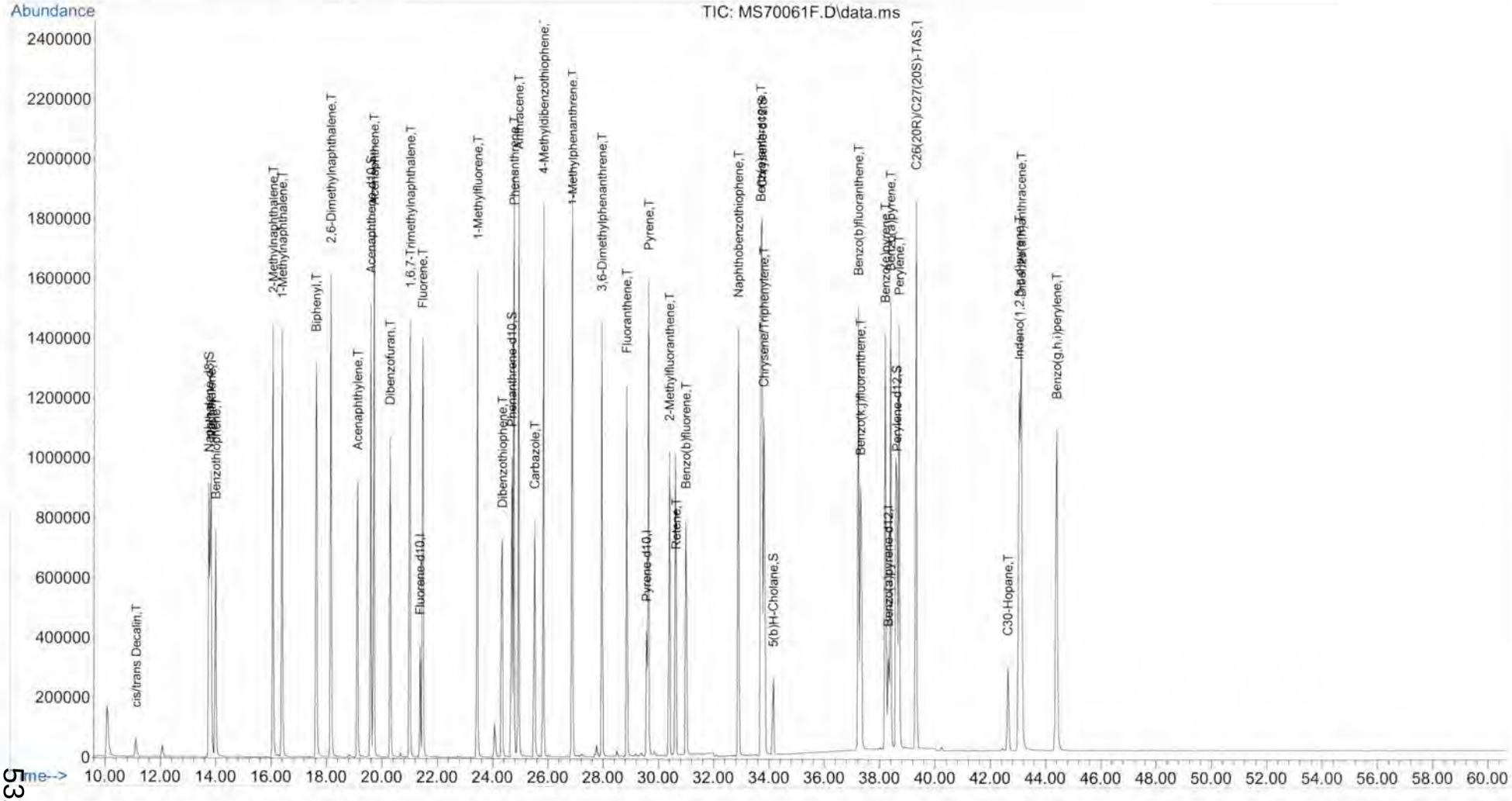
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061F.D
Acq On : 31 Aug 2013 7:45 pm
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 01 20:51:03 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:42:16 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061G.D
Acq On : 31 Aug 2013 8:54 pm
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 01 20:58:30 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:51:40 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	382649m	251.05	0.00
31) Pyrene-d10	29.566	212	718166m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	722662m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.739	136	12403769m	5026.61	0.00
21) Acenaphthene-d10	19.588	164	7118135m	4904.84	0.00
32) Phenanthrene-d10	24.683	188	12668261m	5309.46	0.00
66) Chrysene-d12	33.770	240	12497864m	4495.40	0.04
88) Perylene-d12	38.619	264	16806336m	5128.99	0.00
90) 5(b)H-Cholane	34.158	217	2733754m	4930.95	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.092	138	1975537m	5052.81	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	13074839m	4912.89	
9) 2-Methylnaphthalene	16.051	142	9019491m	5132.50	
10) 1-Methylnaphthalene	16.385	142	8219969m	4912.42	
11) 2,6-Dimethylnaphthalene	18.140	156	7678550m	5024.57	
12) 1,6,7-Trimethylnaphtha...	21.009	170	7380094m	5042.36	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.989	134	10383422m	4846.04	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.611	154	10959103m	4967.67	
23) Acenaphthylene	19.115	152	13465196m	5082.86	
24) Acenaphthene	19.700	154	7996884m	4930.17	
25) Dibenzofuran	20.285	168	12499426m	5009.09	
26) Fluorene	21.483	166	9689408m	4936.23	
27) 1-Methylfluorene	23.436	180	6788938m	5206.42	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.514	167	13154796m	5493.37	
34) Dibenzothiophene	24.337	184	13303328m	5109.02	
35) 4-Methyldibenzothiophene	25.826	198	11992618m	5267.25	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	17064685m	5291.54	
42) Anthracene	24.925	178	17189384m	5691.49	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061G.D
Acq On : 31 Aug 2013 8:54 pm
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 01 20:58:30 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:51:40 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43)	3-Methylphenanthrene	0.000		0	N.D. d	
44)	2-Methylphenanthrene	0.000		0	N.D. d	
45)	2-Methylanthracene	0.000		0	N.D. d	
46)	4/9-Methylphenanthrene	0.000		0	N.D. d	
47)	1-Methylphenanthrene	26.865	192	11396475m	5116.38	
48)	3,6-Dimethylphenanthrene	27.938	206	9267162m	5154.37	
49)	Retene	30.639	234	4003214m	4848.42	
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51)	C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52)	C4-Phenanthrenes/Anthr...	0.000		0	N.D.	
53)	Naphthobenzothiophene	32.878	234	15805967m	4834.69	
54)	C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55)	C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56)	C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57)	C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58)	Fluoranthene	28.838	202	15741784m	5032.96	
59)	Pyrene	29.635	202	19546732m	5277.45	
60)	2-Methylfluoranthene	30.397	216	12214031m	5731.29	
61)	Benzo(b)fluorene	31.020	216	10670740m	5343.63	
62)	C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63)	C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64)	C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65)	C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67)	Benz(a)anthracene	33.692	228	15826534m	4774.25	
68)	Chrysene/Triphenylene	33.847	228	14441107m	5037.19	
69)	C1-Chrysenes	0.000		0	N.D. d	
70)	C2-Chrysenes	0.000		0	N.D. d	
71)	C3-Chrysenes	0.000		0	N.D. d	
72)	C4-Chrysenes	0.000		0	N.D. d	
74)	C29-Hopane	0.000		0	N.D. d	
75)	18a-Oleanane	0.000		0	N.D. d	
76)	C30-Hopane	42.636	191	5322162m	4597.79	
77)	Benzo(b)fluoranthene	37.223	252	22061960m	5798.28	
78)	Benzo(k,j)fluoranthene	37.339	252	13981083m	3949.17	
79)	Benzo(a)fluoranthene	0.000		0	N.D. d	
80)	Benzo(e)pyrene	38.192	252	17491551m	4428.82	
81)	Benzo(a)pyrene	38.386	252	19553230m	4914.49	
82)	Indeno(1,2,3-c,d)pyrene	43.041	276	22704120m	4854.35	
83)	Dibenzo(a,h)anthracene	43.115	278	17517317m	4698.16	
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87)	Benzo(g,h,i)perylene	44.405	276	18635571m	4571.13	
89)	Perylene	38.697	252	19320046m	4935.56	
91)	C20-TAS	0.000		0	N.D. d	
92)	C21-TAS	0.000		0	N.D. d	
93)	C26(20S)-TAS	0.000		0	N.D. d	
94)	C26(20R)/C27(20S)-TAS	39.318	231	22165962m	4922.32	
95)	C28(20S)-TAS	0.000		0	N.D.	
96)	C27(20R)-TAS	0.000		0	N.D. d	
97)	C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061G.D
Acq On : 31 Aug 2013 8:54 pm
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 01 20:58:30 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:51:40 2013
Response via : Initial Calibration

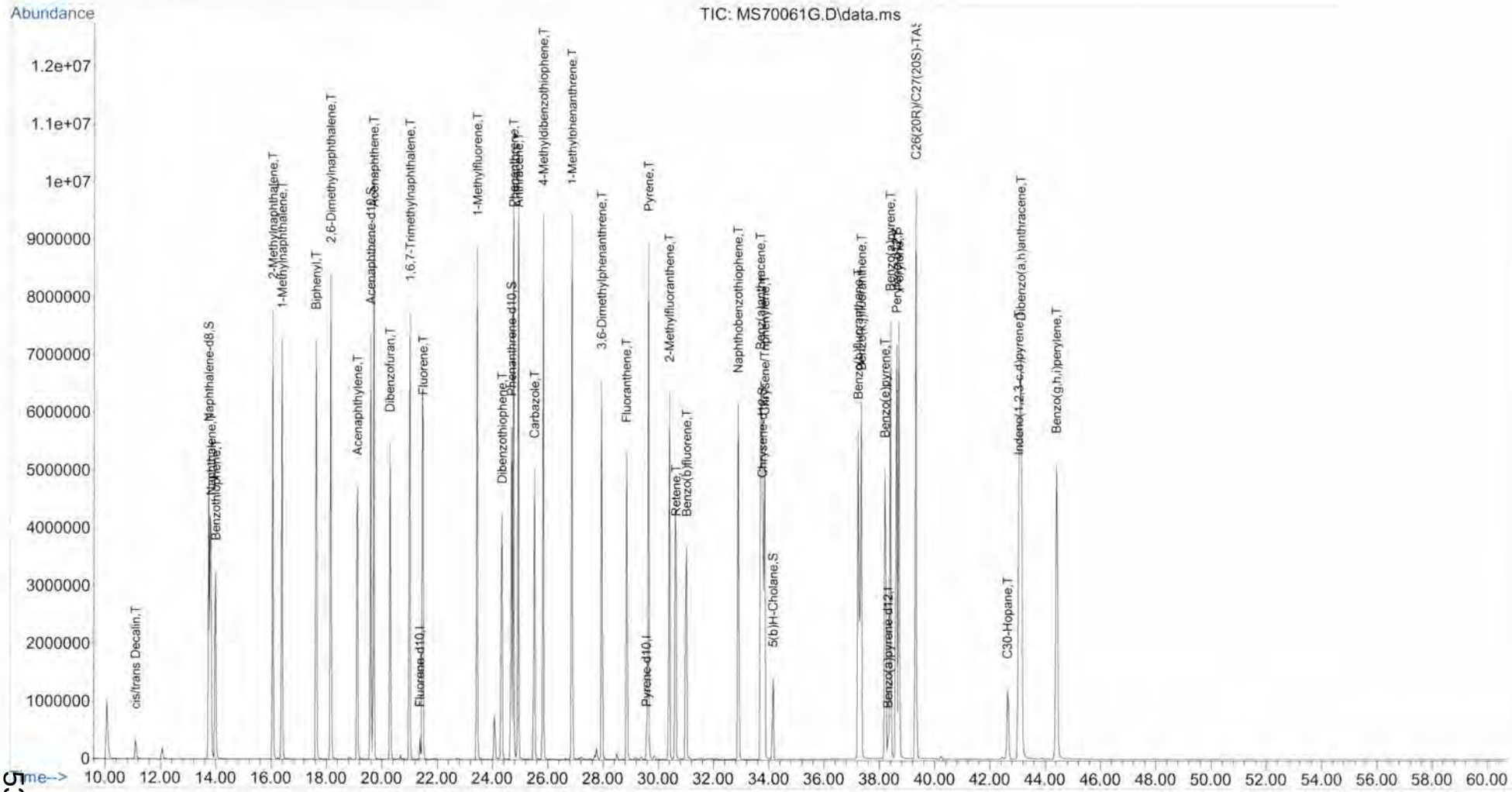
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061G.D
Acq On : 31 Aug 2013 8:54 pm
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 01 20:58:30 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:51:40 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70061\
Data File : MS70061I.D
Acq On : 31 Aug 2013 11:11 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 02 12:04:20 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorene-d10	1.000	1.000	0.0	104	0.00
2	S	Naphthalene-d8	1.621	1.515	6.5	104	0.00
3	T	cis/trans Decalin	0.271	0.300	-10.7	120	0.03
4	un	C1-Decalins	0.271	0.000	100.0#	0#	-12.48#
5	un	C2-Decalins	0.271	0.000	100.0#	0#	-13.46#
6	un	C3-Decalins	0.271	0.000	100.0#	0#	-15.74#
7	un	C4-Decalins	0.271	0.000	100.0#	0#	-18.33#
8	T	Naphthalene	1.747	1.902	-8.9	122	0.00
9	T	2-Methylnaphthalene	1.154	1.312	-13.7	126	0.00
10	T	1-Methylnaphthalene	1.099	1.279	-16.4	129	0.00
11	T	2,6-Dimethylnaphthalene	1.002	1.143	-14.1	129	0.00
12	T	1,6,7-Trimethylnaphthalene	0.961	1.100	-14.5	129	0.00
13	un	C2-Naphthalenes	1.747	0.000	100.0#	0#	-18.84#
14	un	C3-Naphthalenes	1.747	0.000	100.0#	0#	-20.28#
15	un	C4-Naphthalenes	1.747	0.000	100.0#	0#	-22.07#
16	T	Benzothiophene	1.406	1.588	-12.9	127	0.00
17	un	C1-Benzothiophenes	1.406	0.000	100.0#	0#	-15.41#
18	un	C2-Benzothiophenes	1.406	0.000	100.0#	0#	-17.83#
19	un	C3-Benzothiophenes	1.406	0.000	100.0#	0#	-20.26#
20	un	C4-Benzothiophenes	1.406	0.000	100.0#	0#	-22.18#
21	S	Acenaphthene-d10	0.953	0.879	7.8	103	0.00
22	T	Biphenyl	1.447	1.645	-13.7	129	0.03
23	T	Acenaphthylene	1.738	1.891	-8.8	125	0.00
24	T	Acenaphthene	1.064	1.197	-12.5	126	0.00
25	T	Dibenzofuran	1.639	1.897	-15.7	129	0.00
26	T	Fluorene	1.288	1.450	-12.6	126	-0.03
27	T	1-Methylfluorene	0.856	0.000	100.0#	0#	-23.44#
28	un	C1-Fluorenes	1.288	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.288	0.000	100.0#	0#	-24.82#
30	un	C3-Fluorenes	1.288	0.000	100.0#	0#	-27.21#
31	I	Pyrene-d10	1.000	1.000	0.0	106	0.00
32	S	Phenanthrene-d10	0.833	0.713	14.4	101	0.00
33	T	Carbazole	0.836	0.863	-3.2	124	0.00
34	T	Dibenzothiophene	0.909	0.996	-9.6	128	0.00
35	T	4-Methyldibenzothiophene	0.795	0.000	100.0#	0#	-25.83#
36	un	2/3-Methyldibenzothiophene	0.795	0.000	100.0#	0#	-26.14#
37	un	1-Methyldibenzothiophene	0.795	0.000	100.0#	0#	-26.45#
38	un	C2-Dibenzothiophenes	0.909	0.000	100.0#	0#	-27.97#
39	un	C3-Dibenzothiophenes	0.909	0.000	100.0#	0#	-28.73#
40	un	C4-Dibenzothiophenes	0.909	0.000	100.0#	0#	-30.81#
41	T	Phenanthrene	1.127	1.182	-4.9	123	0.00
42	T	Anthracene	1.056	1.123	-6.3	126	0.00
43	un	3-Methylphenanthrene	0.777	0.000	100.0#	0#	-26.86#
44	un	2-Methylphenanthrene	0.777	0.000	100.0#	0#	-26.86#
45	un	2-Methylanthracene	0.777	0.000	100.0#	0#	-26.86#
46	un	4/9-Methylphenanthrene	0.777	0.000	100.0#	0#	-26.86#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70061\
Data File : MS70061I.D
Acq On : 31 Aug 2013 11:11 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 02 12:04:20 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
47	T	1-Methylphenanthrene	0.777	0.887	-14.2	132	0.00
48	T	3,6-Dimethylphenanthrene	0.627	0.000	100.0#	0#	-27.94#
49	T	Retene	0.288	0.000	100.0#	0#	-30.64#
50	un	C2-Phenanthrenes/Anthracene	1.127	0.000	100.0#	0#	-28.49#
51	un	C3-Phenanthrenes/Anthracene	1.127	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.127	0.000	100.0#	0#	-31.99#
53	T	Naphthobenzothiophene	1.140	0.000	100.0#	0#	-32.88#
54	un	C1-Naphthobenzothiophenes	1.140	0.000	100.0#	0#	-34.16#
55	un	C2-Naphthobenzothiophenes	1.140	0.000	100.0#	0#	-35.94#
56	un	C3-Naphthobenzothiophenes	1.140	0.000	100.0#	0#	-37.34#
57	un	C4-Naphthobenzothiophenes	1.140	0.000	100.0#	0#	-37.34#
58	T	Fluoranthene	1.091	1.247	-14.3	133	0.00
59	T	Pyrene	1.293	1.365	-5.6	125	0.00
60	T	2-Methylfluoranthene	0.744	0.000	100.0#	0#	-30.40#
61	T	Benzo(b)fluorene	0.696	0.000	100.0#	0#	-31.02#
62	un	C1-Fluoranthenes/Pyrenes	1.091	0.000	100.0#	0#	-30.60#
63	un	C2-Fluoranthenes/Pyrenes	1.091	0.000	100.0#	0#	-32.10#
64	un	C3-Fluoranthenes/Pyrenes	1.091	0.000	100.0#	0#	-34.16#
65	un	C4-Fluoranthenes/Pyrenes	1.091	0.000	100.0#	0#	-35.24#
66	S	Chrysene-d12	0.970	0.946	2.5	110	-0.04
67	T	Benz(a)anthracene	1.159	1.153	0.5	112	0.12
68	T	Chrysene/Triphenylene	1.004	1.141	-13.6	132	-0.04
69	un	C1-Chrysenes	1.004	0.000	100.0#	0#	-35.36#
70	un	C2-Chrysenes	1.004	0.000	100.0#	0#	-37.42#
71	un	C3-Chrysenes	1.004	0.000	100.0#	0#	-38.04#
72	un	C4-Chrysenes	1.004	0.000	100.0#	0#	-39.59#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	103	0.00
74	un	C29-Hopane	0.399	0.000	100.0#	0#	-40.42#
75	un	18a-Oleanane	0.399	0.000	100.0#	0#	-42.45#
76	T	C30-Hopane	0.399	0.000	100.0#	0#	-42.64#
77	T	Benzo(b)fluoranthene	1.396	1.644	-17.8	132	0.00
78	T	Benzo(k,j)fluoranthene	1.211	1.446	-19.4	127	-0.04
79	un	Benzo(a)fluoranthene	1.211	0.000	100.0#	0#	-37.22#
80	T	Benzo(e)pyrene	1.363	1.633	-19.8	132	0.00
81	T	Benzo(a)pyrene	1.373	1.539	-12.1	126	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.610	1.910	-18.6	132	0.00
83	T	Dibenzo(a,h)anthracene	1.272	1.506	-18.4	132	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.272	0.000	100.0#	0#	-48.46#
85	un	C2-Dibenzo(a,h)anthracenes	1.272	0.000	100.0#	0#	-50.23#
86	un	C3-Dibenzo(a,h)anthracenes	1.272	0.000	100.0#	0#	-50.82#
87	T	Benzo(g,h,i)perylene	1.395	1.635	-17.2	129	-0.04
88	S	Perylene-d12	1.128	1.050	6.9	106	-0.04
89	T	Perylene	1.348	1.497	-11.1	126	0.00
90	S	5(b)H-Cholane	0.191	0.169	11.5	101	0.00
91	un	C20-TAS	1.552	0.000	100.0#	0#	-33.58#
92	un	C21-TAS	1.552	0.000	100.0#	0#	-34.16#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70061\
Data File : MS70061I.D
Acq On : 31 Aug 2013 11:11 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 02 12:04:20 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
93	un	C26(20S)-TAS	1.552	0.000	100.0#	0#	-38.62#
94	T	C26(20R)/C27(20S)-TAS	1.552	0.000	100.0#	0#	-39.32#
95	un	C28(20S)-TAS	1.552	0.000	100.0#	0#	-39.74#
96	un	C27(20R)-TAS	1.552	0.000	100.0#	0#	-41.31#
97	un	C28(20R)-TAS	1.552	0.000	100.0#	0#	-41.31#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061I.D
Acq On : 31 Aug 2013 11:11 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 02 12:04:20 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	414012m	251.05	0.00
31) Pyrene-d10	29.566	212	834081m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	757053m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.739	136	624820m	233.77	0.00
21) Acenaphthene-d10	19.589	164	362776m	230.80	0.00
32) Phenanthrene-d10	24.683	188	593893m	214.18	0.00
66) Chrysene-d12	33.731	240	786870m	243.74	-0.04
88) Perylene-d12	38.580	264	794159m	232.74	-0.04
90) 5(b)H-Cholane	34.158	217	127926m	221.38	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.120	138	122367m	273.87	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	784154m	272.12	
9) 2-Methylnaphthalene	16.051	142	541527m	284.67	
10) 1-Methylnaphthalene	16.385	142	526959m	290.77	
11) 2,6-Dimethylnaphthalene	18.140	156	471084m	285.11	
12) 1,6,7-Trimethylnaphtha...	21.009	170	453544m	286.20	
13) C2-Naphthalenes	0.000		0	N.D.	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.989	134	650867m	280.73	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.639	154	672080m	281.57	
23) Acenaphthylene	19.115	152	773210m	269.80	
24) Acenaphthene	19.700	154	494537m	281.71	
25) Dibenzofuran	20.285	168	778373m	288.05	
26) Fluorene	21.455	166	599171m	282.11	
27) 1-Methylfluorene	0.000		0	N.D. d	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.514	167	711561m	255.87	
34) Dibenzothiophene	24.337	184	816906m	270.07	
35) 4-Methyldibenzothiophene	0.000		0	N.D. d	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	974406m	259.89	
42) Anthracene	24.925	178	937074m	266.74	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061I.D
Acq On : 31 Aug 2013 11:11 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 02 12:04:20 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43)	3-Methylphenanthrene	0.000		0	N.D. d	
44)	2-Methylphenanthrene	0.000		0	N.D. d	
45)	2-Methylanthracene	0.000		0	N.D. d	
46)	4/9-Methylphenanthrene	0.000		0	N.D. d	
47)	1-Methylphenanthrene	26.865	192	730137m	282.50	
48)	3,6-Dimethylphenanthrene	0.000		0	N.D. d	
49)	Retene	0.000		0	N.D. d	
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51)	C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52)	C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53)	Naphthobenzothiophene	0.000		0	N.D. d	
54)	C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55)	C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56)	C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57)	C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58)	Fluoranthene	28.838	202	1038671m	286.02	
59)	Pyrene	29.635	202	1135308m	263.80	
60)	2-Methylfluoranthene	0.000		0	N.D. d	
61)	Benzo(b)fluorene	0.000		0	N.D. d	
62)	C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63)	C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64)	C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65)	C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67)	Benz(a)anthracene	33.809	228	957162m	248.10	
68)	Chrysene/Triphenylene	33.809	228	943252m	282.34	
69)	C1-Chrysenes	0.000		0	N.D. d	
70)	C2-Chrysenes	0.000		0	N.D. d	
71)	C3-Chrysenes	0.000		0	N.D. d	
72)	C4-Chrysenes	0.000		0	N.D. d	
74)	C29-Hopane	0.000		0	N.D. d	
75)	18a-Oleanane	0.000		0	N.D. d	
76)	C30-Hopane	0.000		0	N.D. d	
77)	Benzo(b)fluoranthene	37.223	252	1245361m	295.03	
78)	Benzo(k,j)fluoranthene	37.300	252	1088701m	297.30	
79)	Benzo(a)fluoranthene	0.000		0	N.D. d	
80)	Benzo(e)pyrene	38.193	252	1229876m	298.44	
81)	Benzo(a)pyrene	38.387	252	1161606m	279.78	
82)	Indeno(1,2,3-c,d)pyrene	43.041	276	1419638m	291.56	
83)	Dibenzo(a,h)anthracene	43.115	278	1128243m	293.30	
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87)	Benzo(g,h,i)perylene	44.368	276	1225004m	290.31	
89)	Perylene	38.697	252	1132967m	277.94	
91)	C20-TAS	0.000		0	N.D. d	
92)	C21-TAS	0.000		0	N.D. d	
93)	C26(20S)-TAS	0.000		0	N.D. d	
94)	C26(20R)/C27(20S)-TAS	0.000		0	N.D. d	
95)	C28(20S)-TAS	0.000		0	N.D. d	
96)	C27(20R)-TAS	0.000		0	N.D. d	
97)	C28(20R)-TAS	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061I.D
Acq On : 31 Aug 2013 11:11 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 02 12:04:20 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

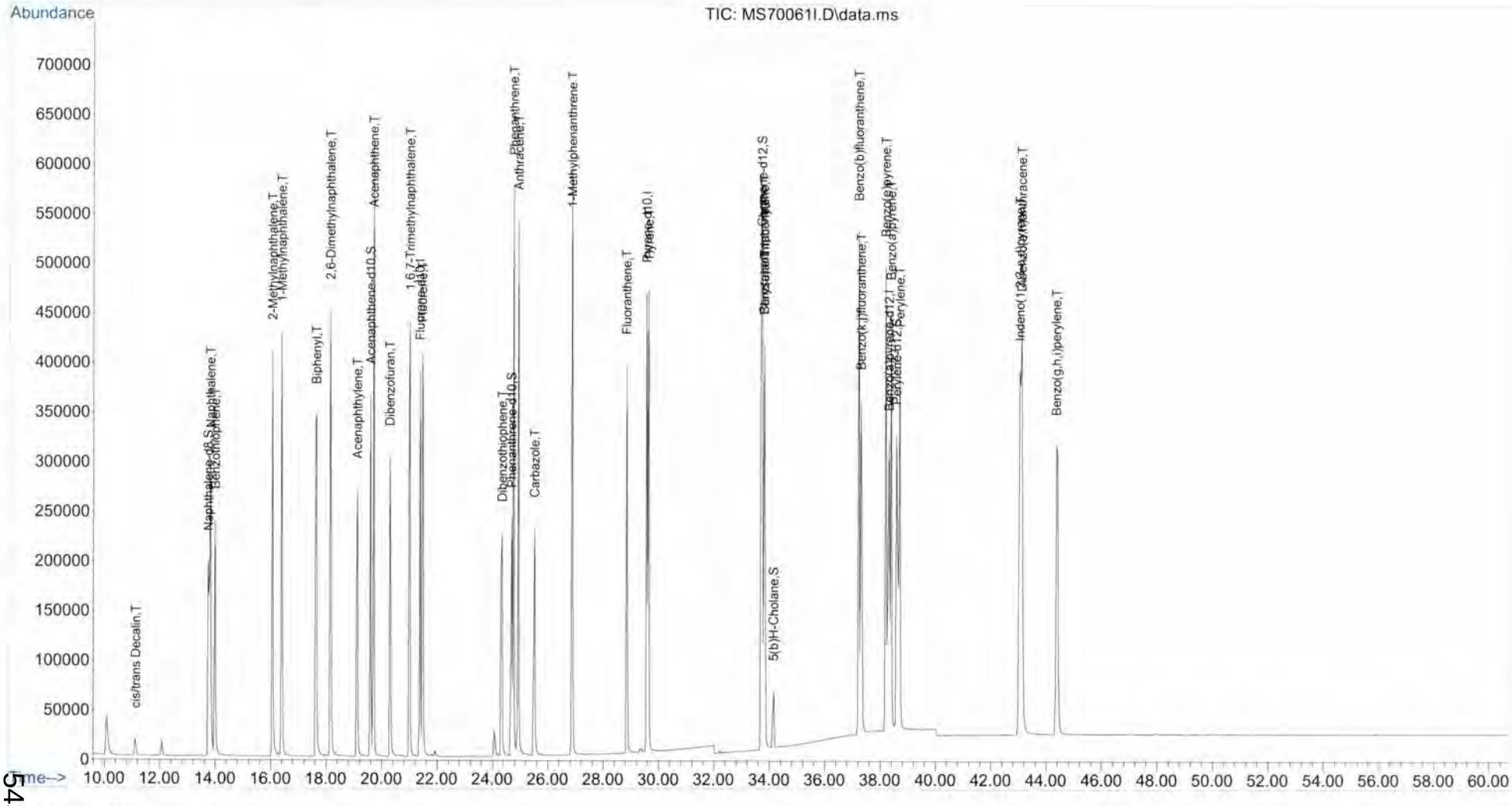
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70061\
Data File : MS70061I.D
Acq On : 31 Aug 2013 11:11 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 02 12:04:20 2013
Quant Method : C:\GCMS7\MS70061\AR70061.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration



PAH Mass Discrimination Ratio

B&B Laboratories
Project J13034
Report 13-3101

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Mass Discrimination Sheet

Client Project #B0086003.1302

File Name	Sample Name	Benzo(g,h,i)perylene Concentration (ng/mL)	Phenanthrene Concentration (ng/mL)	Benzo(g,h,i)perylene/ Phenanthrene ratio	Q
MS60142B.D	AR-WKC1-020-030	27.8	21.2	1.31	
MS60142C.D	AR-WKC2-100-030	110	92.6	1.19	
MS60142D.D	AR-WKC3-250-030	240	219	1.10	
MS60142E.D	AR-WKC4-500-030	498	477	1.04	
MS60142F.D	AR-WKC5-1000-030	963	975	0.99	
MS60142G.D	AR-WKC6-5000-030	4763	4673	1.02	
MS60142I.D	AR-WKICV-250-004	278	288	0.96	
MS60142J.D	AR-WKCC-250-038	234	274	0.86	
MS60142L.D	AR-WKCC-250-038	171	222	0.77	
MS70060B.D	AR-WKC1-020-030	22.2	22.9	0.97	
MS70060C.D	AR-WKC2-100-030	104	94.9	1.09	
MS70060D.D	AR-WKC3-250-030	225	221	1.02	
MS70060E.D	AR-WKC4-500-030	506	470	1.08	
MS70060F.D	AR-WKC5-1000-030	986	969	1.02	
MS70060G.D	AR-WKC6-5000-030	4602	5541	0.83	
MS70060I.D	AR-WKICV-250-004	279	264	1.06	
MS70060J.D	AR-WKCC-250-038	259	240	1.08	
MS70060L.D	AR-WKCC-250-038	190	237	0.80	
MS70060M.D	AR-WKCC-250-038	171	223	0.77	
MS70061B.D	AR-WKC1-020-030	23.0	23.3	0.99	
MS70061C.D	AR-WKC2-100-030	97.9	96.6	1.01	
MS70061D.D	AR-WKC3-250-030	226	226	1.00	
MS70061E.D	AR-WKC4-500-030	463	478	0.97	
MS70061F.D	AR-WKC5-1000-030	953	954	1.00	
MS70061G.D	AR-WKC6-5000-030	4571	5292	0.86	
MS70061I.D	AR-WKICV-250-004	290	260	1.12	
MS70061J.D	AR-WKCC-250-038	238	227	1.05	
MS70061L.D	AR-WKCC-250-038	218	218	1.00	

Qualifiers (Q): Ratio of Benzo(g,h,i)perylene to Phenanthrene needs to be ≥ 0.70

PAH Internal Standard Area Data

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
The Area of the Internal Standards in the Associated Calibration Standard

File Name	Sample Name	Internal Standard 1 Fluorene-d10			Internal Standard 2 Pyrene-d10			Internal Standard 3 Benzo(a)pyrene-d12		
		Response (Area)	50% (Area)	200% (Area)	Response (Area)	50% (Area)	200% (Area)	Response (Area)	50% (Area)	200% (Area)
MS60142D.D	**AR-WKC3-250-030**	**162383**	**81192**	**324766**	**303446**	**151723**	**606892**	**263274**	**131637**	**526548**
MS60142I.D	**AR-WKICV-250-004**	**185972**			**330947**			**279327**		
MS60142J.D	**AR-WKCC-250-038**	**152963**	**76482**	**305926**	**246350**	**123175**	**492700**	**223011**	**111506**	**446022**
ENV3082A.D	Procedural Blank	164067			315919			260669		
ENV3082B.D	SRM 1941b	149041			307255			349082		
ENV3082C.D	MS (SED-DA-012 (0-0.5) MS/MSD)	156798			302284			249996		
ENV3082D.D	MSD (SED-DA-012 (0-0.5) MS/MSD)	139393			272396			224370		
ENV3082E.D	Dupl. (SED-DA-014 (0-0.5))	133143			262845			216082		
ARC1648.D	SED-DA-014 (0.5-1.0)	140665			273805			230196		
ARC1649.D	SED-DA-015 (0.5-1.0)	171723			310540			231400		
ARC1650.D	SED-DA-015 (1.0-1.5)	121274			282437			262038		
MS60142L.D	**AR-WKCC-250-038**	**153063**	**76532**	**306126**	**325915**	**162958**	**651830**	**265949**	**132975**	**531898**
MS70060D.D	**AR-WKC3-250-030**	**395717**	**197859**	**791434**	**791250**	**395625**	**1582500**	**642168**	**321084**	**1284336**
MS70060I.D	**AR-WKICV-250-004**	**425136**			**832639**			**673198**		
MS70060J.D	**AR-WKCC-250-038**	**327360**	**163680**	**654720**	**609236**	**304618**	**1218472**	**456490**	**228245**	**912980**
ARC1651.D	SED-DA-016 (0.5-1.0)	345277			683663			563783		
ARC1654.D	SED-DA-008 (0.5-1.0)	262335			513246			447761		
ARC1655.D	SED-DA-008 (1.0-1.5)	217225			477676			408788		
ARC1656.D	SED-DA-007 (0.5-1.0)	241920			473847			390310		
ARC1657.D	SED-DA-007 (1.0-1.5)	224846			479723			393450		
ARC1658.D	SED-DA-006 (0.5-1.0)	289666			521908			446439		
ARC1659.D	SED-DA-006 (1.0-1.5)	261068			534975			442971		
MS70060L.D	**AR-WKCC-250-038**	**297568**	**148784**	**595136**	**569979**	**284990**	**1139958**	**451248**	**225624**	**902496**
ARC1660.D	SED-DA-005 (0.5-1.0)	301843			603960			481179		
ARC1661.D	SED-DA-005 (1.0-1.5)	254001			503066			406651		
ARC1666.D	SED-DA-012 (0-0.5)	233676			474004			378044		
ARC1669.D	SED-DA-013 (0-0.5)	234772			477746			381816		
ARC1670.D	SED-DA-014 (0-0.5)	242926			469827			385270		
ARC1671.D	SED-DA-015 (0-0.5)	381383			586903			464477		
ARC1672.D	SED-DA-016 (0-0.5)	263852			445141			212691		
ARC1673.D	SED-DA-017 (0-0.5)	422773			546298			367441		
MS70060M.D	**AR-WKCC-250-038**	**247076**	**123538**	**494152**	**473411**	**236706**	**946822**	**328366**	**164183**	**656732**

B&B Laboratories
Project J13034
Report 13-3101

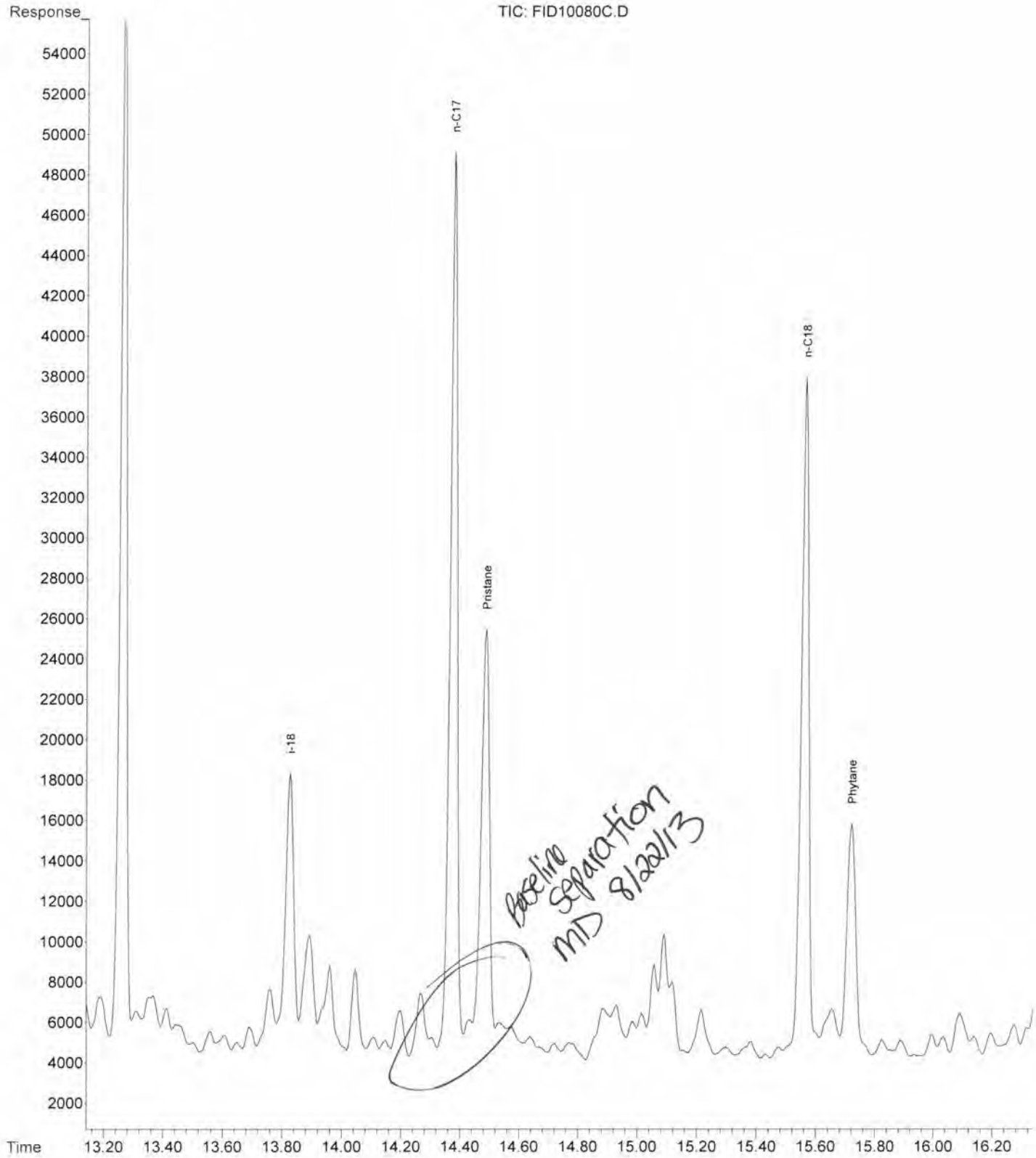
Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
The Area of the Internal Standards in the Associated Calibration Standard

Client Project #B0086003.1302

File Name	Sample Name	Internal Standard 1 Fluorene-d10			Internal Standard 2 Pyrene-d10			Internal Standard 3 Benzo(a)pyrene-d12		
		Response (Area)	50% (Area)	200% (Area)	Response (Area)	50% (Area)	200% (Area)	Response (Area)	50% (Area)	200% (Area)
MS70061D.D	**AR-WKC3-250-030**	**399117**	**199559**	**798234**	**786460**	**393230**	**1572920**	**737226**	**368613**	**1474452**
MS70061I.D	**AR-WKICV-250-004**	**414012**			**834081**			**757053**		
MS70061J.D	**AR-WKCC-250-038**	**337162**	**168581**	**674324**	**653617**	**326809**	**1307234**	**602929**	**301465**	**1205858**
ARC1652.D	SED-DA-017 (0.5-1.0)	458710			780291			769833		
MS70061L.D	**AR-WKCC-250-038**	**316025**	**158013**	**632050**	**621854**	**310927**	**1243708**	**605278**	**302639**	**1210556**

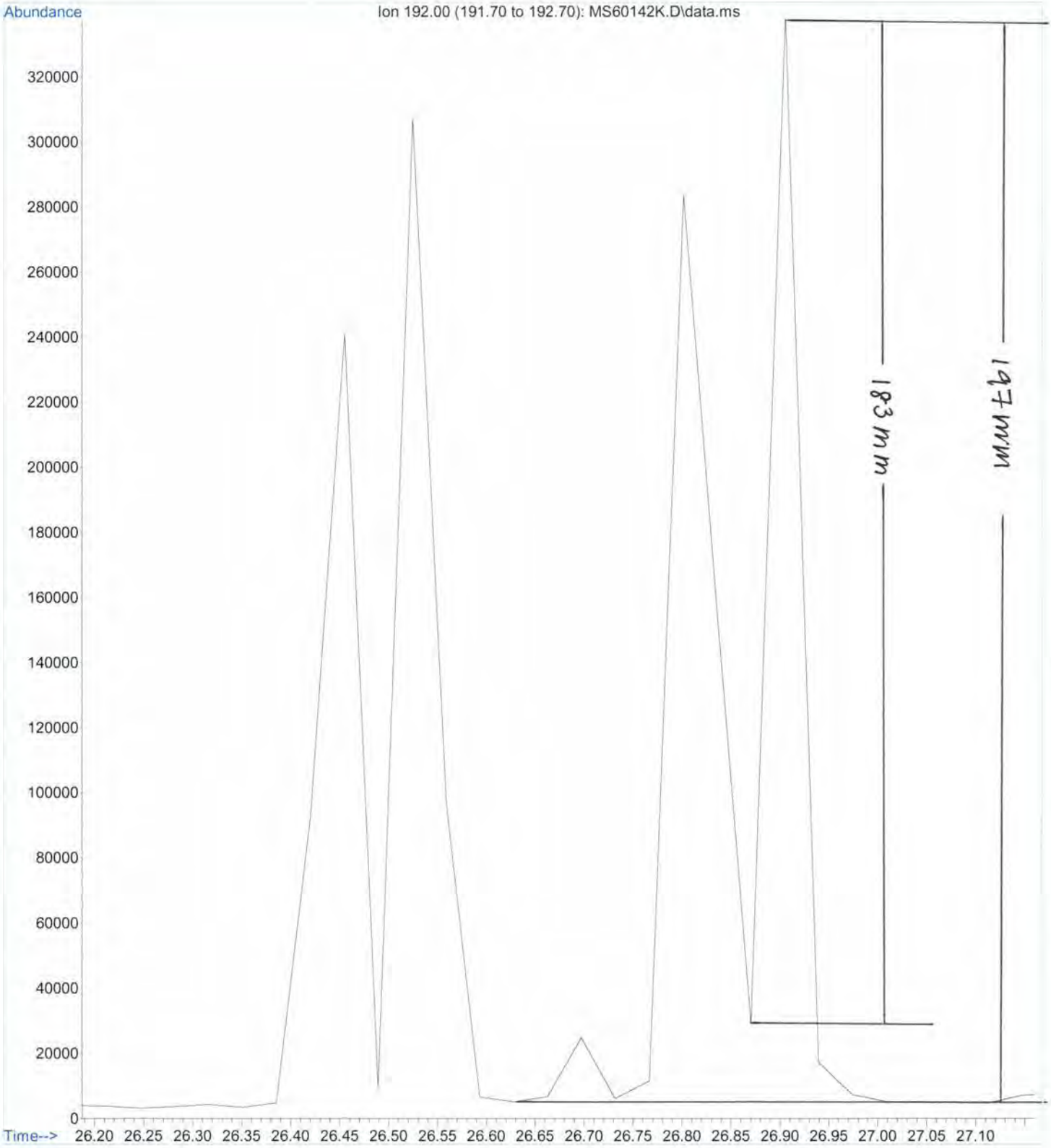
SRM-2779 Reference Oil Aliphatic and PAH Resolution Checks

File :P:\2013\J13034\Aliphatics\ENV 3082\FID10080\FID10080C.D
Operator : Meghan Dailey
Acquired : 19-Aug-2013, 21:44:56 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: AL-SRM2779-20-01
Misc Info :
Vial Number: 3



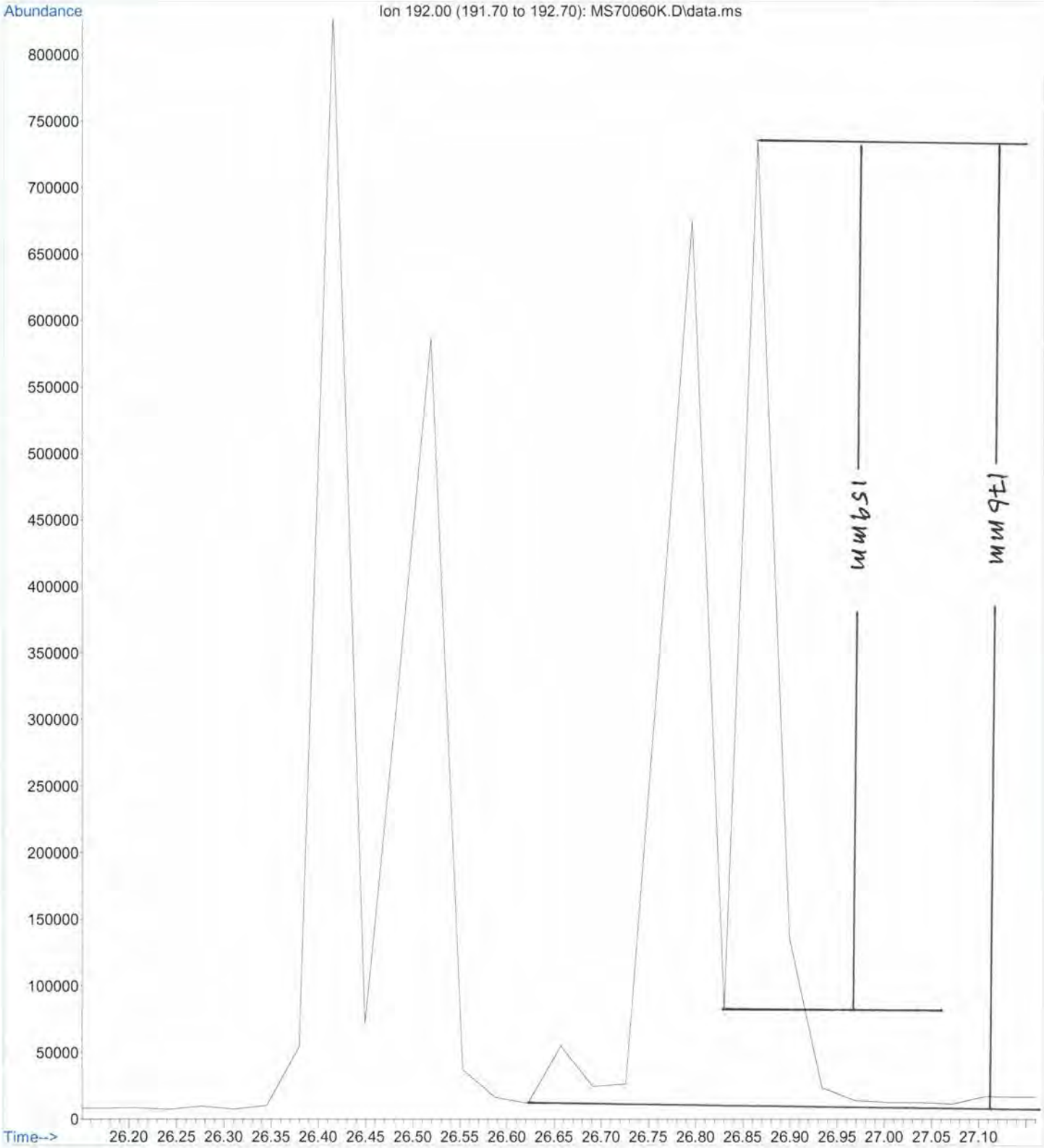
File :C:\GCMS6\MS60142\MS60142K.D
Operator : YM
Acquired : 17 Aug 2013 9:55 pm using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: AR-SRM2779-WK-4.0-002
Misc Info :
Vial Number: 11

93% separation



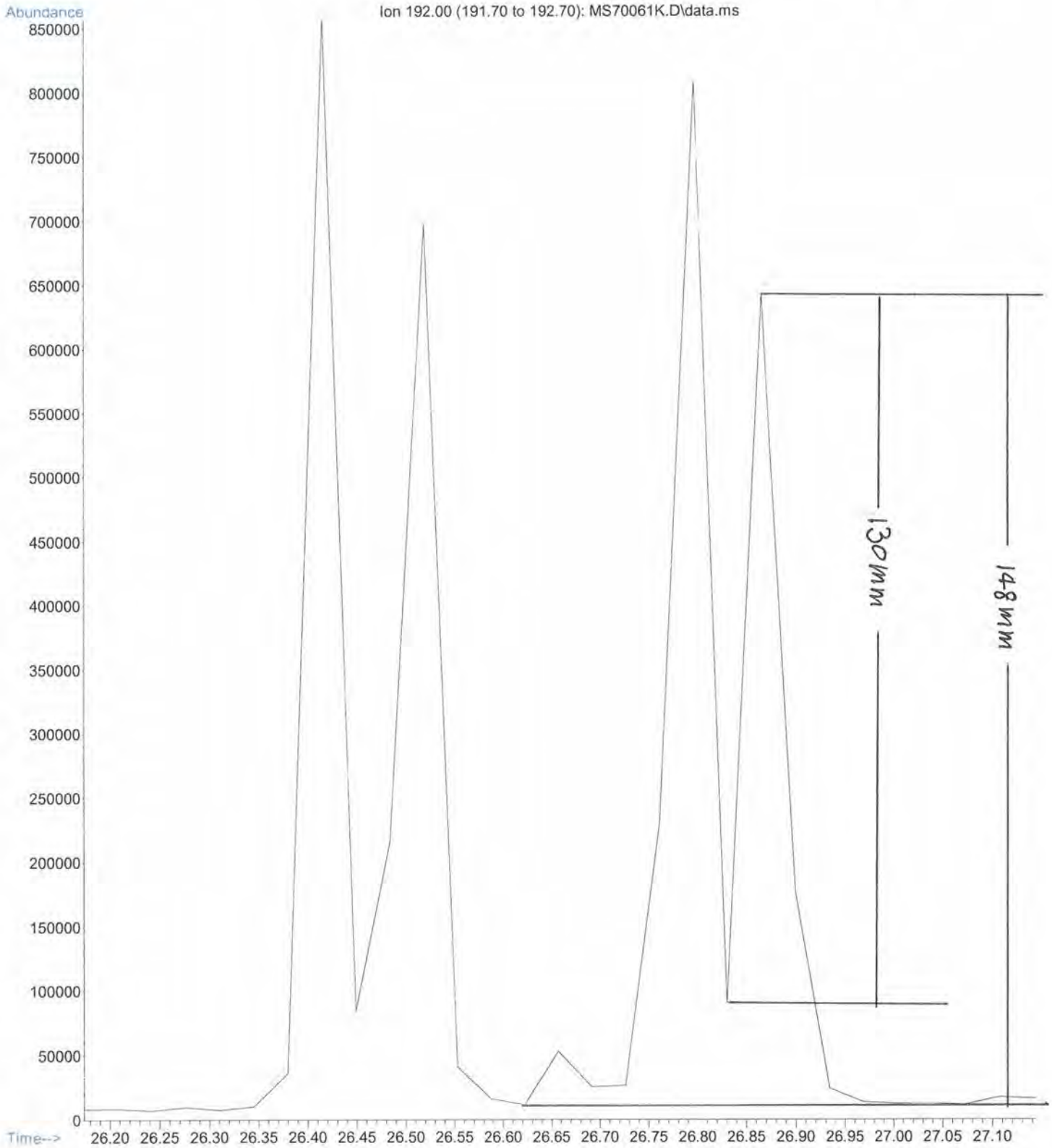
File :C:\GCMS7\MS70060\MS70060K.D
Operator : YM
Acquired : 30 Aug 2013 9:19 am using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: AR-SRM2779-WK4.0-002
Misc Info :
Vial Number: 11

GC/C specific



File :C:\GCMS7\MS70061\MS70061K.D
Operator : YM
Acquired : 1 Sep 2013 1:28 am using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: AR-SRM2779-WK4.0-002
Misc Info :
Vial Number: 11

58% expected



Supporting Documents

Shipping, Sample Receiving, and Project Initiation Documents

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/06/13 SDG#: 13080601

Sender: Arcadis - Mayflower AR

1. Number of Shipping Containers: 3 Arcadis: Daniel Mays

Comments: 1 of 3, large blue cooler

2. Airbill Present? (Yes) No Shipping Company: Fed Ex

Airbill Number: 7958 0588 0377

Comments: PON

3. Custody Seals on Container?
No (Yes) (Intact) Not Intact

Comments: on top of duct tape

4. Chain of Custody Records?
(No) Yes

Comments: In Cooler 2

5. General Sample Conditions:
Frozen (Cool) Unrefrigerated
Dry Ice Blue Ice (Ice)

Temperature/Comments: 5.0°c / temp blank 1.6°c (T4

6. List of Broken Containers:

None

7. Number of Samples Expected: 3 coolers Number of Samples Received: _____

8. Problems/Discrepancies:

Cooler 1: 21 seds

received sample: 8oz jar
SED-OA-DUP-04-080313
for PAH, TPH, TEH : not on COC

9. Resolutions:

notified Lyndi Mott/Daniel Mays via email 8/06/13

10. Checked in by: Amanda Brewster Date: 8/06/13

large
blue cooler

Sdg 13080601
Cooler 1 of 3

Ice type:
Cooler temp:
Temp blank: yes 5.0/1.6
Thermometer: 4
Custody Seal:

eurofins | Lancaster Laboratories

486704
CUSTODY SEAL
2425 New Holland Pike, Lancaster, PA 17601-5994 (717) 656-2300

DATE: 8.5.13
SIGNATURE:

ORIGIN ID:MPJA (979) 693-3446
B & B LABORATORIES
14391 S DOWLING RD STE B
COLLEGE STATION, TX 778453473
UNITED STATES US

SHIP DATE: 05AUG13
ACTWGT: 66.0 LB MAN
CAD: /POS1400
DIMS: 24x13x13 IN
BILL SENDER

TO
B AND B LABS
14391 S DOWLING RD
B
COLLEGE STATION TX 77845
(979) 693-3446
INV:
PO:
REF:
DEPT:

RT 819 2

FedEx Express

3 of 3
MPS# 0681 7958 0588 0377
Mstr# 8022 2781 6876
0200

TUE - 06 AUG 10:30A
PRIORITY OVERNIGHT

XH CLLA

77845
TX-US IAH

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/06/13 SDG#: 13080601

Sender: Arcadis- Mayflower AR

1. Number of Shipping Containers: 3 Arcadis - Daniel Mays

Comments: 2 of 3, large blue cooler

2. Airbill Present? (Yes) No Shipping Company: Fed Ex

Airbill Number: 8022 2781 6876

Comments: PON

3. Custody Seals on Container?
No (Yes) (Intact) Not Intact

Comments: on top of duct tape

4. Chain of Custody Records?
No (Yes)

Comments: all COCs in Cooler 2

5. General Sample Conditions:
Frozen (Cool) Unrefrigerated
Dry Ice Blue Ice (Ice)

Temperature/Comments: 0.2°C / temp blank 1.2°C (T4

6. List of Broken Containers:

None

7. Number of Samples Expected: 3 coolers Number of Samples Received: _____

8. Problems/Discrepancies:

None

Cooler 2:
20 seds
2 waters

9. Resolutions:

N/A

10. Checked in by: Amanda Brewster Date: 8/06/13

large blue cooler

Sdg 13080601
Cooler 2of3

Ice type:
Cooler temp
Temp blank: yes 1,2
Thermometer: 4
Custody Seal:

eurofins | Lancaster Laboratories

486705
CUSTODY SEAL
2425 New Holland Pike, Lancaster, PA 17601-5994 (717) 656-2300

DATE: 8-5-13
SIGNATURE: [signature]

FedEx Express NEW Package US Airbill

FedEx Tracking Number 8022 2781 6876

0200

1 From
Date 8-5-2013 [redacted]
Sender's Name Daniel Mays Phone 919 812-1417
Company ARCADIS
Address 801 Corporate Center Dr Ste 300 Dept./Floor/Suite/Room
City Raleigh State NC ZIP 27607

2 Your Internal Billing Reference

3 To
Recipient's Name B+B Laboratories Inc Phone 979 693-3446
Company B+B Labs
Address 14391B South Dowling Rd Dept./Floor/Suite/Room
We cannot deliver to P.O. boxes or P.O. ZIP codes.
Address
Use this line for the HOLD location address or for continuation of your shipping address.
City College Station State TX ZIP 77845

☐ HOLD Weekday FedEx location address REQUIRED. NOT available for FedEx First Overnight.
☐ HOLD Saturday FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day A.M.

8022 2781 6876

4 Express Package Service *To most locations
NOTE: Service order has changed. Please select carefully
Packages up to 150 lbs. For packages over 150 lbs., use the new FedEx Express Freight US Airbill.

Next Business Day
☐ FedEx First Overnight Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
☒ FedEx Priority Overnight Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
☐ FedEx Standard Overnight Next business afternoon.* Saturday Delivery NOT available

2 or 3 Business Days
☐ FedEx 2Day A.M. Second business morning.* Saturday Delivery NOT available.
☐ FedEx 2Day Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
☐ FedEx Express Saver Third business day.* Saturday Delivery NOT available

5 Packaging *Declared value limit $500.
☐ FedEx Envelope* ☐ FedEx Pak* ☐ FedEx Box ☐ FedEx Tube ☒ Other

6 Special Handling and Delivery Signature Options
☐ SATURDAY Delivery NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.
☒ No Signature Required Package may be left without obtaining a signature for delivery.
☐ Direct Signature Someone at recipient's address may sign for delivery. Fee applies.
☐ Indirect Signature If no one is available at recipient's address, someone at a neighboring address may sign for delivery. Fee applies.

Does this shipment contain dangerous goods?
☒ No ☐ Yes As per attached Shipper's Declaration. ☐ Yes Shipper's Declaration not required. ☐ Dry Ice Dry Ice, 9, UN 1845 ____ x ____ kg
Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.
☐ Cargo Aircraft Only

7 Payment Bill to:
Enter FedEx Acct. No. or Credit Card No. below.
☒ Sender Acct. No. in Section 1 will be billed ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

Total Packages 3 Total Weight ____ lbs. Credit Card Auth.

Our liability is limited to US$100 unless you declare a higher value. See the current FedEx Service Guide for details.

644

fedex.com 1800.GoFedEx 1800.463.3339

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/06/13 SDG#: 13080601

Sender: Arcadis- Mayflower AR

1. Number of Shipping Containers: 3 Arcadis: Daniel Mays

Comments: 3 of 3, large blue cooler

2. Airbill Present? (Yes) No Shipping Company: Fed Ex

Airbill Number: 7958 0588 0366

Comments: PON

3. Custody Seals on Container?
No (Yes) (Intact) Not Intact

Comments: on top of duct tape

4. Chain of Custody Records?
(No) Yes

Comments

5. General Sample Conditions:
Frozen (Cool) Unrefrigerated
Dry Ice Blue Ice (Ice)

Temperature/Comments: 0.0°c / temp blank 1.1°c CT4

6. List of Broken Containers:

None

7. Number of Samples Expected: 3 coolers Number of Samples Received: _____

8. Problems/Discrepancies:

SED- DA-009 (0.5-1.0) is this for PAH 44 analytes? not indicated

Cooler 3:
21 seds
2 waters

9. Resolutions: on COC

asked Lyndi/Daniel for clarification via email 8/06/13

10. Checked in by: amanda Bumpstr Date: 8/06/13

large blue cooler

Ice type: Wet Ice
Cooler temp: 0.0
Temp blank: yes 1.1
Thermometer: 4
Custody seal:

Sdg 13080601
Cooler 3 of 3

Eurofins | Lancaster Laboratories

486676
CUSTODY SEAL
2425 New Holland Pike, Lancaster, PA 17601-3994 (717) 656-2300

DATE: 8-5-2013
SIGNATURE:

IGIN ID:MPJA (979) 693-3446
& B LABORATORIES
,391 S DOWLING RD STE B
OLLEGE STATION, TX 778453473
NITED STATES US

SHIP DATE: 05AUG13
ACTWGT: 68.0 LB MAN
CAD: /POS1400
DIMS: 24x13x13 IN
BILL SENDER

RT 819 2 A 0366 08.06

B AND B LABS
14391 S DOWLING RD
B
COLLEGE STATION TX 77845
(979) 693-3446
INV:
PO:
REF:
DEPT:

FedEx Express
E
J131113021201 26

2 of 3
MPS# 0681 7958 0588 0366
Mstr# 8022 2781 6876
0200

TUE - 06 AUG 10:30A
PRIORITY OVERNIGHT

XH CLLA

77845
TX-US IAH

B&B
B&B Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Home Office 14391B South Dowling Road College Station TX 77845 phone (979) 693-3446 fax (979) 693-6389 http://www.tdi-bi.com

TDI Brooks

Client: ARCADIS

Project ID: B0086003.B01 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Analyses

Other Instructions: Sdg 13080601 Cooler 2 of 3 (1)

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs mod.8270SIM				Cooler #		Comments
SO-DA-011(0-0.5)	8-2-13	810	Soil	None	4 oz jar	1	X				3		44 PAH List
SO-DA-011(0.5-1.0)	8-2-13	815	Soil	None	4 oz jar	1	X				3		44 PAH List
SO-DA-011(1.0-1.5)	8-2-13	820	Soil	None	4 oz jar	1	X				3		44 PAH List
SO-DA-011(0-0.5)MS/MSD	8-2-13	810	Soil	None	4 oz jar	2	X				3,3		44 PAH List
SO-DA-010(0-0.5)	8-2-13	920	Soil	None	4 oz jar	1	X				3		44 PAH List
SO-DA-010(0.5-1.0)	8-2-13	925	Soil	None	4 oz jar	1	X				3		44 PAH List
SO-DA-010(1.0-1.5)	8-2-13	930	Soil	None	4 oz jar	1	X				3		44 PAH List
SO-DA-DUP-02-080213	8-2-13		Soil	None	4 oz jar	1	X				3		44 PAH List
SO-DA-009(0-0.5)	8-2-13	1000	Soil	None	4 oz jar	1	X				3		44 PAH List
SO-DA-009(0.5-1.0)	8-2-13	1005	Soil	None	4 oz jar	1	X				3		44 PAH List
					Total # of Containers	11							

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jonathan Flomerfelt	ARCADIS	8/5/13	16/5	Printed Name: Amanda Brewster	B&B Labs	8/06/13	15:00
Signature: [signature]	↓	↓	↓	Signature: Amanda Brewster			
Printed Name				Printed Name:			
Signature				Signature			

Matrix

T=Tissue G=Gas
S=Soil/Sediment Ws=Waste
R=Rinseate HW=Hazardous Waste
P=Product W=Water

Sample Container Vol/material

G=Glass C=Core
P=Plastic B=Bag

B&B Laboratories, Inc

CHAIN OF CUSTODY RECORD

Home Office 14391B South Dowling Road College Station TX 77845 phone (979) 693-3446 fax (979) 693-6389 http://www.tdi-bi.com

TDI Brooks

Client: ARCADIS

Project ID: B0086003.1301 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Analyses

Other Instructions: sdg 13080601 Cooler 2 of 3 (2)

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs and 8270 SIM	TEH mod. 8015			Cooler #		Comments
SO-DA-009(1.0-1.5)	8-2-13	1010	Soil	None	4 oz jar	1	X				3		44 PAH List
SO-DA-008(0-0.5)	8-2-13	1030	Soil	None	4 oz jar	1	X				3		44 PAH List
SO-DA-008(0.5-1.0)	8-2-13	1035	Soil	None	4 oz jar	1	X				3		44 PAH List
SO-DA-008(1.0-1.5)	8-2-13	1040	Soil	None	4 oz jar	1	X				3		44 PAH List
SO-DA-007(0-0.5)	8-2-13	1100	Soil	None	4 oz jar	1	X				3		44 PAH List
SO-DA-007(0.5-1.0)	8-2-13	1105	Soil	None	4 oz jar	1	X				3		44 PAH List
SO-DA-007(1.0-1.5)	8-2-13	1110	Soil	None	4 oz jar	1	X				3		44 PAH List
SO-DA-EB-01-080213	8-2-13	1300	Water	None	1L Amber	2	X				3.3		44 PAH List
SED-DA-009(0-0.5)	8-2-13	1415	Sed	None	8 oz jar	1	X	X			1		Full PAH List
SED-DA-009(0.5-1.0)	8-2-13	1420	Sed	None	4 oz jar	1	X				3		
					Total # of Containers	11							

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name Jonathan Flanagan	ARCADIS	8/5/13	1615	Printed Name Amanda Brewster	B&B Labs	8/06/13	15:00
Signature	↓	↓	↓	Signature Amanda Brewster			
Printed Name				Printed Name:			
Signature				Signature			

Matrix

T=Tissue G=Gas
S=Soil/Sediment Ws=Waste
R=Rinseate HW=Hazardous Waste
P=Product W=Water

Sample Container Vol/material

G=Glass C=Core
P=Plastic B=Bag

B&B Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Home Office 14391B South Dowling Road College Station TX 77845 phone (979) 693-3446 fax (979) 693-6389 http://www.tdi-bi.com

TDI Brooks

Client: ARCADIS

Project ID: B0086003.1301 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Analyses

Other Instructions: Sdg 13080601 Cooler 2 of 3 (3)

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs mod. 8270 SIM	TPH mod. 8015			Cooler #		Comments
SED-DA-009(1.0-1.5)	8-2-13	1425	Sed	None	4oz	1	X				3		44 PAH List
SED-DA-008(0-0.5)	8-3-13	745			8oz	1		X			1		Full List
SED-DA-008 (0.5-1.0)		750			4oz						2		
SED-DA-008 (1.0-1.5)		755			4oz						2		
SED-DA-008(0-0.5)MS/MSD		745			8oz	2		X			1		Full List
SED-DA-007(0.0-0.5)		900			8oz			X			1		Full List
SED-DA-007 (0.5-1.0)		905			4oz						2		
SED-DA-007 (1.0-1.5)		910			4oz						2		
SED-DA-006 (0.0-0.5)		1030			8oz			X			1		Full List
SED-DA-006 (0.5-1.0)		1035			4oz						2		

Total # of Containers 12

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name Jonathan Flemetelt	ARCADIS	8/5/13	1615	Printed Name Amanda Brewster	B&B Labs	8/06/13	15:00
Signature				Signature Amanda Brewster			
Printed Name				Printed Name:			
Signature				Signature:			

Matrix

T=Tissue G=Gas
S=Soil/Sediment Ws=Waste
R=Rinseate HW=Hazardous Waste
P=Product W=Water

Sample Container, Vol/material

G=Glass C=Core
P=Plastic B=Bag

B&B Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Home Office 14391B South Dowling Road College Station TX 77845 phone (979) 693-3446 fax (979) 693-6389 http://www.tdi-bi.com

TDI Brooks

Client: ARCADIS

Project ID: B0086003.1301 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Other Instructions: Sdg 13080601 Cooler 2 of 3 (4)

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs + 8270 SIM	TEH modified SCS			Cooler #		Comments
SED-DA-006 (1.0-1.5)	8/3/13	1040	Sed	None	4oz jar	1	X				2		44 PAH List
SED-DA-005 (0-0.5)	↓	1130	↓	↓	8oz	↓	↓	X			1		Full List
SED-DA-005 (0.5-1.0)		1135			4oz						2		44 PAH List
SED-DA-005 (1.0-1.5)		1140			4oz						2		44 PAH List
SED-DA-010 (0-0.5)		1410			8oz			X			1		Full List
SED-DA-010 (0.5-1.0)		1415			4oz						2		44 PAH List
SED-DA-010 (1.0-1.5)		1420			4oz						2		44 PAH List
SED-DA-011 (0-0.5)		1500			8oz			X			3		Full List
SED-DA-011 (0.5-1.0)		1505			4oz						2		44 PAH List
SED-DA-011 (1.0-1.5)	↓	1510	↓	↓	4oz	↓	↓				2		↓

Total # of Containers: 10

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jonathan Flomerfelt	ARCADIS	8/5/13	1615	Printed Name: Amanda Brewster	B&B Labs	8/06/13	15:00
Signature:	↓	↓	↓	Signature: Amanda Brewster			
Printed Name:				Printed Name:			
Signature:				Signature:			

Matrix:

T=Tissue G=Gas
S=Soil/Sediment Ws=Waste
R=Rinseate HW=Hazardous Waste
P=Product W=Water

Sample Container: Vol/material

G=Glass C=Core
P=Plastic B=Bag

B&B Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Home Office 14391B South Dowling Road College Station TX 77845 phone (979) 693-3446 fax (979) 693-6389 http://www.tdi-bi.com

TDI Brooks

Client: ARCADIS

Project ID: B00860003.1301 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: David Mays

Other Instructions: sdg 13080601 Cooler 2 of 3 (5)

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs + 8270 Sim	TEH by mod 8015			Cooler #		Comments
SED-DA-EB-05-080313	8/3/13	1630	W	None	2 LAG	2	X	X			2,2		Full List
~~SED-DA-TB-05-080313~~	~~8/3/13~~	~~1640~~	~~W~~	~~HCl~~	~~VOA~~	~~2~~	~~X~~	~~X~~					~~Full List~~
SED-DA-012 (0-0.5)	8/4/13	930	SED	None	8 oz	1	X	X			2		↓
SED-DA-012 (0-0.5) MS/MSD	↓	930	↓	↓	8 oz	2	X	X			2,2		↓
SED-DA-012 (0.5-1.0)	↓	935	↓	↓	4 oz	1	X				1		4/4 PAHs List
SED-DA-012 (1.0-1.5)	↓	940	↓	↓	4 oz	1	X				1		4/4 PAHs List
SED-DA-013 (0-0.5)	↓	1015	↓	↓	8 oz	1	X	X			2		Full List
SED-DA-013 (0.5-1.0)	↓	1020	↓	↓	4 oz	1	X				1		4/4 PAH List
SED-DA-013 (1.0-1.5)	↓	1025	↓	↓	4 oz	1	X				1		4/4 PAH List
SED-DA-DG-004 (0-0.5)	↓	950	↓	↓	8 oz	1					1		Full List
					Total # of Containers	11							

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jonathan Flemerfelt	ARCADIS	8/5/13	1615	Printed Name: Amanda Brewster	B&B Labs	8/06/13	15:00
Signature: [signature]	↓	↓	↓	Signature: Amanda Brewster			
Printed Name				Printed Name:			
Signature				Signature:			

Matrix

T=Tissue, S=Soil/Sediment, R=Rinseate, P=Product, G=Gas, Ws=Waste, HW=Hazardous Waste, W=Water

Sample Container Vol/material

G=Glass, P=Plastic, C=Core, B=Bag

B&B Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Home Office 14391B South Dowling Road College Station TX 77845 phone (979) 693-3446 fax (979) 693-6389 http://www.tdi-bi.com

TDI Brooks

Client: ARCADIS

Project ID: B0086003.1301 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Other Instructions: Sdg 13080601 Cooler 2 of 3 (6)

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs + 8270 Sim	TEH by mod PCAS			Cooler #		Comments
SED-DA-BG-005 (0-0.5)	8/4/13	955	Sed	none	8 oz	1	X	X			1		Full List
SED-DA-BG-006 (0-0.5)	8/4/13	930	Sed	X	8 oz	1	X	X			1		Full List
SED-DA-014 (0-0.5)	8/5/13	945	X		8 oz		X	X			2		Full list
SED-DA-014 (0.5-1.0)		950			4 oz		X				1		PAHs 4/4 List
SED-DA-015 (0-0.5)		1130			8 oz		X	X			2		Full List
SED-DA-015 (0.5-1.0)		1135			4 oz		X				1		4/4 PAH List
SED-DA-015 (1.0-1.5)		1140			4 oz		X				1		4/4 PAH List
SED-DA-016 (0-0.5)	016	1230			8 oz		X	X			2		Full List
SED-DA-016 (0.5-1.0)		1235			4 oz		X				1		4/4 PAH List

Total # of Containers 9

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name Jonathan Elsmerfelt	ARCADIS	8/5/13	1615	Printed Name Amanda Brewster	B&B Labs	8/06/13	15:00
Signature				Signature Amanda Brewster			
Printed Name				Printed Name:			
Signature				Signature:			

Matrix

T=Tissue G=Gas
S=Soil/Sediment Ws=Waste
R=Rinseate HW=Hazardous Waste
P=Product W=Water

Sample Container: Vol/material

G=Glass C=Core
P-Plastic B=Bag

B&B Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Home Office 14391B South Dowling Road College Station TX 77845 phone (979) 693-3446 fax (979) 693-6389 http://www.tdi-bi.com

TDI Brooks

Client: ARCADIS

Project ID: B0086003.1301 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Other Instructions: Sdg 13080601 Cooler 2 of 3 (7)

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs + 8270 Sim	TEH by mod 8015			Cooler #		Comments
SED-DA-017 (0-0.5)	8/5/13	1245	Sed	none	8oz	1	X	X			2		Full List
SED-DA-017 (0.5-1.0)	8/5/13	1250	Sed	"	4oz	1	X				1		4H PAH List

Total # of Containers 2

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jonathan Flomerfelt	ARCADIS	8/5/13	1615	Printed Name: Amanda Brewster	B&B Labs	8/06/13	15:00
Signature: [signature]	↓	↓	↓	Signature: Amanda Brewster			
Printed Name				Printed Name:			
Signature				Signature:			

Matrix:

T=Tissue G=Gas
S=Soil/Sediment Ws=Waste
R=Rinseate HW=Hazardous Waste
P=Product W=Water

Sample Container: Vol/material

G=Glass C=Core
P=Plastic B=Bag

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

received 8/06/13

Job #: J13034

SDG: 13080601

Client: Arcadis- Mayflower AR

Initiation Date: 8/06/13

Number of Samples: 2

Matrix: waters

Due Date: 45 days: 9/19/13

Comments: PAH, TPH, ALI
collected 8/02-8/03
extract by 8/08/13

Analyses

☑	PAHs	☐	OCs/PCBs	☑	Aliphatics/TPH	☑	EOM
☐	Dry Wt.	☐	%Lipid	☐	TOC/TIC	☐	_____
☑	Short Columns	☐	Long Columns	☐	_____	☐	_____

Requested QA/QC (per batch of _____ Client Samples)

☑	Blank	☐	SRM/LCS_____	☑	Blank Spike
☑	Blank Spike Duplicate			☐	Matrix Spike _____
☐	Matrix Spike Duplicate _____			☐	Duplicate_____

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, ALI Volume(s): 100ml

Spike Standard(s): PAH, ALI Volume(s): 100ml

Internal Standard(s): PAH, ALI Volume(s): 100ml

Final Extract Volume (ml): 1.0 Final Solvent: DCM

Comments:

Sample Custodian Signature: Amanda Brewster Date: 8/06/13

Laboratory Manager Signature: _____ Date: 8/6/13

Sample Initiaiton - general Rev 1.doc
Rev 1

cc: COC Book
Extraction Lab

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
64380	J13034	Arcadis - Mayflower AR	ARC1695	SED-DA-EB-05-080313	08/03/13	08/06/13	PAH, TPH, ALI	WATER	1 of 2	13080601	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
64382	J13034	Arcadis - Mayflower AR	ARC1697	SO-DA-EB-01-080213	08/02/13	08/06/13	PAH, TPH, ALI	WATER	1 of 2	13080601	Cooler 3	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13080601
Client: Arcadis- Mayflower AR
Initiation Date: 8/06/13

Number of Samples: 40
Matrix: soil/sediment
Due Date: 45 days: 9/19/13
Comments: PAH: 44 analytes received 8/06/13

Analyses

☒	PAHs	☐	OCs/PCBs	☒	Aliphatics/TPH	☒	EOM
☑	Dry Wt.	☐	%Lipid	☐	TOC/TIC	☐	____
☒	Short Columns	☐	Long Columns	☐	____	☐	____

Requested QA/QC (per batch of ____ Client Samples)

☒	Blank	☒	SRM/LCS 15416	☐	Blank Spike
☐	Blank Spike Duplicate	☒	Matrix Spike ____		
☒	Matrix Spike Duplicate ____	☒	Duplicate ____		

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, ACI Volume(s): 100ml

Spike Standard(s): PAH, ACI Volume(s): 100ml

Internal Standard(s): PAH, ACI Volume(s): 100ml

Final Extract Volume (ml): 1.0 Final Solvent: DCM

Comments:

PAH short list

Sample Custodian Signature: Amanda Brewster Date: 8/06/13

Laboratory Manager Signature: [signature] Date: 8/6/13

Sample Initiaiton - general Rev 1.doc
Rev 1

cc: COC Book
Extraction Lab

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
64326	J13034	Arcadis - Mayflower AR	ARC1641	SED-DA-012 (0.5-1.0)	08/04/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64327	J13034	Arcadis - Mayflower AR	ARC1642	SED-DA-012 (1.0-1.5)	08/04/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64328	J13034	Arcadis - Mayflower AR	ARC1643	SED-DA-013 (0.5-1.0)	08/04/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64329	J13034	Arcadis - Mayflower AR	ARC1644	SED-DA-013 (1.0-1.5)	08/04/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64333	J13034	Arcadis - Mayflower AR	ARC1648	SED-DA-014 (0.5-1.0)	08/05/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64334	J13034	Arcadis - Mayflower AR	ARC1649	SED-DA-015 (0.5-1.0)	08/05/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64335	J13034	Arcadis - Mayflower AR	ARC1650	SED-DA-015 (1.0-1.5)	08/05/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64336	J13034	Arcadis - Mayflower AR	ARC1651	SED-DA-016 (0.5-1.0)	08/05/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64337	J13034	Arcadis - Mayflower AR	ARC1652	SED-DA-017 (0.5-1.0)	08/05/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64339	J13034	Arcadis - Mayflower AR	ARC1654	SED-DA-008 (0.5-1.0)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64340	J13034	Arcadis - Mayflower AR	ARC1655	SED-DA-008 (1.0-1.5)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64341	J13034	Arcadis - Mayflower AR	ARC1656	SED-DA-007 (0.5-1.0)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64342	J13034	Arcadis - Mayflower AR	ARC1657	SED-DA-007 (1.0-1.5)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64343	J13034	Arcadis - Mayflower AR	ARC1658	SED-DA-006 (0.5-1.0)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64344	J13034	Arcadis - Mayflower AR	ARC1659	SED-DA-006 (1.0-1.5)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64345	J13034	Arcadis - Mayflower AR	ARC1660	SED-DA-005 (0.5-1.0)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64346	J13034	Arcadis - Mayflower AR	ARC1661	SED-DA-005 (1.0-1.5)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64347	J13034	Arcadis - Mayflower AR	ARC1662	SED-DA-010 (0.5-1.0)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64348	J13034	Arcadis - Mayflower AR	ARC1663	SED-DA-010 (1.0-1.5)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64349	J13034	Arcadis - Mayflower AR	ARC1664	SED-DA-011 (0.5-1.0)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64350	J13034	Arcadis - Mayflower AR	ARC1665	SED-DA-011 (1.0-1.5)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64359	J13034	Arcadis - Mayflower AR	ARC1674	SO-DA-011 (0-0.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64360	J13034	Arcadis - Mayflower AR	ARC1675	SO-DA-011 (0.5-1.0)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64361	J13034	Arcadis - Mayflower AR	ARC1676	SO-DA-011 (1.0-1.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64362	J13034	Arcadis - Mayflower AR	ARC1677	SO-DA-011 (0-0.5) MS/MSD	08/02/13	08/06/13	PAH	SOIL	44 analytes, 1 of 2	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64364	J13034	Arcadis - Mayflower AR	ARC1679	SO-DA-010 (0-0.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64365	J13034	Arcadis - Mayflower AR	ARC1680	SO-DA-010 (0.5-1.0)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64366	J13034	Arcadis - Mayflower AR	ARC1681	SO-DA-010 (1.0-1.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64367	J13034	Arcadis - Mayflower AR	ARC1682	SO-DA-DUP-02-080213	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64368	J13034	Arcadis - Mayflower AR	ARC1683	SO-DA-009 (0-0.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64369	J13034	Arcadis - Mayflower AR	ARC1684	SO-DA-009 (0.5-1.0)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64370	J13034	Arcadis - Mayflower AR	ARC1685	SO-DA-009 (1.0-1.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64371	J13034	Arcadis - Mayflower AR	ARC1686	SO-DA-008 (0-0.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64372	J13034	Arcadis - Mayflower AR	ARC1687	SO-DA-008 (0.5-1.0)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64373	J13034	Arcadis - Mayflower AR	ARC1688	SO-DA-008 (1.0-1.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64374	J13034	Arcadis - Mayflower AR	ARC1689	SO-DA-007 (0-0.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64375	J13034	Arcadis - Mayflower AR	ARC1690	SO-DA-007 (0.5-1.0)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64376	J13034	Arcadis - Mayflower AR	ARC1691	SO-DA-007 (1.0-1.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64377	J13034	Arcadis - Mayflower AR	ARC1692	SED-DA-009 (0.5-1.0)	08/02/13	08/06/13	PAH	SED	44 analytes? not indicated on COC	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64378	J13034	Arcadis - Mayflower AR	ARC1693	SED-DA-009 (1.0-1.5)	08/02/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302

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B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13080601
Client: Arcadis-Mayflower AR
Initiation Date: 8/06/13

Number of Samples: 19
Matrix: sediments
Due Date: 45 days: 9/19/13
Comments: PAH, TPH, ALI
received 8/06/13

Analyses

☑	PAHs	☐	OCs/PCBs	☑	Aliphatics/TPH	☑	EOM
☑	Dry Wt.	☐	%Lipid	☐	TOC/TIC	☐	____
☑	Short Columns	☐	Long Columns	☐	____	☐	____

Requested QA/QC (per batch of ____ Client Samples)

☑	Blank	☑	SRM/LCS 1541b	☐	Blank Spike
☐	Blank Spike Duplicate	☑	Matrix Spike ____		
☑	Matrix Spike Duplicate ____	☑	Duplicate ____		

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, ALI Volume(s): 100ml

Spike Standard(s): PAH, ALI Volume(s): 100ml

Internal Standard(s): PAH, ALI Volume(s): 100ml

Final Extract Volume (ml): 1.0 Final Solvent: DCM

Comments:

Use ARC1635 as MSD/MS
ARC1667

Sample Custodian Signature: Amanda Brewster Date: 8/06/13

Laboratory Manager Signature: ____ Date: 8/06/13

Sample Initiaiton - general Rev 1.doc
Rev 1

cc: COC Book
Extraction Lab

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64318	J13034	Arcadis - Mayflower AR	ARC1633	SED-DA-009 (0-0.5)	08/02/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64319	J13034	Arcadis - Mayflower AR	ARC1634	SED-DA-008 (0-0.5)	08/03/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64320	J13034	Arcadis - Mayflower AR	ARC1635	SED-DA-008 (0-0.5) MS/MSD	08/03/13	08/06/13	PAH, TPH, ALI	SED	1 of 2	13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64322	J13034	Arcadis - Mayflower AR	ARC1637	SED-DA-007 (0-0.5)	08/03/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64323	J13034	Arcadis - Mayflower AR	ARC1638	SED-DA-006 (0-0.5)	08/03/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64324	J13034	Arcadis - Mayflower AR	ARC1639	SED-DA-005 (0-0.5)	08/03/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64325	J13034	Arcadis - Mayflower AR	ARC1640	SED-DA-010 (0-0.5)	08/03/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64330	J13034	Arcadis - Mayflower AR	ARC1645	SED-DA-BG-004 (0-0.5)	08/04/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64331	J13034	Arcadis - Mayflower AR	ARC1646	SED-DA-BG-005 (0-0.5)	08/04/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64332	J13034	Arcadis - Mayflower AR	ARC1647	SED-DA-BG-006 (0-0.5)	08/04/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64338	J13034	Arcadis - Mayflower AR	ARC1653	SED-DA-DUP-04-080313	08/03/13	08/06/13	PAH, TPH, ALI	SED	not listed on COC	13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64351	J13034	Arcadis - Mayflower AR	ARC1666	SED-DA-012 (0-0.5)	08/04/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64352	J13034	Arcadis - Mayflower AR	ARC1667	SED-DA-012 (0-0.5) MS/MSD	08/04/13	08/06/13	PAH, TPH, ALI	SED	1 of 2	13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64354	J13034	Arcadis - Mayflower AR	ARC1669	SED-DA-013 (0-0.5)	08/04/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64355	J13034	Arcadis - Mayflower AR	ARC1670	SED-DA-014 (0-0.5)	08/05/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64356	J13034	Arcadis - Mayflower AR	ARC1671	SED-DA-015 (0-0.5)	08/05/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64357	J13034	Arcadis - Mayflower AR	ARC1672	SED-DA-016 (0-0.5)	08/05/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64358	J13034	Arcadis - Mayflower AR	ARC1673	SED-DA-017 (0-0.5)	08/05/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64379	J13034	Arcadis - Mayflower AR	ARC1694	SED-DA-011 (0-0.5)	08/03/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302

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Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
64318	J13034	Arcadis - Mayflower AR	ARC1633	SED-DA-009 (0-0.5)	08/02/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64319	J13034	Arcadis - Mayflower AR	ARC1634	SED-DA-008 (0-0.5)	08/03/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64320	J13034	Arcadis - Mayflower AR	ARC1635	SED-DA-008 (0-0.5) MS/MSD	08/03/13	08/06/13	PAH, TPH, ALI	SED	1 of 2	13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64321	J13034	Arcadis - Mayflower AR	ARC1636	SED-DA-008 (0-0.5) MS/MSD	08/03/13	08/06/13	HOLD	SED	2 of 2	13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64322	J13034	Arcadis - Mayflower AR	ARC1637	SED-DA-007 (0-0.5)	08/03/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64323	J13034	Arcadis - Mayflower AR	ARC1638	SED-DA-006 (0-0.5)	08/03/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64324	J13034	Arcadis - Mayflower AR	ARC1639	SED-DA-005 (0-0.5)	08/03/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64325	J13034	Arcadis - Mayflower AR	ARC1640	SED-DA-010 (0-0.5)	08/03/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64326	J13034	Arcadis - Mayflower AR	ARC1641	SED-DA-012 (0.5-1.0)	08/04/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64327	J13034	Arcadis - Mayflower AR	ARC1642	SED-DA-012 (1.0-1.5)	08/04/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64328	J13034	Arcadis - Mayflower AR	ARC1643	SED-DA-013 (0.5-1.0)	08/04/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64329	J13034	Arcadis - Mayflower AR	ARC1644	SED-DA-013 (1.0-1.5)	08/04/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64330	J13034	Arcadis - Mayflower AR	ARC1645	SED-DA-BG-004 (0-0.5)	08/04/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64331	J13034	Arcadis - Mayflower AR	ARC1646	SED-DA-BG-005 (0-0.5)	08/04/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64332	J13034	Arcadis - Mayflower AR	ARC1647	SED-DA-BG-006 (0-0.5)	08/04/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64333	J13034	Arcadis - Mayflower AR	ARC1648	SED-DA-014 (0.5-1.0)	08/05/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64334	J13034	Arcadis - Mayflower AR	ARC1649	SED-DA-015 (0.5-1.0)	08/05/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64335	J13034	Arcadis - Mayflower AR	ARC1650	SED-DA-015 (1.0-1.5)	08/05/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64336	J13034	Arcadis - Mayflower AR	ARC1651	SED-DA-016 (0.5-1.0)	08/05/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64337	J13034	Arcadis - Mayflower AR	ARC1652	SED-DA-017 (0.5-1.0)	08/05/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64338	J13034	Arcadis - Mayflower AR	ARC1653	SED-DA-DUP-04-080313	08/03/13	08/06/13	PAH, TPH, ALI	SED	not listed on COC	13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64339	J13034	Arcadis - Mayflower AR	ARC1654	SED-DA-008 (0.5-1.0)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64340	J13034	Arcadis - Mayflower AR	ARC1655	SED-DA-008 (1.0-1.5)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64341	J13034	Arcadis - Mayflower AR	ARC1656	SED-DA-007 (0.5-1.0)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64342	J13034	Arcadis - Mayflower AR	ARC1657	SED-DA-007 (1.0-1.5)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64343	J13034	Arcadis - Mayflower AR	ARC1658	SED-DA-006 (0.5-1.0)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64344	J13034	Arcadis - Mayflower AR	ARC1659	SED-DA-006 (1.0-1.5)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64345	J13034	Arcadis - Mayflower AR	ARC1660	SED-DA-005 (0.5-1.0)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64346	J13034	Arcadis - Mayflower AR	ARC1661	SED-DA-005 (1.0-1.5)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64347	J13034	Arcadis - Mayflower AR	ARC1662	SED-DA-010 (0.5-1.0)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64348	J13034	Arcadis - Mayflower AR	ARC1663	SED-DA-010 (1.0-1.5)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64349	J13034	Arcadis - Mayflower AR	ARC1664	SED-DA-011 (0.5-1.0)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64350	J13034	Arcadis - Mayflower AR	ARC1665	SED-DA-011 (1.0-1.5)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64351	J13034	Arcadis - Mayflower AR	ARC1666	SED-DA-012 (0-0.5)	08/04/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64352	J13034	Arcadis - Mayflower AR	ARC1667	SED-DA-012 (0-0.5) MS/MSD	08/04/13	08/06/13	PAH, TPH, ALI	SED	1 of 2	13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64353	J13034	Arcadis - Mayflower AR	ARC1668	SED-DA-012 (0-0.5) MS/MSD	08/04/13	08/06/13	HOLD	SED	2 of 2	13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64354	J13034	Arcadis - Mayflower AR	ARC1669	SED-DA-013 (0-0.5)	08/04/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64355	J13034	Arcadis - Mayflower AR	ARC1670	SED-DA-014 (0-0.5)	08/05/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64356	J13034	Arcadis - Mayflower AR	ARC1671	SED-DA-015 (0-0.5)	08/05/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64357	J13034	Arcadis - Mayflower AR	ARC1672	SED-DA-016 (0-0.5)	08/05/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64358	J13034	Arcadis - Mayflower AR	ARC1673	SED-DA-017 (0-0.5)	08/05/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64359	J13034	Arcadis - Mayflower AR	ARC1674	SO-DA-011 (0-0.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64360	J13034	Arcadis - Mayflower AR	ARC1675	SO-DA-011 (0.5-1.0)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64361	J13034	Arcadis - Mayflower AR	ARC1676	SO-DA-011 (1.0-1.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64362	J13034	Arcadis - Mayflower AR	ARC1677	SO-DA-011 (0-0.5) MS/MSD	08/02/13	08/06/13	PAH	SOIL	44 analytes, 1 of 2	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64363	J13034	Arcadis - Mayflower AR	ARC1678	SO-DA-011 (0-0.5) MS/MSD	08/02/13	08/06/13	HOLD	SOIL	2 of 2	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64364	J13034	Arcadis - Mayflower AR	ARC1679	SO-DA-010 (0-0.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64365	J13034	Arcadis - Mayflower AR	ARC1680	SO-DA-010 (0.5-1.0)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64366	J13034	Arcadis - Mayflower AR	ARC1681	SO-DA-010 (1.0-1.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64367	J13034	Arcadis - Mayflower AR	ARC1682	SO-DA-DUP-02-080213	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64368	J13034	Arcadis - Mayflower AR	ARC1683	SO-DA-009 (0-0.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64369	J13034	Arcadis - Mayflower AR	ARC1684	SO-DA-009 (0.5-1.0)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64370	J13034	Arcadis - Mayflower AR	ARC1685	SO-DA-009 (1.0-1.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64371	J13034	Arcadis - Mayflower AR	ARC1686	SO-DA-008 (0-0.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64372	J13034	Arcadis - Mayflower AR	ARC1687	SO-DA-008 (0.5-1.0)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64373	J13034	Arcadis - Mayflower AR	ARC1688	SO-DA-008 (1.0-1.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64374	J13034	Arcadis - Mayflower AR	ARC1689	SO-DA-007 (0-0.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64375	J13034	Arcadis - Mayflower AR	ARC1690	SO-DA-007 (0.5-1.0)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64376	J13034	Arcadis - Mayflower AR	ARC1691	SO-DA-007 (1.0-1.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64377	J13034	Arcadis - Mayflower AR	ARC1692	SED-DA-009 (0.5-1.0)	08/02/13	08/06/13	PAH	SED	44 analytes? not indicated on COC	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64378	J13034	Arcadis - Mayflower AR	ARC1693	SED-DA-009 (1.0-1.5)	08/02/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64379	J13034	Arcadis - Mayflower AR	ARC1694	SED-DA-011 (0-0.5)	08/03/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64380	J13034	Arcadis - Mayflower AR	ARC1695	SED-DA-EB-05-080313	08/03/13	08/06/13	PAH, TPH, ALI	WATER	1 of 2	13080601	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
64381	J13034	Arcadis - Mayflower AR	ARC1696	SED-DA-EB-05-080313	08/03/13	08/06/13	HOLD	WATER	2 of 2	13080601	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
64382	J13034	Arcadis - Mayflower AR	ARC1697	SO-DA-EB-01-080213	08/02/13	08/06/13	PAH, TPH, ALI	WATER	1 of 2	13080601	Cooler 3	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
64383	J13034	Arcadis - Mayflower AR	ARC1698	SO-DA-EB-01-080213	08/02/13	08/06/13	HOLD	WATER	2 of 2	13080601	Cooler 3	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302

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amanda brewster

From: amanda brewster <amandabrewster@tdi-bi.com>
Sent: Tuesday, August 06, 2013 3:21 PM
To: 'Mays, Daniel'; Parmelee, Rhiannon (Rhiannon.Parmelee@arcadis-us.com); 'Jennifer.Chandler@arcadis-us.com'; 'Dennis.Capria@arcadis-us.com'; Mott, Lyndi (Lyndi.Mott@arcadis-us.com)
Cc: Juan Ramirez (juanramirez@tdi-bi.com); Donell Frank; 'tommcdonald@tdi-bi.com' (tommcdonald@tdi-bi.com)
Subject: Samples received 8/06/13 - a few questions
Attachments: COC 8-06-13.pdf

Hi Daniel,

We received your samples this morning in good condition.

Cooler 1 arrived at an internal temperature of 5.0ºC and the temperature blank was 1.6ºC.
Cooler 2 arrived at an internal temperature of 0.2ºC and the temperature blank was 1.2ºC.
Cooler 3 arrived at an internal temperature of 0.0ºC and the temperature blank was 1.1ºC.
A PDF of the COCs are attached for your records.

There were a few discrepancies I was hoping you could help clarify:

We received an 8oz jar of sediment labeled: SED-DA-DUP-04-080313 for PAH, TPH (TEH), but this sample was not listed on the COC. Is this sample intended for analysis by our laboratory?

The COC lists sediment sample: SED-DA-009 (0.5-1.0), 4oz jar but does not indicate what analysis you would like for the sample. Should this be for the "44 PAH list" like the rest of the 4oz jars?

Please let me know how you would like to proceed.

Regards,
Amanda

From: Mays, Daniel [mailto:Daniel.Mays@arcadis-us.com]
Sent: Tuesday, August 06, 2013 4:56 AM
To: amanda brewster
Subject: XOM-Mayflower Cooler Tracking #'s

Good Morning Amanda,

The tracking number for 3 coolers shipped from Mayflower yesterday 8-5-2013 was 8022 2781 6876.

Regards,
Danny Mays | Environmental Specialist, E.I. | daniel.mays@arcadis-us.com
ARCADIS U.S., Inc. | 801 Corporate Center Drive, Suite 300 | Raleigh, North Carolina 27607
T: 919-415-2281 | M: 919-812-1417 | F: 919-854-5448
Professional Affiliate/ARCADIS G&M of North Carolina, Inc.

Laboratory Bench Sheet Logs

B&B LABORATORIES ENVIRONMENTAL EXTRACTION LOG

MATRIX
- ☐ OTHER
- ☐ WATER
- ☒ SEDIMENT
- ☐ TISSUE

Job #: J13034 SDG #: 13080601

Client: Arcadis - Mayflower AR

Analysis: ☒ PAH ☐ PESTS ☐ PCB ☒ ALI

Other: TPH

Extraction Solvent: DCM

Final Solvent: DCM Final Volume: 1.0 mL

Lipids Y / (N)
Dry Wt. (Y) / N
Copper (Y) / N
EOM (Y) / N
Columns (Y) / N
Long / (Short)

Surrogate: 100 µL
PAH: AR-WKSU-2500-002
Pest/PCB: —
Aliphatic: AL-WKSU-200-001
Other: —

Spike: 100 µL
PAH: AR-WKSK-1000-026
Pest/PCB: —
Aliphatic: AL-WKSK-100-026
Other: —

GC Int Std: 100 µL
PAH: AR-WKIS-2500-002
Pest/PCB: —
Aliphatic: AL-WKIS-500-001
Other: —

Turbo Vap II
Bath T (C):
Pressure (>20psi):
Check Water Level:
Turbo Vap Date:

General Comments:

Report 13-3101 ASE 2

All samples get PAH + ALI standards. See comments for specific analysis -CK

	Added	Witness
Surrogate:	8/14/13 CK	8/14/13 CBS
Spike:	8/14/13 CK	8/14/13 CBS
Internal:	8/16/13 HA	8/16/13 CK

	Sample Name	Client ID	Wet Wt. (g or L)	Dry Wt. %	Dry Wt. (g)	Extraction Comments	Internal Chain of Custody	
1	ENV3082A	Procedural Blank	—	—	—		Extraction Prep	
2	ENV3082B	SRM 1941b	4.13	97.61	4.03		Date: 8/14/13	Date: 8/14/13
3	ENV3082C	Matrix Spike (ARC1667)	18.28	82.35	15.05		Initials: CK	Initials: CK
4	ENV3082D	Matrix Spike Dup (ARC1667)	18.23	82.35	15.01		Extraction	
5	ENV3082E	Duplicate (ARC1670)	18.14	83.09	15.07		Date: 8/14/13	Date: 8-15-13
6	ARC1648	SED-DA-014 (0.5-1.0)	18.10	83.33	15.08	PAH only	Initials: CK	Initials: EW
7	ARC1649	SED-DA-015 (0.5-1.0)	22.70	66.67	15.13	PAH only	Concentration	
8	ARC1650	SED-DA-015 (1.0-1.5)	21.42	70.16	15.03	PAH only	Date: 8-15-13	Date: 8-15-13
9	ARC1651	SED-DA-016 (0.5-1.0)	23.46	64.66	15.17	PAH only	Initials: EW	Initials: EW
10	ARC1652	SED-DA-017 (0.5-1.0)	20.01	75.35	15.08	PAH only	Short Columns	
11	ARC1654	SED-DA-008 (0.5-1.0)	17.48	86.07	15.04	PAH only	Date: 8-15-13	Date: 8-15-13
12	ARC1655	SED-DA-008 (1.0-1.5)	17.54	85.53	15.00	PAH only	Initials: EW	Initials: EW

ENV 3082

B&B LABORATORIES ENVIRONMENTAL EXTRACTION LOG

	Sample Name	Client ID	Wet Wt. (g or L)	Dry Wt. %	Dry Wt. (g)	Extraction Comments
13	ARC1656	SED-DA-007 (0.5-1.0)	19.60	77.70	15.23	PAH only
14	ARC1657	SED-DA-007 (1.0-1.5)	18.76	81.09	15.21	PAH only
15	ARC1658	SED-DA-006 (0.5-1.0)	17.39	86.39	15.02	PAH only
16	ARC1659	SED-DA-006 (1.0-1.5)	17.66	85.09	15.03	PAH only
17	ARC1660	SED-DA-005 (0.5-1.0)	18.11	83.20	15.07	PAH only
18	ARC1661	SED-DA-005 (1.0-1.5)	18.23	82.76	15.09	PAH only
19	ARC1666	SED-DA-012 (0-0.5)	18.01	83.27	15.00	original for MS/MSD
20	ARC1669	SED-DA-013 (0-0.5)	18.71	81.20	15.19	
21	ARC1670	SED-DA-014 (0-0.5)	18.14	83.09	15.07	
22	ARC1671	SED-DA-015 (0-0.5)	23.00	65.62	15.09	
23	ARC1672	SED-DA-016 (0-0.5)	23.38	64.38	15.05	
24	ARC1673	SED-DA-017 (0-0.5)	20.31	73.99	15.03	

Internal Chain of Custody

Concentration Short Columns		
	Date: 8-16-13	Date: 8-16-13
	Initials: EW	Initials: EW
Columns SA1		
	Date:	Date:
	Initials:	Initials:
Concentration SA1		
	Date:	Date:
	Initials:	Initials:
Columns SA2		
	Date:	Date:
	Initials:	Initials:
Concentration SA2		
	Date:	Date:
	Initials:	Initials:
Transfer for HPLC		
	Date:	Date:
	Initials:	Initials:
HPLC		
	Date:	Date:
	Initials:	Initials:
Post-HPLC Concentration		
	Date:	Date:
	Initials:	Initials:
Final Extract Transfer		
	Date: 8-16-13	Initials: EW

Dry Weight Page: DRY 1356, 1357

Lipid/EOM Page: EOM1022

Clean-up/Separation/Other Columns: —

Lot Numbers

- DCM: 52314
- Hexane: —
- Hydromatrix: —
- Water: DI045-B
- Silica: BCBJ9493V
- Alumina: TG14BZEMS
- Sodium Sulfate: 2092C525
- Pentane: —
- Copper: 115050-AV
- Hydrochloric Acid: —
- SPE Columns: —
- Other: —

Sample Storage Box #: J13034-2

HPLC Storage Box #: —

QC Review

Date	Initials
8/19/13	[illegible]

Copied to Folders: 8/19/13 CK

MATRIX: OTHER / SEDIMENT / WATER

Job #: J13034 SDG #: 13080601

Client: Arcadis - Mayflower AR

General comments:

Lab Manager Date/Int: 8/19/13 SM

Transferred by Date/Int: 8/16/13 CK From ENV Pg: ENV3082 From DRY Pg: DRY1356, 1357

Date/Int: 8-15-13 EN

Bal. Cal. ✓ Date/Int: 8/16/13 CK

	Sample Name	Client ID	Smpl Wt./Vol (g/L) Wet Wt. / Dry Wt.	Dry Wt. (%)	Final Extract Vol (mL)	Initial Filter Wt (mg)	Filter & Sample Wt (mg)	Wt. of 100 µl EOM Wt. (mg)	EOM µg/g (Wet Wt. Basis)	EOM µg/g (Dry Wt. Basis)	Comments
1	ENV3082A	Procedural Blank	—	—	3	24.064	24.064	0.000	—	—	
2	ENV3082B	SRM 1941b	4.03	97.61	3	23.159	23.339	0.180	1308	1340	
3	ENV3082C	Matrix Spike (ARC1667)	15.05	82.35	3	24.191	24.205	0.014	23	28	
4	ENV3082D	Matrix Spike Dup (ARC1667)	15.01	82.35	3	22.895	22.918	0.023	38	46	
5	ENV3082E	Duplicate (ARC1670)	15.07	83.09	3	22.724	22.737	0.013	22	26	
6	ARC1648	SED-DA-014 (0.5-1.0)	15.08	83.33	3	24.304	24.316	0.012	20	24	
7	ARC1649	SED-DA-015 (0.5-1.0)	15.13	66.67	3	24.113	25.721	1.608	2126	3188	
8	ARC1650	SED-DA-015 (1.0-1.5)	15.03	70.16	3	22.991	23.232	0.241	338	481	
9	ARC1651	SED-DA-016 (0.5-1.0)	15.17	64.66	3	24.008	24.338	0.330	422	653	
10	ARC1652	SED-DA-017 (0.5-1.0)	15.08	75.35	3	23.570	26.504	2.934	4398	5837	
11	ARC1654	SED-DA-008 (0.5-1.0)	15.04	86.07	3	22.834	22.848	0.014	24	28	
12	ARC1655	SED-DA-008 (1.0-1.5)	15.00	85.53	3	24.310	24.316	~~0.008~~ CK 8/16 0.006	10	12	

EOM 1022

	Sample Name	Client ID	Smpl Wt./Vol (g/L) Wet Wt. Dry Wt.	Dry Wt. (%)	Final Extract Vol (mL)	Initial Filter Wt (mg)	Filter & Sample Wt (mg)	Wt. of 100 µl EOM Wt. (mg)	EOM µg/g (Wet Wt. Basis)	EOM µg/g (Dry Wt. Basis)	Comments
13	ARC1656	SED-DA-007 (0.5-1.0)	15.23	77.70	3	22.666	22.683	0.017	26	33	
14	ARC1657	SED-DA-007 (1.0-1.5)	15.21	81.09	3	23.123	23.185	0.062	99	122	
15	ARC1658	SED-DA-006 (0.5-1.0)	15.02	86.39	3	23.032	23.218	0.186	321	372	
16	ARC1659	SED-DA-006 (1.0-1.5)	15.03	85.09	3	23.115	23.123	0.008	14	16	
17	ARC1660	SED-DA-005 (0.5-1.0)	15.07	83.20	3	22.750	22.759	0.009	15	18	
18	ARC1661	SED-DA-005 (1.0-1.5)	15.09	82.76	3	24.109	24.116	0.007	12	14	
19	ARC1666	SED-DA-012 (0-0.5)	15.00	83.27	3	22.624	22.649	0.025	42	50	
20	ARC1669	SED-DA-013 (0-0.5)	15.19	81.20	3	24.044	24.060	0.016	26	32	
21	ARC1670	SED-DA-014 (0-0.5)	15.07	83.09	3	23.907	23.921	0.014	23	28	
22	ARC1671	SED-DA-015 (0-0.5)	15.09	65.62	3	24.056	26.347	2.291	2989	4555	
23	ARC1672	SED-DA-016 (0-0.5)	15.05	64.38	3	22.803	23.544	0.741	951	1477	
24	ARC1673	SED-DA-017 (0-0.5)	15.03	73.99	3	24.230	25.735	1.505	2223	3004	

$$\text{EOM} = \frac{(\text{EOM Wt. (mg)})\ (\text{Final Extract Vol. (ml)})}{(\text{Smpl Wt/Vol. (g/L)})\ (0.10\ \text{ml})} \times 1000$$

$$\%\text{RPD} = \frac{(\text{EOM}_1 - \text{EOM}_2)}{(\text{EOM}_1 + \text{EOM}_2) \times 0.5} \times 100\%$$

	Initial Filter Wt (mg)	Filter & Sample Wt (mg)	Wt. of 100 µl Lipid Wt. (mg)
Solvent Blank	23.966	23.966	0.000
EOM Standard	24.314	34.623	10.309

EOM-WKLC-10-004

The Relative Percent Difference (RPD) between duplicates must be ≤ 25%.

Date/Int:	RPD
8/16/13 CK	7.407%
Sample: ARC1670	
Duplicate: ENV3080E	

B&B LABORATORIES % DRY WEIGHT LOGBOOK

MATRIX
- [ ] OTHER
- [x] SEDIMENT
- [ ] TISSUE

Type: _____

Job #: J13034 SDG #: 13080601

Client: Arcadis - Mayflower AR

General comments:

Lab Mananger Date:	Lab Mananger Init:	Date/Init: [x] Bal. Cal.	Beaker + Dry Smpl (g) Date/Init: [x] Bal. Cal.	Beaker + Dry Smpl (g) Date/Init: [x] Bal. Cal.	Date/Init:
8/14/13	[illegible]	8/8/13 [illegible]	8/9/13 CK	8/12/13 CK	8/13/13 CK

	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	1	2	(%) Dry Weight	Comments
1	ARC1633	SED-DA-009 (0-0.5)	1.30	2.92	2.62	2.61	80.86	
2	ARC1634	SED-DA-008 (0-0.5)	1.30	3.58	3.22	3.22	84.21	
3	ARC1635	SED-DA-008 (0-0.5) MS/MSD	1.30	2.93	2.66	2.67	84.05	
4	ARC1637	SED-DA-007 (0-0.5)	1.30	3.65	3.24	3.25	82.98	
5	ARC1638	SED-DA-006 (0-0.5)	1.30	2.55	2.36	2.35	84.00	
6	ARC1639	SED-DA-005 (0-0.5)	1.30	3.27	2.94	2.95	83.76	
7	ARC1640	SED-DA-010 (0-0.5)	1.31	4.37	3.89	3.89	84.31	
8	ARC1645	SED-DA-BG-004 (0-0.5)	1.31	3.16	2.60	2.60	69.73	
9	ARC1646	SED-DA-BG-005 (0-0.5)	1.29	3.27	2.87	2.87	79.80	
10	ARC1647	SED-DA-BG-006 (0-0.5)	1.32	2.84	2.48	2.48	76.32	
11	ARC1653	SED-DA-DUP-04-080313	1.29	3.25	2.80	2.81	77.55	
12	ARC1666	SED-DA-012 (0-0.5)	1.28	3.97	3.51	3.52	83.27	
13	ARC1667	SED-DA-012 (0-0.5) MS/MSD	1.28	3.15	2.80	2.82	82.35	
14	ARC1669	SED-DA-013 (0-0.5)	1.31	3.65	3.21	3.21	81.20	
15	ARC1670	SED-DA-014 (0-0.5)	1.31	4.80	4.21	4.21	83.09	
16	ARC1671	SED-DA-015 (0-0.5)	1.31	4.80	3.59	3.60	65.62	

DRY 1356

B&B LABORATORIES % DRY WEIGHT LOGBOOK

					Beaker + Dry Smpl (g) Date/Init: 8/9/13 ☑ Bal. Cal.	Beaker + Dry Smpl (g) Date/Init: 8/12/13 CK ☑ Bal. Cal.	Date/Init: 8/13/13 CK	
	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	1	2	(%) Dry Weight	Comments
17	ARC1672	SED-DA-016 (0-0.5)	1.31	2.77	2.24	2.25	64.38	
18	ARC1673	SED-DA-017 (0-0.5)	1.34	3.57	2.99	2.99	73.99	
19	ARC1694	SED-DA-011 (0-0.5)	1.30	2.74	2.52	2.53	85.42	
20	ARC1694 Dup	Duplicate	1.31	3.45	3.12	3.12	84.58	
21								
22								
23								
24								

$$\% \text{ Dry Weight} = \frac{[\text{Beaker + Dry SMPL (g)}] - [\text{Beaker Weight (g)}]}{[\text{Beaker + Wet SMPL (g)}] - [\text{Beaker Weight (g)}]} \times 100$$

$$\text{RPD} = \frac{[\text{Original \% Dry Weight Value} - \text{Duplicate \% Dry Weight Value}]}{[\text{Original \% Dry Weight Value} + \text{Duplicate \% Dry Weight Value}] \times 0.5} \times 100$$

The Relative Percent Difference (RPD) between duplicates must be ≤ 25%.

Date / Init.	RPD
8/13/13 CK	0.985
Sample # ARC1694	
Duplicate # ARC1694 Dup	

DRY 1356

B&B LABORATORIES % DRY WEIGHT LOGBOOK

MATRIX
- [ ] OTHER
- [x] SEDIMENT
- [ ] TISSUE Type _____

Job #: J13034 SDG #: 13080601

Client: Arcadis-Mayflower AR

General comments:

Lab Mananger Date:	Lab Mananger Init:	Date/Init: [x] Bal. Cal.	Beaker + Dry Smpl (g) Date/Init: [✓] Bal. Cal.	Beaker + Dry Smpl (g) Date/Init: [✓] Bal. Cal.	Date/Init:
8/14/13	[illegible]	8/8/13 CSS	8/9/13 CK	8/12/13 CK	8/13/13 CK

	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	1	2	(%) Dry Weight	Comments
1	ARC1641	SED-DA-012 (0.5-1.0)	1.31	2.44	2.26	2.26	84.07	
2	ARC1642	SED-DA-012 (1.0-1.5)	1.31	2.45	2.25	2.26	83.33	
3	ARC1643	SED-DA-013 (0.5-1.0)	1.30	2.58	2.40	2.38	84.38	
4	ARC1644	SED-DA-013 (1.0-1.5)	1.32	3.30	2.98	2.96	82.83	
5	ARC1648	SED-DA-014 (0.5-1.0)	1.30	2.74	2.50	2.50	83.33	
6	ARC1649	SED-DA-015 (0.5-1.0)	1.28	2.56	2.39	2.40	66.67	
7	ARC1650	SED-DA-015 (1.0-1.5)	1.30	3.78	3.04	3.04	70.16	
8	ARC1651	SED-DA-016 (0.5-1.0)	1.30	2.63	2.14	2.16	64.66	
9	ARC1652	SED-DA-017 (0.5-1.0)	1.30	2.72	2.37	2.37	75.35	
10	ARC1654	SED-DA-008 (0.5-1.0)	1.30	2.52	2.35	2.35	86.07	
11	ARC1655	SED-DA-008 (1.0-1.5)	1.30	2.89	2.65	2.66	85.53	
12	ARC1656	SED-DA-007 (0.5-1.0)	1.30	CSS ~~2.94~~	2.44	2.45	77.70	2.78g
13	ARC1657	SED-DA-007 (1.0-1.5)	1.32	3.33	2.95	2.95	81.09	
14	ARC1658	SED-DA-006 (0.5-1.0)	1.30	2.77	2.57	2.57	86.39	
15	ARC1659	SED-DA-006 (1.0-1.5)	1.30	2.44	2.27	2.27	85.09	
16	ARC1660	SED-DA-005 (0.5-1.0)	1.31	3.81	3.40	3.39	83.20	

DRY 1357

B&B LABORATORIES % DRY WEIGHT LOGBOOK

					Beaker + Dry Smpl (g) Date/Init: 8/9/13 CK ☑ Bal. Cal.	Beaker + Dry Smpl (g) Date/Init: 8/13/13 CK ☑ Bal. Cal.		
	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	1	2	(%) Dry Weight	Comments
17	ARC1661	SED-DA-005 (1.0-1.5)	1.28	2.73	2.49	2.48	82.76	
18	ARC1662	SED-DA-010 (0.5-1.0)	1.31	2.91	2.57	2.57	78.75	
19	ARC1663	SED-DA-010 (1.0-1.5)	1.31	2.67	2.39	2.37	77.94	
20	ARC1664	SED-DA-011 (0.5-1.0)	1.30	2.51	2.31	2.29	81.82	
21	ARC 1664 Dup	Duplicate	1.31	2.86	2.60	2.59	82.58	
22								
23								
24								

$$\% \text{ Dry Weight} = \frac{[\text{Beaker + Dry SMPL (g)}] - [\text{Beaker Weight (g)}]}{[\text{Beaker + Wet SMPL (g)}] - [\text{Beaker Weight (g)}]} \times 100$$

$$\text{RPD} = \frac{[\text{Original \% Dry Weight Value} - \text{Duplicate \% Dry Weight Value}]}{[\text{Original \% Dry Weight Value} + \text{Duplicate \% Dry Weight Value}] \times 0.5} \times 100$$

The Relative Percent Difference (RPD) between duplicates must be ≤ 25%.

Date / Init.	RPD
8/13/13 CK	0.928%
Sample # ARC1664	
Duplicate # ARC1664 Dup	

DRY 1357

Last Page