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

Arcadis
Mayflower AR Project
(Contract # B0086003.1302)
August 9, 2013 and August 12, 2013
Collection Dates

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

(QC Batch ENV 3092)

September 23, 2013

Technical Report 13-3111

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Introduction

B&B Laboratories received a shipment of four (4) ice chests that were sent by Daniel Mays of Arcadis using FedEx on August 12, 2013 and arrived on August 13, 2013 in College Station, Texas. The ice chests arrived sealed and in good condition.

Cooler Number	Temperature	Samples Received
1	5.1°C 1.2°C (Temp Blank)	Eleven (11) soils in 8oz or 4oz jars Two (2) 1L water samples in B/R amber bottles.
2	1.5°C 2.3°C (Temp Blank)	Eleven (11) soils in 8oz or 4oz jars Four (4) 1L water samples in B/R amber bottles.
3	2.1°C 1.9°C (Temp Blank)	Twenty-one (21) sediments in 8oz or 4oz jars
4	6.1°C 0.9°C (Temp Blank)	Seventeen (17) 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 9, 2013 and August 12, 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

- n-C27, n-C29, n-C31, n-C33, and n-C35 were detected outside of the QC %recovery limits of 40% to 120% in ENV3092C MS (SED-DA-042 (0-0.5) MS)). n-C27, n-C29, n-C31, n-C33, and n-C35 were detected outside of the QC %recovery limits of 40% to 120% in ENV3092D MSD (SED-DA-042 (0-0.5) MSD)).

Comment

- These five (5) analytes (n-C27, n-C29, n-C31, n-C33, and n-C35) are invalid spikes due to high native concentrations of petroleum hydrocarbons in the samples. These peaks are qualified with a "Y".

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 one (1) client submitted sample ARC1803 (SED-DA-043 (1.0-1.5)).

- Four client submitted samples ARC1784 (SED-DA-021-(0-0.5)), ARC1795 (SED-DA-046 (0-0.5)), ARC1801 (SED-DA-043 (0-0.5)), ARC1804 (SED-DA-044 (0-0.5)), and one internal QC sample (client submitted sample) ENV3092E (Dupl. (SED-DA-043 (0-0.5)) all required a dilution prior to analysis due to high concentrations of PAHs in the sample.

Comment

- The recovery of the surrogate d12-Perylene falling outside the QC limits is due to a matrix effect and is qualified with an "L".

- Surrogates were re-added to the diluted samples prior to instrument analysis. The surrogate recoveries are annotated with a "D".

Procedural Blank

Observation

- No variances were observed.

Matrix Spike/Matrix Spike Duplicate

Observation

- Cis/trans Decalin, Phenanthrene and Perylene were detected outside of the QC %recovery limits of 40% to 120% in ENV3092C MS (SED-DA-042 (0-0.5) MS)). Cis/trans Decalin, Phenanthrene and Perylene were detected outside of the QC %recovery limits of 40% to 120% in ENV3092D MSD (SED-DA-042 (0-0.5) MSD)).

- Fourteen (14) analytes were detected outside of the QC %recovery limits of 40% to 120% in ENV3092C MS (SED-DA-042 (0-0.5) MS)). Five (5) were detected outside of the QC %recovery limits of 40% to 120% in ENV3092D MSD (SED-DA-042 (0-0.5) MSD)).

Comment

- These three (3) analytes (cis/trans Decalin, Phenanthrene and Perylene) are invalid spikes due to high native concentrations of PAHs in the samples. These peaks are qualified with a "Y".

- The fourteen (14) analytes in the MS sample and five (5) analytes in the MSD are suggested to be outside of the laboratory QC recovery limits due to inhomogeneity in the collected samples (original sample, MS, and MSD) that were submitted to the laboratory in three separate jars.

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 MS70062K (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 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.

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 13-3111

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	ARC1784	SED-DA-021 (0-0.5)	08/09/13	08/13/13	PAH, TPH, ALI	Sediment		13081301	B0086003.1302
2	ARC1785	SED-DA-021 (0.5-1.0)	08/09/13	08/13/13	PAH	Sediment	44 analytes	13081301	B0086003.1302
3	ARC1786	SED-DA-021 (1.0-1.5)	08/09/13	08/13/13	PAH	Sediment	44 analytes	13081301	B0086003.1302
4	ARC1790	SED-DA-042 (0-0.5)	08/09/13	08/13/13	PAH, TPH, ALI	Sediment		13081301	B0086003.1302
5	ARC1791	SED-DA-042 (0-0.5) MS	08/09/13	08/13/13	PAH, TPH, ALI	Sediment	MS	13081301	B0086003.1302
6	ARC1792	SED-DA-042 (0-0.5) MSD	08/09/13	08/13/13	PAH, TPH, ALI	Sediment	MSD	13081301	B0086003.1302
7	ARC1793	SED-DA-042 (0.5-1.0)	08/09/13	08/13/13	PAH	Sediment	44 analytes	13081301	B0086003.1302
8	ARC1794	SED-DA-042 (1.0-1.5)	08/09/13	08/13/13	PAH	Sediment	44 analytes	13081301	B0086003.1302
9	ARC1795	SED-DA-046 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	Sediment		13081301	B0086003.1302
10	ARC1796	SED-DA-046 (0.5-1.0)	08/12/13	08/13/13	PAH	Sediment	44 analytes	13081301	B0086003.1302
11	ARC1797	SED-DA-046 (1.0-1.5)	08/12/13	08/13/13	PAH	Sediment	44 analytes	13081301	B0086003.1302
12	ARC1798	SED-DA-049 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	Sediment		13081301	B0086003.1302
13	ARC1799	SED-DA-049 (0.5-1.0)	08/12/13	08/13/13	PAH	Sediment	44 analytes	13081301	B0086003.1302
14	ARC1800	SED-DA-049 (1.0-1.5)	08/12/13	08/13/13	PAH	Sediment	44 analytes	13081301	B0086003.1302
15	ARC1801	SED-DA-043 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	Sediment		13081301	B0086003.1302
16	ARC1802	SED-DA-043 (0.5-1.0)	08/12/13	08/13/13	PAH	Sediment	44 analytes	13081301	B0086003.1302
17	ARC1803	SED-DA-043 (1.0-1.5)	08/12/13	08/13/13	PAH	Sediment	44 analytes	13081301	B0086003.1302
18	ARC1804	SED-DA-044 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	Sediment		13081301	B0086003.1302
19	ARC1805	SED-DA-044 (0.5-1.0)	08/12/13	08/13/13	PAH	Sediment	44 analytes	13081301	B0086003.1302
20	ARC1806	SED-DA-044 (1.0-1.5)	08/12/13	08/13/13	PAH	Sediment	44 analytes	13081301	B0086003.1302
21	ARC1808	SED-DA-047 (0.5-1.0)	08/12/13	08/13/13	PAH	Sediment	44 analytes	13081301	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	ARC1784.D	ARC1790.D	ARC1795.D	ARC1798.D
Client Name	SED-DA-021 (0-0.5)	SED-DA-042 (0-0.5)	SED-DA-046 (0-0.5)	SED-DA-049 (0-0.5)
Matrix	Sediment	Sediment	Sediment	Sediment
Collection Date	08/09/13	08/09/13	08/12/13	08/12/13
Received Date	08/13/13	08/13/13	08/13/13	08/13/13
Extraction Date	08/22/13	08/22/13	08/22/13	08/22/13
Extraction Batch	ENV 3092	ENV 3092	ENV 3092	ENV 3092
Date Acquired	30-Aug-2013, 09:08:51	30-Aug-2013, 10:19:15	30-Aug-2013, 11:29:21	30-Aug-2013, 12:39:33
Method	ALIFRONT.M	ALIFRONT.M	ALIFRONT.M	ALIFRONT.M
Sample Dry Weight (g)	15.0	15.1	15.1	15.1
Sample Wet Weight (g)	49.3	29.3	24.6	39.0
% Dry	30	52	61	39
% Moisture	70	48	39	61
% 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	0.033		0.011	J	0.023		0.028	
n-C11	0.114		0.024		0.031		0.051	
n-C12	0.200		0.062		0.044		0.074	
n-C13	0.098		0.047		0.153		0.094	
i-C15	0.067		0.023		1.209		0.485	
n-C14	0.274		0.106		0.393		0.209	
i-C16	0.223		0.042		1.888		0.702	
n-C15	0.203		0.061		0.743		0.303	
n-C16	0.199		0.071		0.845		0.292	
i-C18	0.038		0.016		1.795		0.811	
n-C17	1.349		0.091		0.540		0.338	
Pristane	0.326		0.083		2.217		1.038	
n-C18	1.650		0.319		0.896		1.004	
Phytane	0.765		0.106		2.265		1.248	
n-C19	1.531		0.401		1.043		0.700	
n-C20	0.143		0.055		0.650		0.360	
n-C21	5.639		0.601		1.147		2.433	
n-C22	0.450		0.104		1.279		0.683	
n-C23	4.571		0.988		1.344		1.615	
n-C24	0.823		0.170		0.501		0.457	
n-C25	4.257		0.804		1.021		2.267	
n-C26	1.765		1.160		0.510		0.615	
n-C27	5.974		1.355		2.635		1.988	
n-C28	1.328		0.410		0.816		0.764	
n-C29	8.618		4.489		3.125		5.602	
n-C30	1.336		0.387		0.946		0.791	
n-C31	15.071		5.046		5.499		8.375	
n-C32	0.876		0.429		1.963		0.699	
n-C33	17.344		6.953		6.753		18.682	
n-C34	0.717		0.596		1.160		1.852	
n-C35	8.906		2.277		5.161		10.475	
n-C36	0.450		0.558		0.612		0.392	
n-C37	2.818		1.045		1.194		1.085	
n-C38	0.381		0.165		0.557		0.322	
n-C39	1.138		0.239		0.282		0.354	
n-C40	0.145		0.040		0.156		0.128	
Total Alkanes	89.8		29.3		51.4		67.3	
Total Petroleum Hydrocarbons	1548		415		2385		1480	
Total Resolved Hydrocarbons	857		178		292		461	
Unresolved Complex Mixture	691		237		2093		1019	
EOM (µg/dry g)	4225		933		5469		4111	

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)	Su Recovery (%)	Su Recovery (%)
n-dodecane-d26	96	98	96	98
n-eicosane-d42	88	96	91	90
n-triacontane-d62	97	96	97	92

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

Sample Name	ARC1801.D	ARC1804.D
Client Name	SED-DA-043 (0-0.5)	SED-DA-044 (0-0.5)
Matrix	Sediment	Sediment
Collection Date	08/12/13	08/12/13
Received Date	08/13/13	08/13/13
Extraction Date	08/22/13	08/22/13
Extraction Batch	ENV 3092	ENV 3092
Date Acquired	30-Aug-2013, 13:49:55	30-Aug-2013, 15:00:06
Method	ALIFRONT.M	ALIFRONT.M
Sample Dry Weight (g)	15.0	15.1
Sample Wet Weight (g)	25.0	29.3
% Dry	60	52
% Moisture	40	48
% 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	0.020	J	0.023	
n-C11	0.033		0.045	
n-C12	0.126		0.099	
n-C13	0.317		0.181	
i-C15	0.936		0.487	
n-C14	0.670		0.354	
i-C16	1.732		0.863	
n-C15	1.006		1.285	
n-C16	1.030		0.498	
i-C18	1.611		0.916	
n-C17	0.691		0.374	
Pristane	2.177		1.412	
n-C18	1.230		0.879	
Phytane	2.246		1.591	
n-C19	1.243		0.687	
n-C20	0.655		0.348	
n-C21	1.276		1.765	
n-C22	1.269		1.106	
n-C23	1.341		1.291	
n-C24	0.624		0.530	
n-C25	1.025		1.798	
n-C26	0.602		0.678	
n-C27	2.889		5.400	
n-C28	1.119		1.245	
n-C29	3.775		9.887	
n-C30	1.137		1.498	
n-C31	6.704		10.512	
n-C32	1.721		4.199	
n-C33	15.660		24.357	
n-C34	0.760		3.041	
n-C35	5.847		10.723	
n-C36	0.246		0.893	
n-C37	1.194		6.603	
n-C38	0.115		0.638	
n-C39	0.279		0.294	
n-C40	0.173		0.155	
Total Alkanes	63.5		96.7	
Total Petroleum Hydrocarbons	2604		2542	
Total Resolved Hydrocarbons	354		448	
Unresolved Complex Mixture	2249		2093	
EOM (µg/dry g)	6440		5575	

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)
n-dodecane-d26	96	95
n-eicosane-d42	94	84
n-triacontane-d62	86	81

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

Sample Name	ENV3092A.D
Client Name	Procedural Blank
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	08/22/13
Extraction Batch	ENV 3092
Date Acquired	30-Aug-2013, 03:17:27
Method	ALIFRONT.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	92
n-eicosane-d42	98
n-triacontane-d62	97

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

Sample Name	ARC1790.D	ENV3092C.D	ENV3092D.D
Client Name	SED-DA-042 (0-0.5)	MS (SED-DA-042 (0-0.5))	MSD (SED-DA-042 (0-0.5))
Matrix	Sediment	Sediment	Sediment
Collection Date	08/09/13	08/09/13	08/09/13
Received Date	08/13/13	08/13/13	08/13/13
Extraction Date	08/22/13	08/22/13	08/22/13
Extraction Batch	ENV 3092	ENV 3092	ENV 3092
Date Acquired	30-Aug-2013, 10:19:15	30-Aug-2013, 04:27:47	30-Aug-2013, 05:38:00
Method	ALIFRONT.M	ALIFRONT.M	ALIFRONT.M
Sample Dry Weight (g)	15.1	15.0	15.0
Sample Wet Weight (g)	29.3	41.0	3.4
% Dry	52	37	45
% Moisture	48	63	55
% 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	0.561		85			0.546		82			3		9.95
n-C10	0.011	J	0.674		99			0.652		96			3		10.0
n-C11	0.024		0.791		116			0.738		108			7		9.90
n-C12	0.062		0.816		113			0.776		107			5		10.0
n-C13	0.047		0.781		110			0.800		113			2		10.0
i-C15	0.023		NA					NA							
n-C14	0.106		0.821		109			0.829		110			1		9.86
i-C16	0.042		NA					NA							
n-C15	0.061		0.802		111			0.838		117			4		9.98
n-C16	0.071		0.828		114			0.783		107			6		10.0
i-C18	0.016		NA					NA							
n-C17	0.091		0.854		115			0.829		111			3		9.94
Pristane	0.083		0.788		107			0.836		114			6		9.90
n-C18	0.319		0.872		82			0.893		85			2		10.0
Phytane	0.106		0.892		119			0.855		113			4		9.91
n-C19	0.401		0.999		89			1.117		107			11		10.0
n-C20	0.055		0.772		107			0.807		113			4		10.0
n-C21	0.601		1.375		115			1.375		115			0		10.0
n-C22	0.104		0.859		114			0.885		118			3		9.95
n-C23	0.988		1.574		88			1.679		103			6		9.91
n-C24	0.170		0.941		115			0.901		109			4		10.0
n-C25	0.804		1.464		98			1.477		100			1		10.0
n-C26	1.160		1.819		98			1.774		91			2		10.0
n-C27	1.355		3.088				Y	2.613				Y	17		9.89
n-C28	0.410		1.182		115			1.213		119			3		10.0
n-C29	4.489		8.207				Y	7.163				Y	14		10.0
n-C30	0.387		1.162		116			1.174		118			1		10.0
n-C31	5.046		9.709				Y	9.688				Y	0		10.0
n-C32	0.429		0.899		70			0.967		80			7		10.0
n-C33	6.953		15.425				Y	16.591				Y	7		10.0
n-C34	0.596		1.276		101			1.156		83			10		10.0
n-C35	2.277		19.107				Y	14.681				Y	26		10.0
n-C36	0.558		1.067		76			1.294		111			19		9.90
n-C37	1.045		1.793		111			1.757		105			2		10.0
n-C38	0.165		0.918		113			0.731		85			23		10.0
n-C39	0.239		0.762		78			0.922		102			19		10.0
n-C40	0.040		0.765		109			0.592		83			26		10.0
Average %Recovery					103					104					

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)	Su Recovery (%)
n-dodecane-d26	98	95	95
n-eicosane-d42	96	90	91
n-triacontane-d62	96	84	87

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

Sample Name	ARC1801.D	ENV3092E.D
Client Name	SED-DA-043 (0-0.5)	Dupl (SED-DA-043 (0-0.5))
Matrix	Sediment	Sediment
Collection Date	08/12/13	08/12/13
Received Date	08/13/13	08/13/13
Extraction Date	08/22/13	08/22/13
Extraction Batch	ENV 3092	ENV 3092
Date Acquired	30-Aug-2013, 13:49:55	30-Aug-2013, 06:48:15
Method	ALIFRONT.M	ALIFRONT.M
Sample Dry Weight (g)	15.0	15.0
Sample Wet Weight (g)	25.0	25.0
% Dry	60	60
% Moisture	40	40
% 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			0.012	0.037
n-C10	0.020	J	0.017	J	16		X	0.021	0.064
n-C11	0.033		0.034		3		X	0.016	0.049
n-C12	0.126		0.144		13			0.019	0.056
n-C13	0.317		0.358		12			0.045	0.134
i-C15	0.936		0.859		9			0.016	0.049
n-C14	0.670		0.675		1			0.013	0.039
i-C16	1.732		1.788		3			0.004	0.013
n-C15	1.006		1.099		9			0.016	0.049
n-C16	1.030		1.081		5			0.004	0.013
i-C18	1.611		1.642		2			0.004	0.011
n-C17	0.691		0.688		0			0.003	0.010
Pristane	2.177		2.258		4			0.003	0.008
n-C18	1.230		1.074		14			0.004	0.011
Phytane	2.246		2.310		3			0.006	0.018
n-C19	1.243		1.171		6			0.005	0.015
n-C20	0.655		0.724		10			0.012	0.037
n-C21	1.276		1.386		8			0.004	0.012
n-C22	1.269		1.329		5			0.003	0.010
n-C23	1.341		1.355		1			0.008	0.024
n-C24	0.624		0.577		8			0.005	0.016
n-C25	1.025		0.977		5			0.007	0.021
n-C26	0.602		0.563		7			0.008	0.023
n-C27	2.889		2.866		1			0.011	0.032
n-C28	1.119		1.165		4			0.011	0.033
n-C29	3.775		3.586		5			0.021	0.064
n-C30	1.137		1.014		11			0.013	0.038
n-C31	6.704		6.246		7			0.015	0.044
n-C32	1.721		1.666		3			0.012	0.035
n-C33	15.660		15.584		0			0.021	0.064
n-C34	0.760		0.802		5			0.016	0.049
n-C35	5.847		5.746		2			0.015	0.044
n-C36	0.246		0.243		1			0.016	0.047
n-C37	1.194		1.253		5			0.017	0.052
n-C38	0.115		0.104		10			0.019	0.057
n-C39	0.279		0.247		12			0.019	0.056
n-C40	0.173		0.176		2			0.019	0.056
Total Alkanes	63.5		62.8		1				
Total Petroleum Hydrocarbons	2604		2538		3			1.40	4.20
Total Resolved Hydrocarbons	354		328		8			1.40	4.20
Unresolved Complex Mixture	2249		2210		2			1.40	4.20
EOM (µg/dry g)	6440		6584		2				

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)
n-dodecane-d26	96	94
n-eicosane-d42	94	94
n-triacontane-d62	86	91

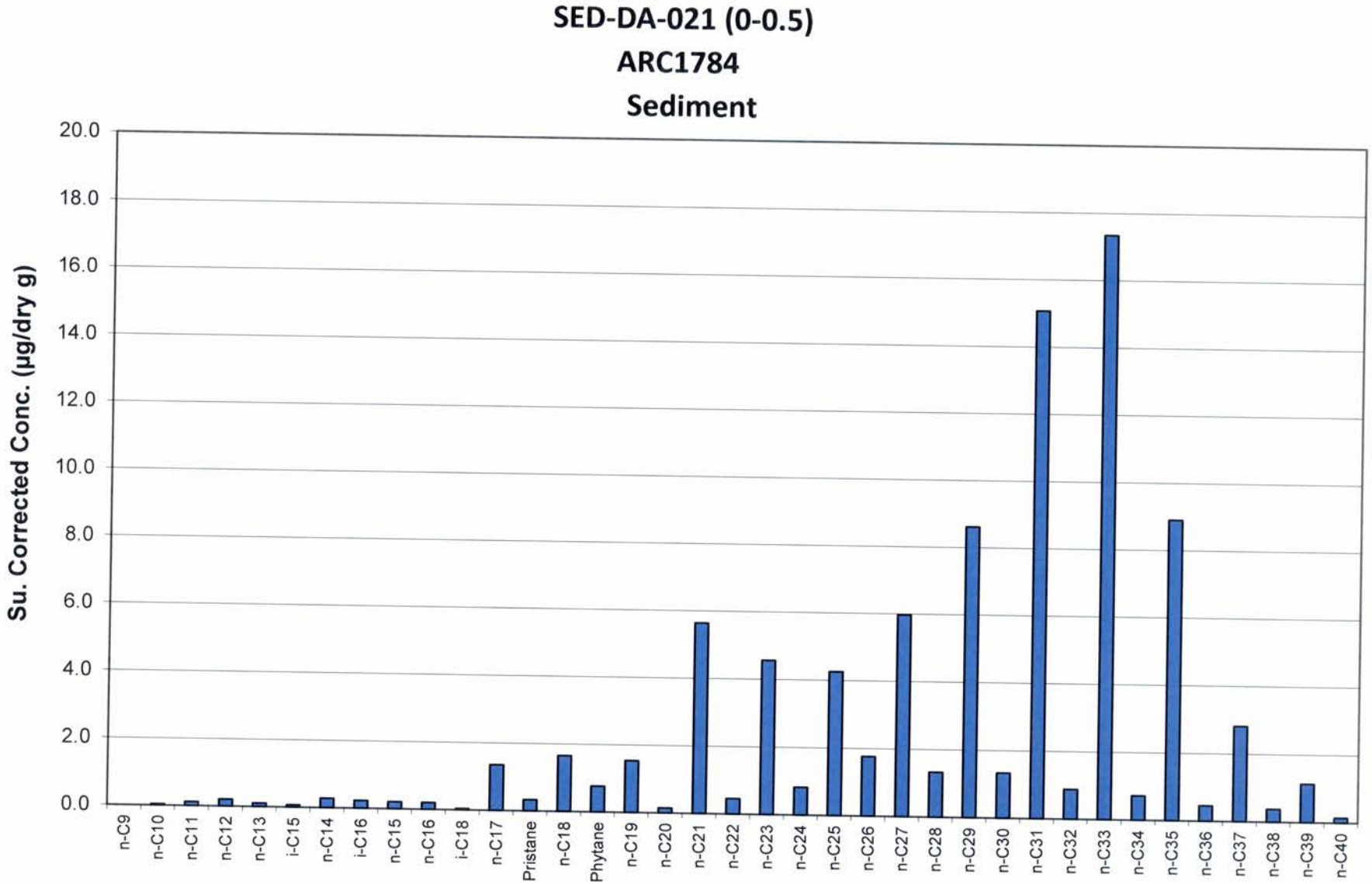
Arcadis-Mayflower AR
Aliphatic Hydrocarbon and Total Petroleum Hydrocarbon Data
Standard Reference Material Report

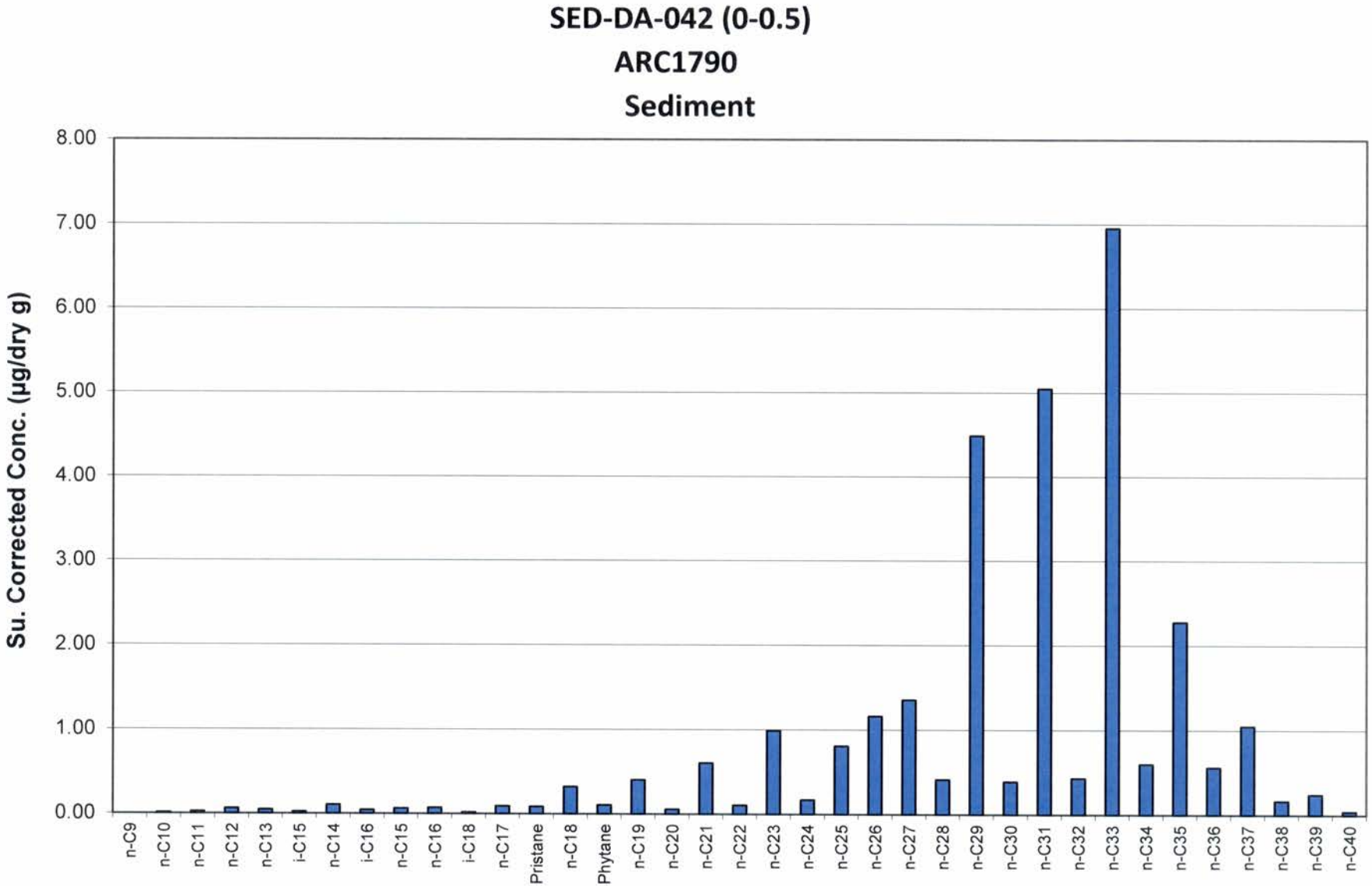
Sample Name	FID30054C.D
Client Name	AL-SRM2779-20-01
Matrix	Reference Oil
Collection Date	NA
Received Date	NA
Extraction Date	08/22/13
Extraction Batch	ENV 3092
Date Acquired	29-Aug-2013, 22:36:39
Method	ALIFRONT.M
Sample Dry Weight (mg)	20.0
Sample Wet Weight (mg)	NA
% Dry	NA
% Moisture	NA
% Lipid (dry)	NA
% Lipid (wet)	NA
Dilution	1X

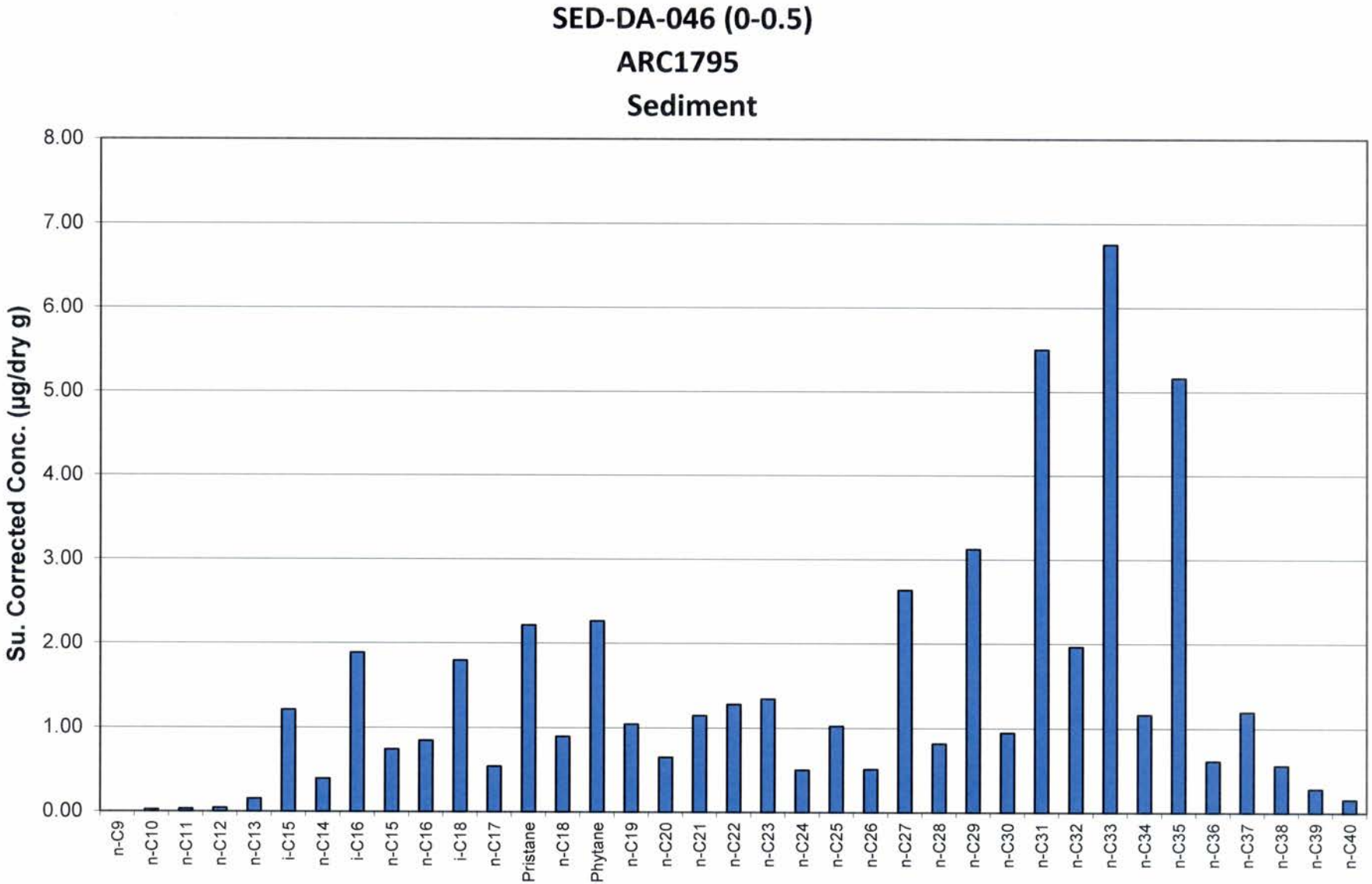
Target Compounds	Su. Corrected Conc. (µg/mg)	Q	Q	RPD (%)	B&B Average	-20% Conc. (µg/mg)	+20% Conc. (µg/mg)
n-C9	13.9			3	13.5	10.8	16.2
n-C10	11.8			1	12.0	9.60	14.4
n-C11	10.6			2	10.8	8.64	13.0
n-C12	10.2			3	9.82	7.86	11.8
n-C13	8.62			2	8.41	6.73	10.1
i-C15	1.90			3	1.95	1.56	2.34
n-C14	7.56			2	7.70	6.16	9.24
i-C16	3.03			3	2.95	2.36	3.54
n-C15	7.45			3	7.23	5.78	8.68
n-C16	6.19			1	6.15	4.92	7.38
i-C18	1.66			6	1.56	1.25	1.87
n-C17	4.78			2	4.69	3.75	5.63
Pristane	2.61			7	2.42	1.94	2.90
n-C18	4.07			6	3.84	3.07	4.61
Phytane	1.54			2	1.51	1.21	1.81
n-C19	3.54			2	3.47	2.78	4.16
n-C20	3.06			7	2.84	2.27	3.41
n-C21	2.50			5	2.37	1.90	2.84
n-C22	2.21			8	2.04	1.63	2.45
n-C23	2.02			9	1.84	1.47	2.21
n-C24	1.83			10	1.66	1.33	1.99
n-C25	1.47			7	1.37	1.10	1.64
n-C26	1.23			8	1.13	0.904	1.36
n-C27	0.970			8	0.892	0.714	1.07
n-C28	0.808			4	0.776	0.621	0.931
n-C29	0.812			9	0.739	0.591	0.887
n-C30	0.730			9	0.666	0.533	0.799
n-C31	0.580	J		7	0.539	0.431	0.647
n-C32	0.478	J		8	0.443	0.354	0.532
n-C33	0.455	J		3	0.467	0.374	0.560
n-C34	0.385	J		11	0.428	0.342	0.514
n-C35	0.323	J		6	0.342	0.274	0.410
n-C36	0.209	J		1	0.211	0.169	0.253
n-C37	0.200	J		3	0.206	0.165	0.247
n-C38	0.183	J		6	0.172	0.138	0.206
n-C39	0.155	J		9	0.169	0.135	0.203
n-C40	0.160	J		10	0.176	0.141	0.211
Total Petroleum Hydrocarbons	573			6	607	484	726

Surrogate (Su)	Su Recovery (%)
n-dodecane-d26	97
n-eicosane-d42	97
n-triacontane-d62	91

Aliphatic Hydrocarbon Histograms


SED-DA-021 (0-0.5)
ARC1784
Sediment
Su. Corrected Conc. (µg/dry g)
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
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-042 (0-0.5)
ARC1790
Sediment
Su. Corrected Conc. (µg/dry g)
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
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-046 (0-0.5)
ARC1795
Sediment
Su. Corrected Conc. (µg/dry g)
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
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
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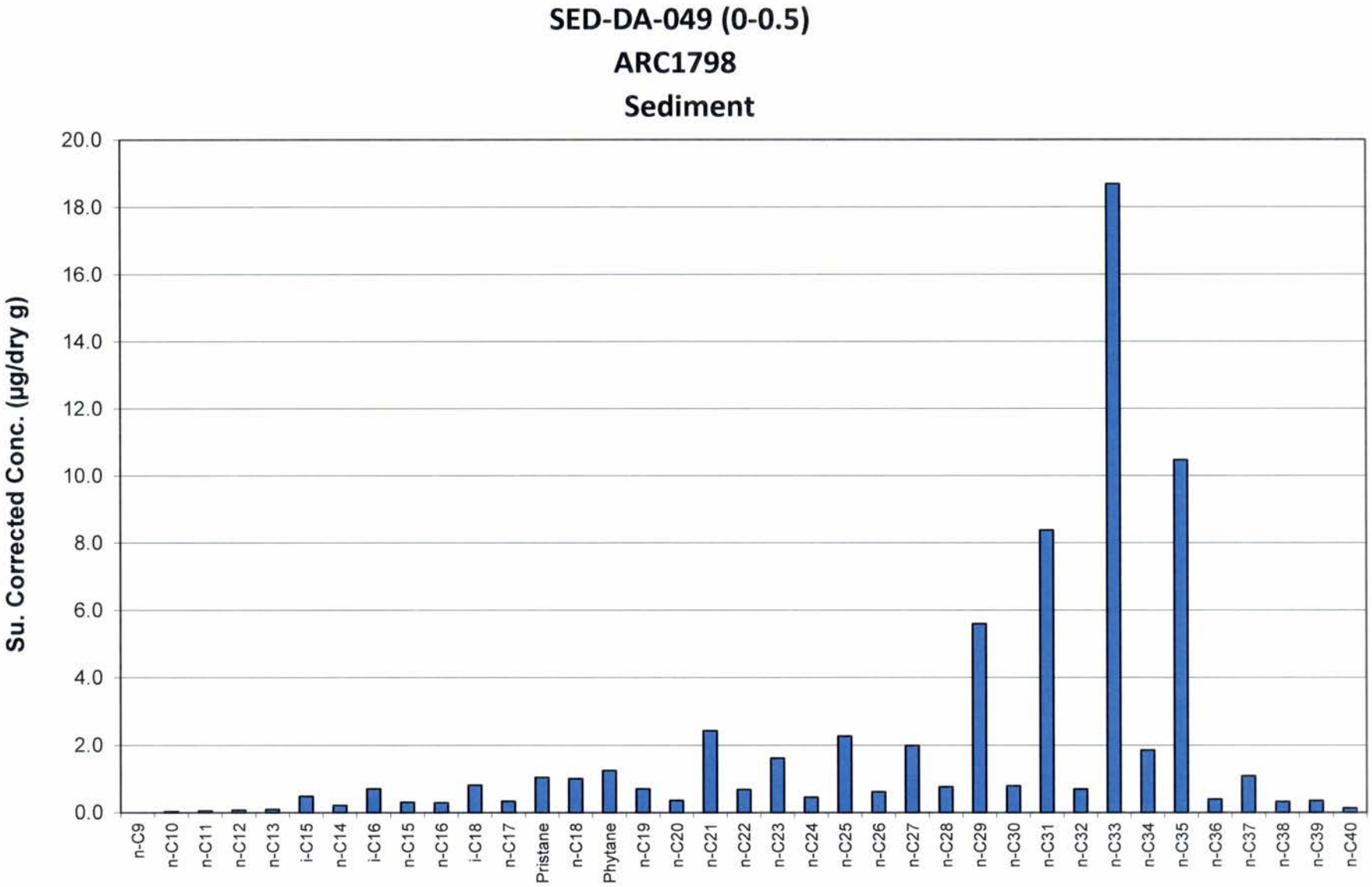
n-C36
n-C37
n-C38
n-C39
n-C40


SED-DA-049 (0-0.5)
ARC1798
Sediment
Su. Corrected Conc. (µg/dry g)
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
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
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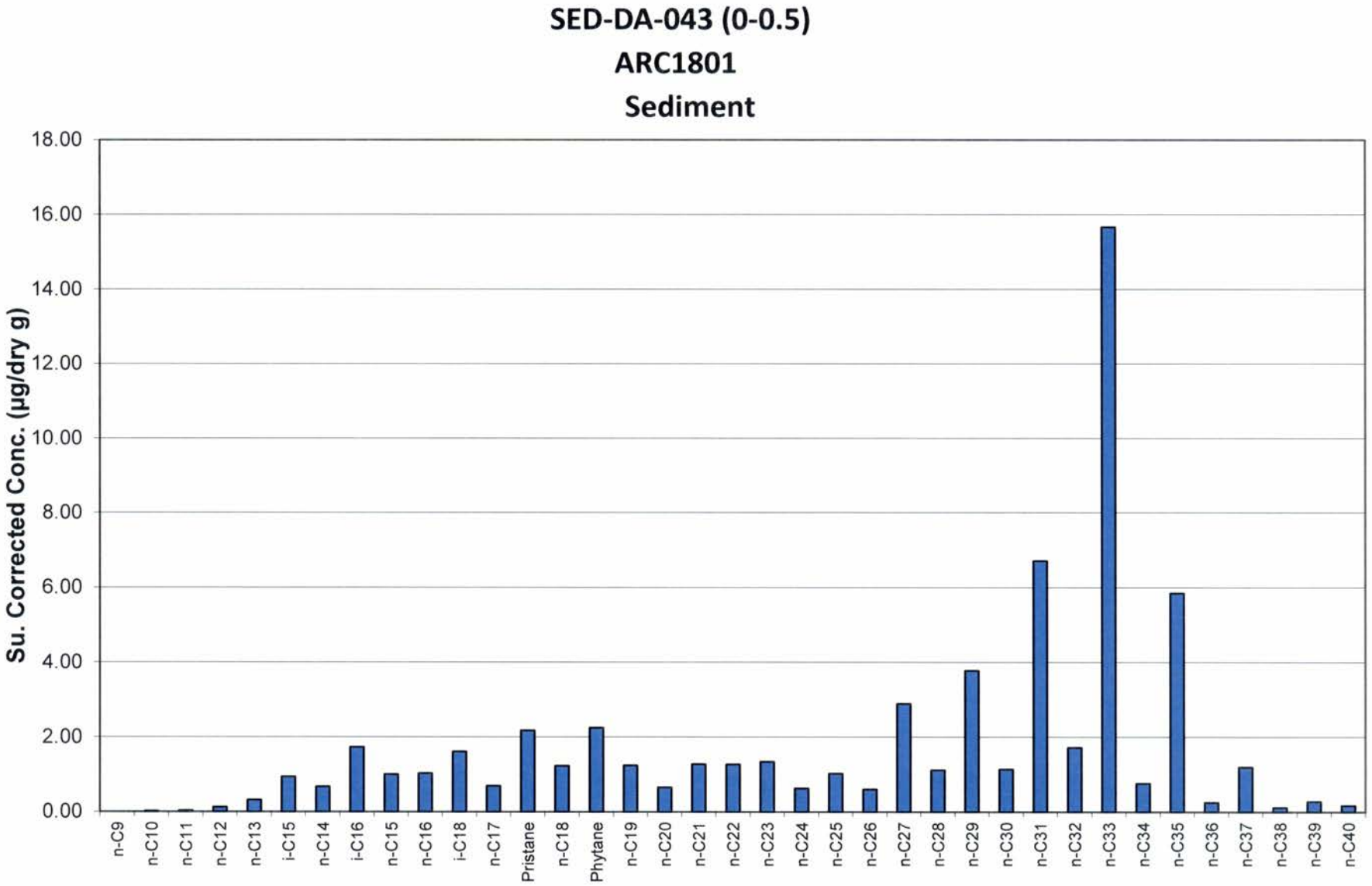
n-C36
n-C37
n-C38
n-C39
n-C40


SED-DA-043 (0-0.5)
ARC1801
Sediment
Su. Corrected Conc. (µg/dry g)
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
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
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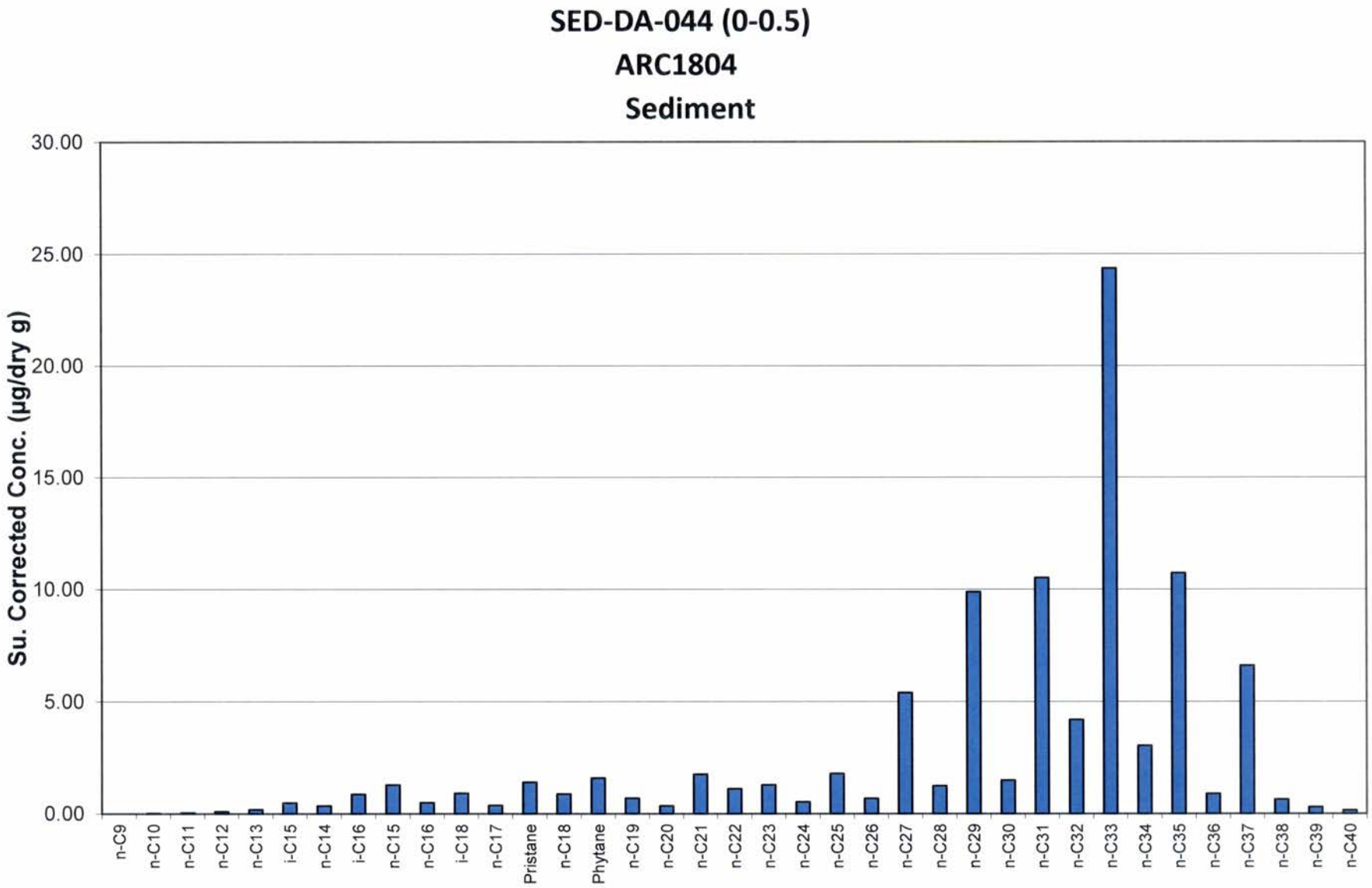
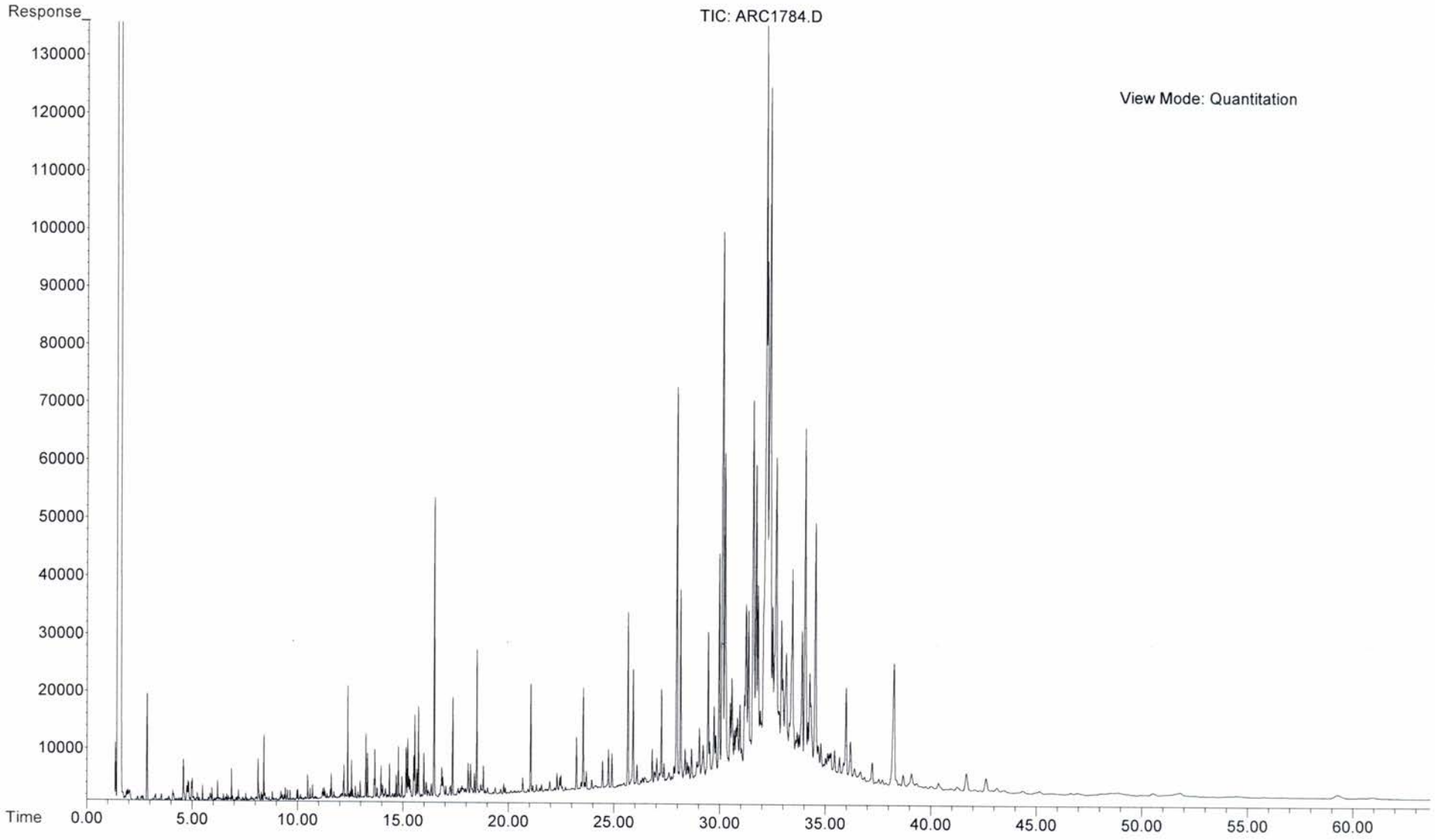
n-C34
n-C35
n-C36
n-C37
n-C38
n-C39
n-C40


SED-DA-044 (0-0.5)
ARC1804
Sediment
Su. Corrected Conc. (µg/dry g)
30.00
25.00
20.00
15.00
10.00
5.00
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 3092\FID30054\ARC1784.D
Operator : Meghan Dailey
Acquired : 30-Aug-2013, 09:08 using AcqMethod ALIFRONT.M
Instrument : HP5890
Sample Name: SED-DA-021 (0-0.5)
Misc Info :
Vial Number: 11



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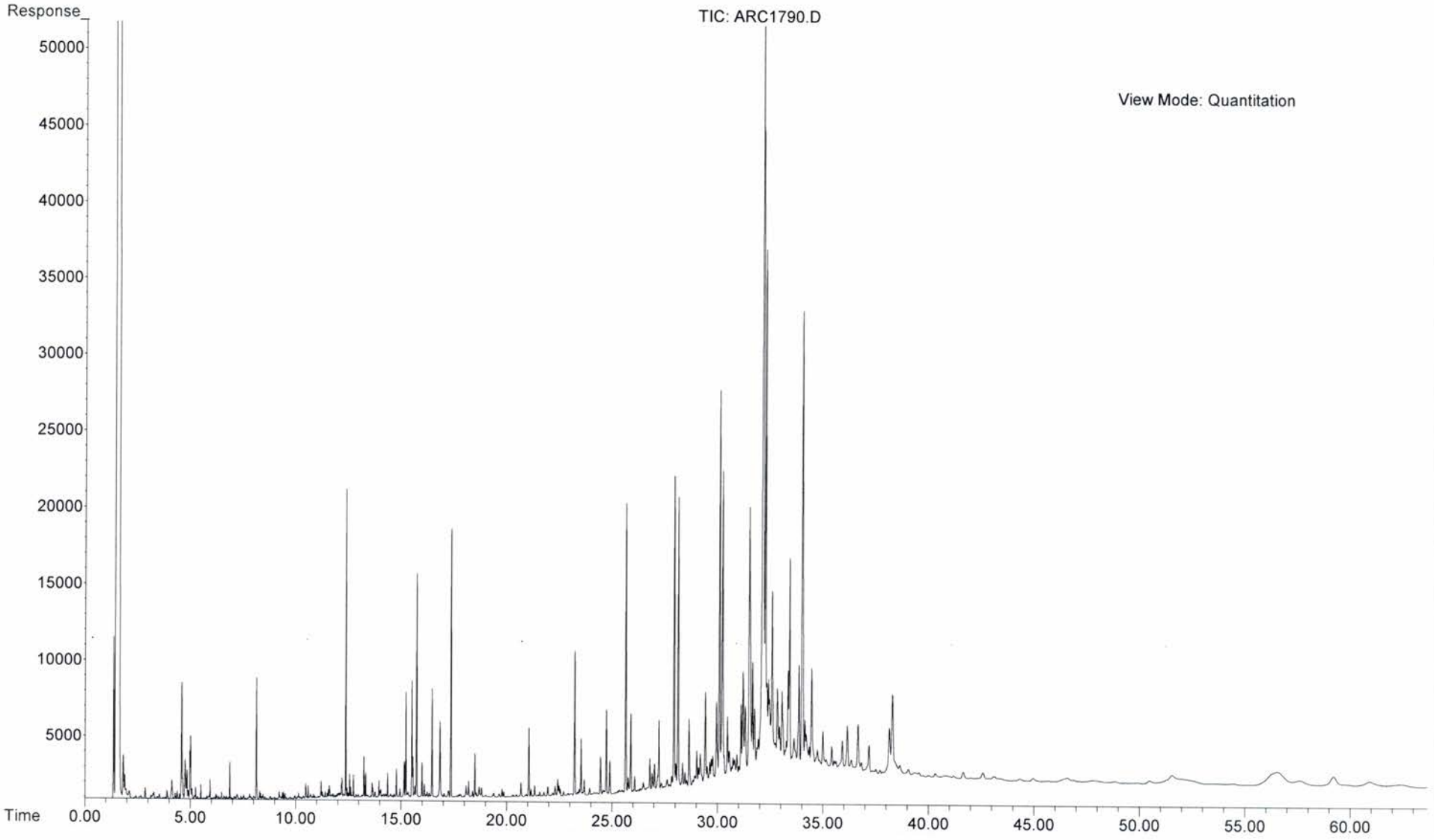
Operator : Meghan Dailey
Acquired : 30-Aug-2013, 10:19 using AcqMethod ALIFRONT.M
Instrument : HP5890
Sample Name: SED-DA-042 (0-0.5)
Misc Info :
Vial Number: 12



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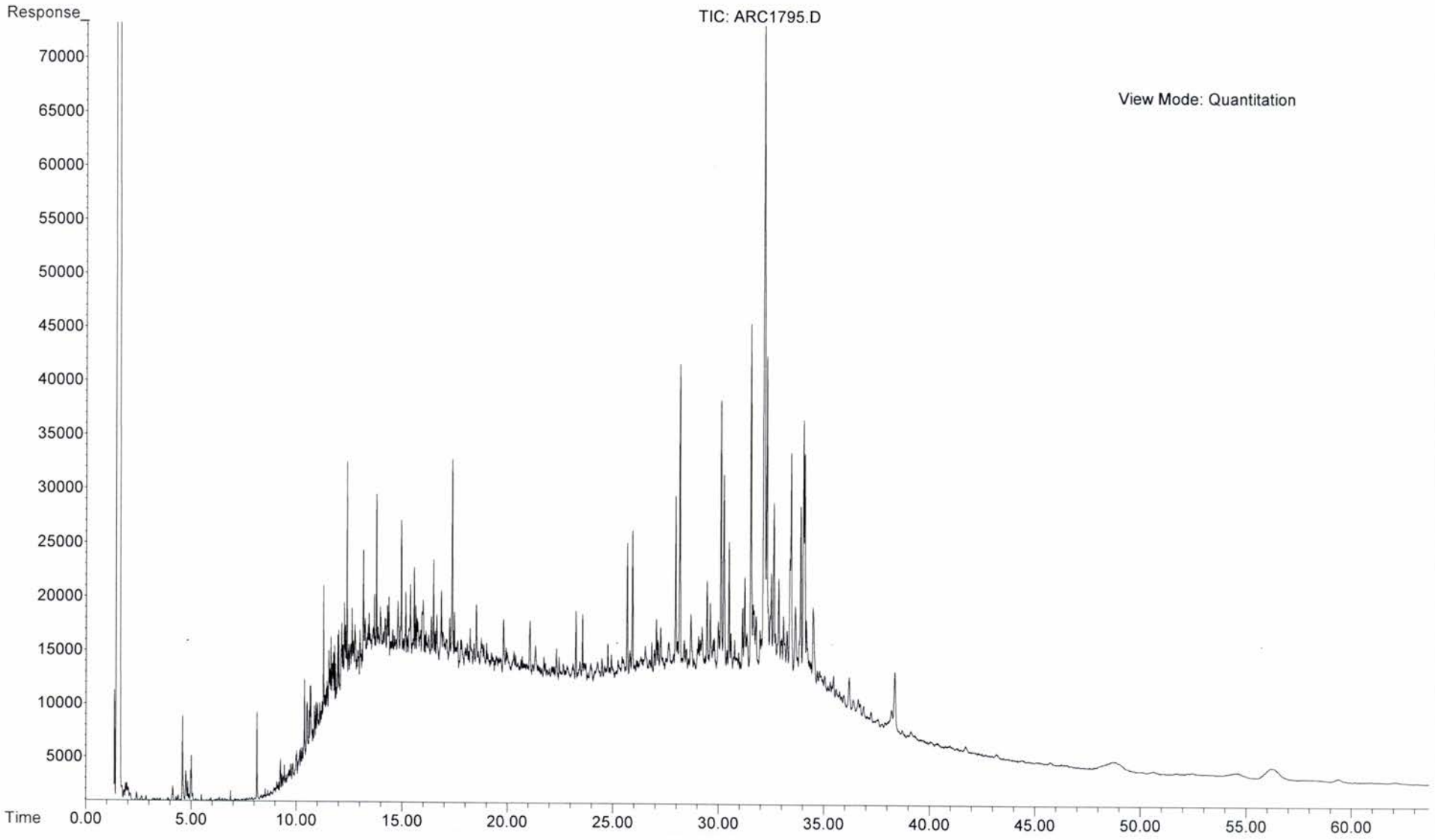
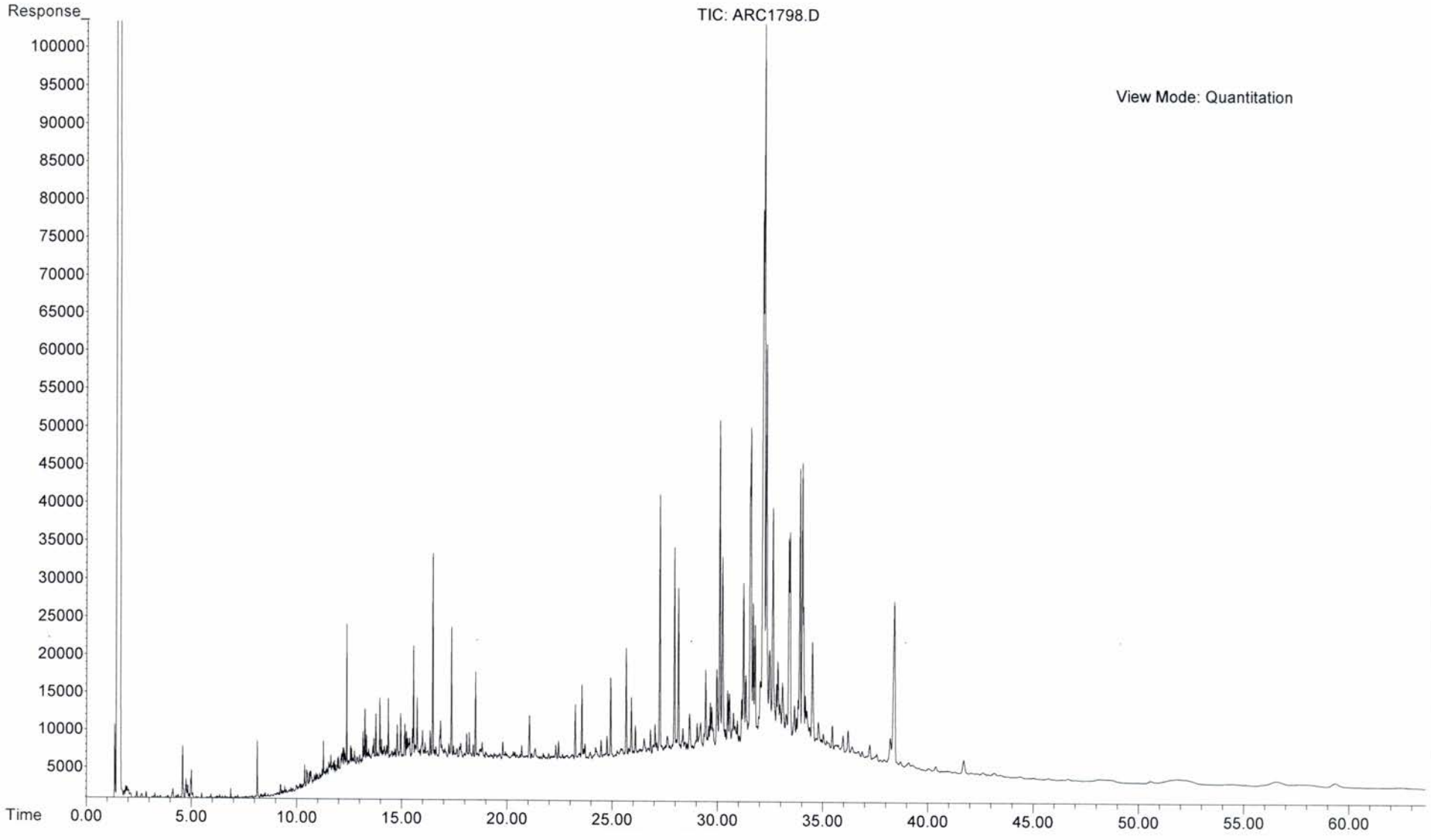
Operator : Meghan Dailey
Acquired : 30-Aug-2013, 11:29 using AcqMethod ALIFRONT.M
Instrument : HP5890
Sample Name: SED-DA-046 (0-0.5)
Misc Info :
Vial Number: 13



File :P:\2013\J13034\Aliphatics\ENV 3092\FID30054\ARC1798.D
Operator : Meghan Dailey
Acquired : 30-Aug-2013, 12:39 using AcqMethod ALIFRONT.M
Instrument : HP5890
Sample Name: SED-DA-049 (0-0.5)
Misc Info :
Vial Number: 14



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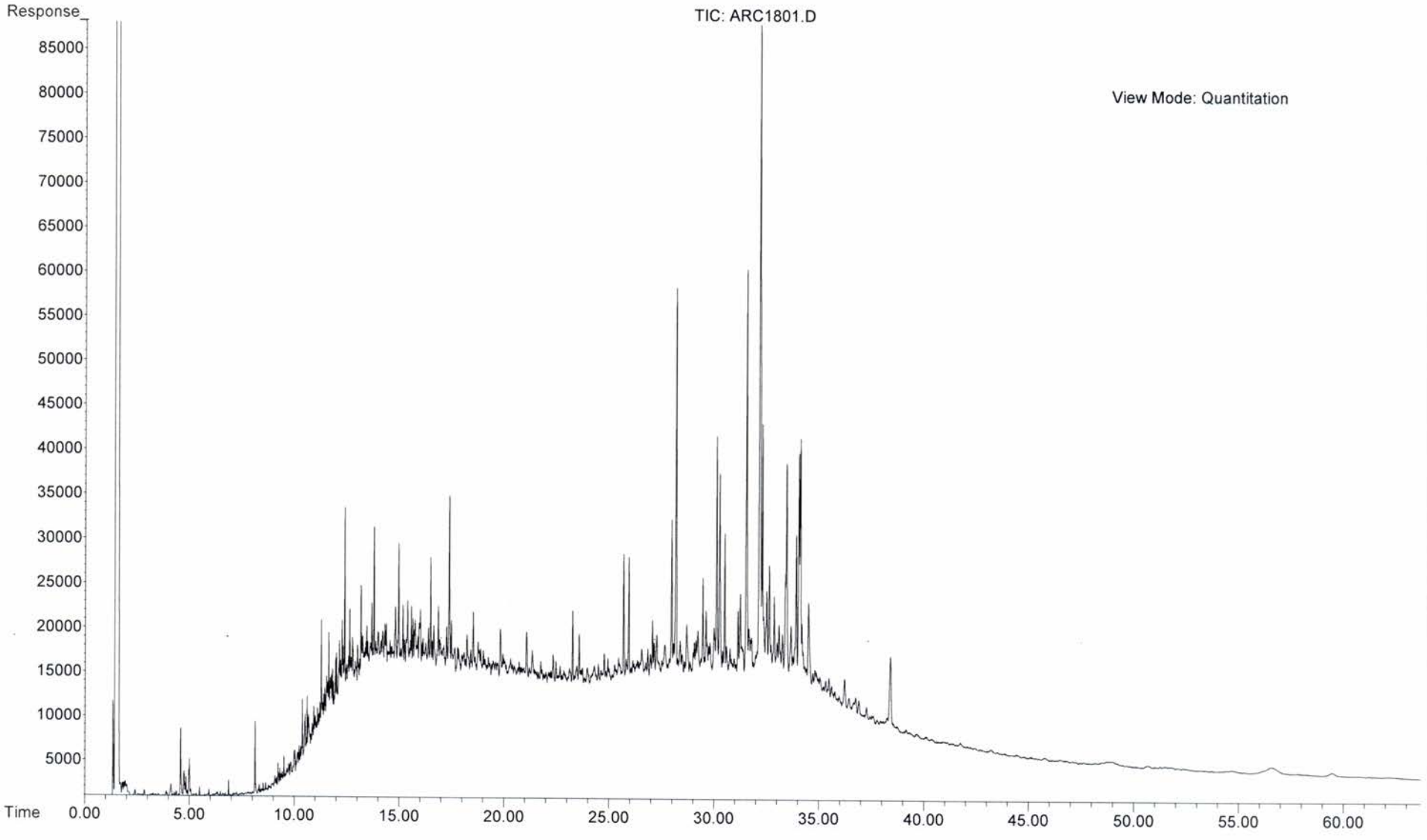
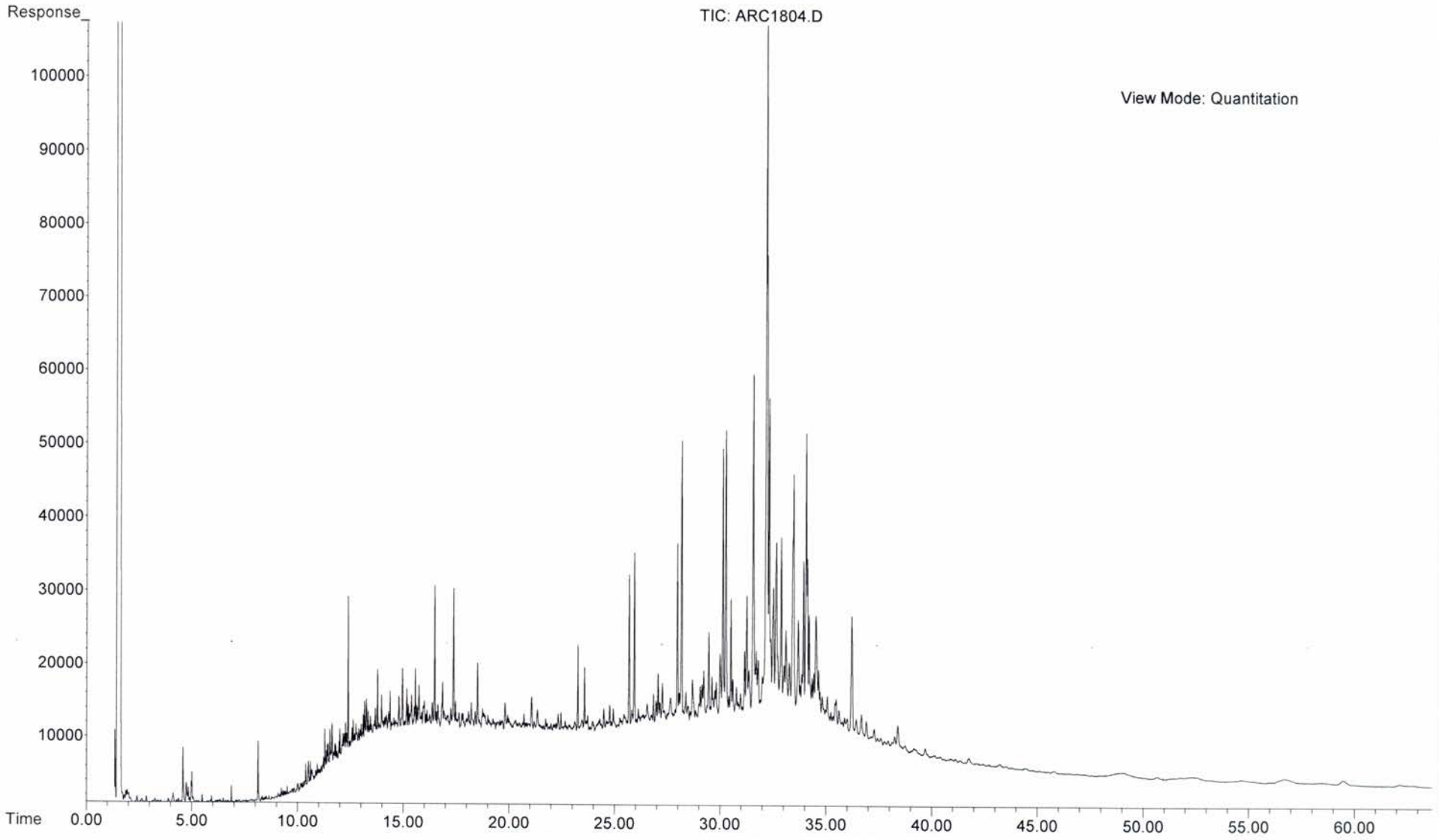
Operator : Meghan Dailey
Acquired : 30-Aug-2013, 13:49 using AcqMethod ALIFRONT.M
Instrument : HP5890
Sample Name: SED-DA-043 (0-0.5)
Misc Info :
Vial Number: 15



File :P:\2013\J13034\Aliphatics\ENV 3092\FID30054\ARC1804.D
Operator : Meghan Dailey
Acquired : 30-Aug-2013, 15:00 using AcqMethod ALIFRONT.M
Instrument : HP5890
Sample Name: SED-DA-044 (0-0.5)
Misc Info :
Vial Number: 16



Polycyclic Aromatic Hydrocarbon Concentration

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1784.D	ARC1785.D	ARC1786.D	ARC1790.D	ARC1793.D
Client Name	SED-DA-021 (0-0.5)	SED-DA-021 (0.5-1.0)	SED-DA-021 (1.0-1.5)	SED-DA-042 (0-0.5)	SED-DA-042 (0.5-1.0)
Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
Collection Date	08/09/13	08/09/13	08/09/13	08/09/13	08/09/13
Received Date	08/13/13	08/13/13	08/13/13	08/13/13	08/13/13
Extraction Date	08/22/13	08/22/13	08/22/13	08/22/13	08/22/13
Extraction Batch	ENV 3092	ENV 3092	ENV 3092	ENV 3092	ENV 3092
Date Acquired	9/3/13 10:42	9/3/13 11:50	9/3/13 12:59	9/3/13 15:16	9/3/13 16:25
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.1	15.0	15.1	15.0
% Dry	30	66	73	52	64
% Moisture	70	34	27	48	36
Dilution	5X	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	52.4		NA		NA		13.6		NA	
C1-Decalins	5.64		NA		NA		36.4		NA	
C2-Decalins	<1.3	U	NA		NA		3.90		NA	
C3-Decalins	<1.3	U	NA		NA		8.57		NA	
C4-Decalins	<1.3	U	NA		NA		12.7		NA	
Naphthalene	29.6		9.04		3.26		11.9		6.95	
C1-Naphthalenes	41.0		6.34		2.35		13.0		5.38	
C2-Naphthalenes	71.7		8.35		3.82		23.7		8.24	
C3-Naphthalenes	71.5		9.42		7.19		26.1		13.3	
C4-Naphthalenes	40.5		8.10		<0.7	U	17.3		5.76	
Benzothiophene	1.72		NA		NA		0.789		NA	
C1-Benzothiophenes	<0.9	U	NA		NA		<0.2	U	NA	
C2-Benzothiophenes	<0.9	U	NA		NA		<0.2	U	NA	
C3-Benzothiophenes	<0.9	U	NA		NA		<0.2	U	NA	
C4-Benzothiophenes	<0.9	U	NA		NA		<0.2	U	NA	
Biphenyl	8.68		NA		NA		3.62		NA	
Acenaphthylene	9.62		0.542		0.052		1.43		0.554	
Acenaphthene	4.66		0.702		0.337		1.55		0.578	
Dibenzofuran	13.0		NA		NA		6.84		NA	
Fluorene	22.6		4.73		3.43		9.75		4.41	
C1-Fluorenes	17.4		2.48		1.50		7.35		2.55	
C2-Fluorenes	37.6		5.79		<0.4	U	20.4		7.32	
C3-Fluorenes	43.5		5.33		<0.4	U	16.5		6.16	
Carbazole	6.84		NA		NA		1.10		NA	
Anthracene	15.6		0.634		<0.1	U	2.09		0.760	
Phenanthrene	54.9		11.3		7.83		23.1		10.9	
C1-Phenanthrenes/Anthracenes	35.7		6.53		3.05		14.4		6.15	
C2-Phenanthrenes/Anthracenes	45.3		7.19		<0.3	U	22.5		8.84	
C3-Phenanthrenes/Anthracenes	54.6		2.91		<0.3	U	21.1		6.09	
C4-Phenanthrenes/Anthracenes	46.7		2.68		<0.3	U	17.1		6.39	
Dibenzothiophene	14.0		1.57		0.276		3.87		1.30	
C1-Dibenzothiophenes	25.5		2.21		<0.1	U	9.11		2.18	
C2-Dibenzothiophenes	36.4		2.38		<0.2	U	15.9		3.99	
C3-Dibenzothiophenes	55.8		2.43		<0.2	U	23.0		6.26	
C4-Dibenzothiophenes	40.1		1.77		<0.2	U	18.8		5.85	
Fluoranthene	42.3		4.82		0.763		9.81		4.98	
Pyrene	37.1		3.58		0.387		8.05		3.55	
C1-Fluoranthenes/Pyrenes	34.2		3.21		<0.5	U	9.47		4.17	
C2-Fluoranthenes/Pyrenes	54.9		<0.5	U	<0.5	U	18.4		5.59	
C3-Fluoranthenes/Pyrenes	34.8		<0.5	U	<0.5	U	14.0		4.42	
C4-Fluoranthenes/Pyrenes	48.4		<0.5	U	<0.5	U	19.5		11.5	
Naphthobenzothiophene	17.9		NA		NA		5.68		NA	
C1-Naphthobenzothiophenes	45.1		NA		NA		15.9		NA	
C2-Naphthobenzothiophenes	77.7		NA		NA		32.6		NA	
C3-Naphthobenzothiophenes	76.7		NA		NA		29.7		NA	
C4-Naphthobenzothiophenes	32.8		NA		NA		11.4		NA	
Benz(a)anthracene	14.5		1.32		<0.2	U	2.62		1.19	
Chrysene/Triphenylene	31.5		4.47		<0.1	U	9.00		4.55	
C1-Chrysenes	74.5		<0.2	U	<0.2	U	48.1		28.2	
C2-Chrysenes	68.7		<0.2	U	<0.2	U	20.7		7.14	
C3-Chrysenes	54.0		<0.2	U	<0.2	U	18.1		9.10	
C4-Chrysenes	35.3		<0.2	U	<0.2	U	7.08		<0.2	U
Benzo(b)fluoranthene	62.1		5.79		0.227		10.9		5.82	
Benzo(k,j)fluoranthene	12.1		0.831		0.082	J	2.29		1.03	
Benzo(a)fluoranthene	11.1		NA		NA		2.44		NA	
Benzo(e)pyrene	29.0		<0.2	U	<0.2	U	5.64		2.90	
Benzo(a)pyrene	16.3		<0.1	U	<0.1	U	3.27		1.16	
Perylene	120		297		19.3		145		94.4	
Indeno(1,2,3-c,d)pyrene	30.4		2.18		<0.1	U	5.30		2.16	
Dibenzo(a,h)anthracene	9.01		1.19		<0.1	U	2.54		1.37	
Benzo(g,h,i)perylene	37.5		1.93		<0.1	U	5.96		2.13	
Total PAHs	2011		429		53.8		871		315	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1784.D	ARC1785.D	ARC1786.D	ARC1790.D	ARC1793.D
Client Name	SED-DA-021 (0-0.5)	SED-DA-021 (0.5-1.0)	SED-DA-021 (1.0-1.5)	SED-DA-042 (0-0.5)	SED-DA-042 (0.5-1.0)
Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
Collection Date	08/09/13	08/09/13	08/09/13	08/09/13	08/09/13
Received Date	08/13/13	08/13/13	08/13/13	08/13/13	08/13/13
Extraction Date	08/22/13	08/22/13	08/22/13	08/22/13	08/22/13
Extraction Batch	ENV 3092	ENV 3092	ENV 3092	ENV 3092	ENV 3092
Date Acquired	9/3/13 10:42	9/3/13 11:50	9/3/13 12:59	9/3/13 15:16	9/3/13 16:25
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.1	15.0	15.1	15.0
% Dry	30	66	73	52	64
% Moisture	70	34	27	48	36
Dilution	5X	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	39.8		6.48		2.42		13.2		5.57	
1-Methylnaphthalene	23.3		3.25		1.19		6.74		2.69	
2,6-Dimethylnaphthalene	33.5		NA		NA		10.7		NA	
1,6,7-Trimethylnaphthalene	8.48		NA		NA		3.19		NA	
1-Methylfluorene	9.49		NA		NA		4.01		NA	
4-Methyldibenzothiophene	13.5		NA		NA		4.79		NA	
2/3-Methyldibenzothiophene	10.5		NA		NA		3.60		NA	
1-Methyldibenzothiophene	6.44		NA		NA		2.47		NA	
3-Methylphenanthrene	11.4		NA		NA		4.08		NA	
2-Methylphenanthrene	11.6		NA		NA		4.61		NA	
2-Methylanthracene	5.51		NA		NA		3.11		NA	
4/9-Methylphenanthrene	9.84		NA		NA		3.79		NA	
1-Methylphenanthrene	8.39		NA		NA		3.17		NA	
3,6-Dimethylphenanthrene	5.74		NA		NA		1.15		NA	
Retene	7.20		NA		NA		4.23		NA	
2-Methylfluoranthene	4.84		NA		NA		1.11		NA	
Benzo(b)fluorene	8.50		NA		NA		2.19		NA	
C29-Hopane	103		NA		NA		32.8		NA	
18a-Oleanane	<2.9	U	NA		NA		<0.6	U	NA	
C30-Hopane	157		NA		NA		28.5		NA	
C20-TAS	<2.9	U	NA		NA		<0.6	U	NA	
C21-TAS	<2.9	U	NA		NA		<0.6	U	NA	
C26(20S)-TAS	<2.9	U	NA		NA		<0.6	U	NA	
C26(20R)/C27(20S)-TAS	<2.9	U	NA		NA		<0.6	U	NA	
C28(20S)-TAS	<2.9	U	NA		NA		<0.6	U	NA	
C27(20R)-TAS	<2.9	U	NA		NA		<0.6	U	NA	
C28(20R)-TAS	<2.9	U	NA		NA		<0.6	U	NA	
Surrogate Recovery										
Naphthalene-d8	86	D	100		111		99		74	
Acenaphthene-d10	88	D	85		81		96		77	
Phenanthrene-d10	92	D	91		89		97		91	
Chrysene-d12	82	D	79		77		80		75	
Perylene-d12	82	D	66		48		41		28	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1794.D	ARC1795.D	ARC1796.D	ARC1797.D	ARC1798.D
Client Name	SED-DA-042 (1.0-1.5)	SED-DA-046 (0-0.5)	SED-DA-046 (0.5-1.0)	SED-DA-046 (1.0-1.5)	SED-DA-049 (0-0.5)
Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
Collection Date	08/09/13	08/12/13	08/12/13	08/12/13	08/12/13
Received Date	08/13/13	08/13/13	08/13/13	08/13/13	08/13/13
Extraction Date	08/22/13	08/22/13	08/22/13	08/22/13	08/22/13
Extraction Batch	ENV 3092	ENV 3092	ENV 3092	ENV 3092	ENV 3092
Date Acquired	9/3/13 17:33	9/3/13 18:42	9/3/13 19:51	9/3/13 20:59	9/3/13 22:08
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	15.0	15.1
% Dry	72	61	66	78	39
% Moisture	28	39	34	22	61
Dilution	1X	5X	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		3.99		NA		NA		12.1	
C1-Decalins	NA		5.62		NA		NA		11.8	
C2-Decalins	NA		39.0		NA		NA		38.6	
C3-Decalins	NA		246		NA		NA		228	
C4-Decalins	NA		450		NA		NA		337	
Naphthalene	4.92		12.9		17.0		3.80		28.0	
C1-Naphthalenes	3.04		159		110		3.51		143	
C2-Naphthalenes	4.10		745		465		5.80		468	
C3-Naphthalenes	8.87		1124		776		7.73		728	
C4-Naphthalenes	2.94		1140		672		4.15		684	
Benzothiophene	NA		1.81		NA		NA		3.11	
C1-Benzothiophenes	NA		25.2		NA		NA		35.5	
C2-Benzothiophenes	NA		138		NA		NA		94.6	
C3-Benzothiophenes	NA		370		NA		NA		212	
C4-Benzothiophenes	NA		505		NA		NA		290	
Biphenyl	NA		25.0		NA		NA		23.5	
Acenaphthylene	0.155		9.09		4.18		0.111		12.7	
Acenaphthene	0.319		10.5		8.29		0.160		8.96	
Dibenzofuran	NA		22.5		NA		NA		22.2	
Fluorene	3.85		57.1		46.6		2.57		41.6	
C1-Fluorenes	1.69		223		156		1.43		133	
C2-Fluorenes	4.79		587		398		<0.4	U	381	
C3-Fluorenes	<0.4	U	667		413		<0.4	U	444	
Carbazole	NA		11.4		NA		NA		13.8	
Anthracene	0.154		11.6		<0.1	U	0.158		12.2	
Phenanthrene	8.89		278		124		5.70		114	
C1-Phenanthrenes/Anthracenes	3.99		841		373		3.82		323	
C2-Phenanthrenes/Anthracenes	<0.3	U	1304		640		6.96		556	
C3-Phenanthrenes/Anthracenes	<0.3	U	1411		640		3.36		737	
C4-Phenanthrenes/Anthracenes	<0.3	U	1072		462		<0.3	U	497	
Dibenzothiophene	0.519		272		140		0.608		127	
C1-Dibenzothiophenes	0.443		933		443		1.41		413	
C2-Dibenzothiophenes	<0.2	U	1693		700		2.39		672	
C3-Dibenzothiophenes	<0.2	U	1985		906		3.39		1010	
C4-Dibenzothiophenes	<0.2	U	1376		569		2.77		623	
Fluoranthene	1.62		47.4		24.6		2.06		59.2	
Pyrene	1.20		76.8		42.7		0.810		72.2	
C1-Fluoranthenes/Pyrenes	0.928		298		142		1.09		161	
C2-Fluoranthenes/Pyrenes	<0.5	U	463		<0.5	U	<0.5	U	222	
C3-Fluoranthenes/Pyrenes	<0.5	U	451		<0.5	U	<0.5	U	165	
C4-Fluoranthenes/Pyrenes	<0.5	U	409		<0.5	U	<0.5	U	215	
Naphthobenzothiophene	NA		210		NA		NA		105	
C1-Naphthobenzothiophenes	NA		581		NA		NA		241	
C2-Naphthobenzothiophenes	NA		842		NA		NA		415	
C3-Naphthobenzothiophenes	NA		734		NA		NA		352	
C4-Naphthobenzothiophenes	NA		361		NA		NA		187	
Benz(a)anthracene	0.227		14.0		9.73		<0.2	U	18.0	
Chrysene/Triphenylene	1.74		113		45.7		<0.1	U	68.0	
C1-Chrysenes	<0.2	U	302		154		<0.2	U	176	
C2-Chrysenes	<0.2	U	451		185		<0.2	U	215	
C3-Chrysenes	<0.2	U	306		138		<0.2	U	161	
C4-Chrysenes	<0.2	U	168		68.3		<0.2	U	121	
Benzo(b)fluoranthene	2.08		42.2		22.6		0.342		83.2	
Benzo(k,j)fluoranthene	0.196		13.7		6.95		0.106		26.7	
Benzo(a)fluoranthene	NA		<0.5	U	NA		NA		9.81	
Benzo(e)pyrene	<0.2	U	45.7		24.5		<0.2	U	46.4	
Benzo(a)pyrene	<0.1	U	24.5		11.2		<0.1	U	29.0	
Perylene	226		37.1		64.8		7.39		36.5	
Indeno(1,2,3-c,d)pyrene	0.488		14.0		8.13		<0.1	U	25.3	
Dibenzo(a,h)anthracene	0.166		9.13		5.04		<0.1	U	8.27	
Benzo(g,h,i)perylene	0.402		47.0		19.5		0.149		34.2	
Total PAHs	284		23813		9036		71.8		12731	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1794.D	ARC1795.D	ARC1796.D	ARC1797.D	ARC1798.D
Client Name	SED-DA-042 (1.0-1.5)	SED-DA-046 (0-0.5)	SED-DA-046 (0.5-1.0)	SED-DA-046 (1.0-1.5)	SED-DA-049 (0-0.5)
Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
Collection Date	08/09/13	08/12/13	08/12/13	08/12/13	08/12/13
Received Date	08/13/13	08/13/13	08/13/13	08/13/13	08/13/13
Extraction Date	08/22/13	08/22/13	08/22/13	08/22/13	08/22/13
Extraction Batch	ENV 3092	ENV 3092	ENV 3092	ENV 3092	ENV 3092
Date Acquired	9/3/13 17:33	9/3/13 18:42	9/3/13 19:51	9/3/13 20:59	9/3/13 22:08
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	15.0	15.1
% Dry	72	61	66	78	39
% Moisture	28	39	34	22	61
Dilution	1X	5X	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	3.16		141		101		3.56		129	
1-Methylnaphthalene	1.51		105		69.1		1.83		91.2	
2,6-Dimethylnaphthalene	NA		325		NA		NA		206	
1,6,7-Trimethylnaphthalene	NA		169		NA		NA		97.1	
1-Methylfluorene	NA		186		NA		NA		91.4	
4-Methyldibenzothiophene	NA		473		NA		NA		215	
2/3-Methyldibenzothiophene	NA		388		NA		NA		148	
1-Methyldibenzothiophene	NA		251		NA		NA		128	
3-Methylphenanthrene	NA		228		NA		NA		92.0	
2-Methylphenanthrene	NA		286		NA		NA		101	
2-Methylanthracene	NA		30.1		NA		NA		8.15	
4/9-Methylphenanthrene	NA		358		NA		NA		122	
1-Methylphenanthrene	NA		196		NA		NA		99.0	
3,6-Dimethylphenanthrene	NA		93.0		NA		NA		69.1	
Retene	NA		116		NA		NA		110	
2-Methylfluoranthene	NA		27.7		NA		NA		15.5	
Benzo(b)fluorene	NA		33.1		NA		NA		15.6	
C29-Hopane	NA		745		NA		NA		541	
18a-Oleanane	NA		<2.9	U	NA		NA		<0.6	U
C30-Hopane	NA		1022		NA		NA		636	
C20-TAS	NA		<2.9	U	NA		NA		<0.6	U
C21-TAS	NA		<2.9	U	NA		NA		<0.6	U
C26(20S)-TAS	NA		<2.9	U	NA		NA		<0.6	U
C26(20R)/C27(20S)-TAS	NA		<2.9	U	NA		NA		<0.6	U
C28(20S)-TAS	NA		<2.9	U	NA		NA		<0.6	U
C27(20R)-TAS	NA		<2.9	U	NA		NA		<0.6	U
C28(20R)-TAS	NA		<2.9	U	NA		NA		<0.6	U
Surrogate Recovery										
Naphthalene-d8	79		66	D	81		77		88	
Acenaphthene-d10	83		68	D	82		83		83	
Phenanthrene-d10	87		105	D	97		96		96	
Chrysene-d12	76		114	D	84		79		80	
Perylene-d12	38		87	D	75		28		83	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1799.D	ARC1800.D	ARC1801.D	ARC1802.D	ARC1803.D
Client Name	SED-DA-049 (0.5-1.0)	SED-DA-049 (1.0-1.5)	SED-DA-043 (0-0.5)	SED-DA-043 (0.5-1.0)	SED-DA-043 (1.0-1.5)
Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
Collection Date	08/12/13	08/12/13	08/12/13	08/12/13	08/12/13
Received Date	08/13/13	08/13/13	08/13/13	08/13/13	08/13/13
Extraction Date	08/22/13	08/22/13	08/22/13	08/22/13	08/22/13
Extraction Batch	ENV 3092	ENV 3092	ENV 3092	ENV 3092	ENV 3092
Date Acquired	9/3/13 23:16	9/4/13 1:33	9/4/13 2:42	9/4/13 3:51	9/4/13 4:59
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.2	15.0	15.0	15.0
% Dry	49	70	60	76	78
% Moisture	51	30	40	24	22
Dilution	1X	1X	5X	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		7.19		NA		NA	
C1-Decalins	NA		NA		14.7		NA		NA	
C2-Decalins	NA		NA		89.4		NA		NA	
C3-Decalins	NA		NA		402		NA		NA	
C4-Decalins	NA		NA		595		NA		NA	
Naphthalene	19.9		7.04		15.3		12.2		3.72	
C1-Naphthalenes	30.0		6.17		96.0		23.4		3.66	
C2-Naphthalenes	55.0		9.04		614		63.7		6.30	
C3-Naphthalenes	57.0		9.46		1196		101		8.54	
C4-Naphthalenes	37.5		9.01		1474		97.3		8.10	
Benzothiophene	NA		NA		3.31		NA		NA	
C1-Benzothiophenes	NA		NA		44.3		NA		NA	
C2-Benzothiophenes	NA		NA		128		NA		NA	
C3-Benzothiophenes	NA		NA		363		NA		NA	
C4-Benzothiophenes	NA		NA		564		NA		NA	
Biphenyl	NA		NA		16.5		NA		NA	
Acenaphthylene	2.83		0.252		9.75		1.13		0.131	
Acenaphthene	2.04		0.636		7.61		1.26		0.089	J
Dibenzofuran	NA		NA		24.7		NA		NA	
Fluorene	12.0		6.27		46.1		8.59		3.37	
C1-Fluorenes	13.2		2.49		215		20.7		2.16	
C2-Fluorenes	48.1		4.68		628		64.2		6.62	
C3-Fluorenes	32.5		<0.4	U	920		71.7		6.63	
Carbazole	NA		NA		8.68		NA		NA	
Anthracene	4.56		17.6		6.31		<0.1	U	<0.1	U
Phenanthrene	31.7		16.7		225		39.6		10.2	
C1-Phenanthrenes/Anthracenes	38.2		5.59		831		77.4		6.83	
C2-Phenanthrenes/Anthracenes	65.7		<0.3	U	1570		138		10.6	
C3-Phenanthrenes/Anthracenes	74.1		<0.3	U	1736		145		10.3	
C4-Phenanthrenes/Anthracenes	61.8		<0.3	U	1194		107		6.67	
Dibenzothiophene	14.1		1.09		263		23.3		1.58	
C1-Dibenzothiophenes	31.6		1.15		914		79.1		4.84	
C2-Dibenzothiophenes	60.1		1.30		1803		147		8.74	
C3-Dibenzothiophenes	97		1.28		2264		173		10.8	
C4-Dibenzothiophenes	91.2		<0.2	U	1537		117		7.33	
Fluoranthene	19.0		2.56		51.4		11.3		1.70	
Pyrene	15.7		1.82		101		12.5		1.36	
C1-Fluoranthenes/Pyrenes	25.6		1.18		355		31.4		1.72	
C2-Fluoranthenes/Pyrenes	41.6		<0.5	U	476		50.4		3.06	
C3-Fluoranthenes/Pyrenes	42.0		<0.5	U	475		40.0		2.25	
C4-Fluoranthenes/Pyrenes	58.1		<0.5	U	368		37.2		3.45	
Naphthobenzothiophene	NA		NA		256		NA		NA	
C1-Naphthobenzothiophenes	NA		NA		681		NA		NA	
C2-Naphthobenzothiophenes	NA		NA		1008		NA		NA	
C3-Naphthobenzothiophenes	NA		NA		783		NA		NA	
C4-Naphthobenzothiophenes	NA		NA		423		NA		NA	
Benz(a)anthracene	6.52		0.397		22.0		1.31		0.307	
Chrysene/Triphenylene	26.7		1.14		153		15.6		0.968	
C1-Chrysenes	105		<0.2	U	335		34.9		2.60	
C2-Chrysenes	63.6		<0.2	U	484		38.9		3.07	
C3-Chrysenes	56.3		<0.2	U	407		28.5		2.58	
C4-Chrysenes	31.2		<0.2	U	164		16.9		<0.2	U
Benzo(b)fluoranthene	32.0		1.46		53.9		9.77		0.799	
Benzo(k,j)fluoranthene	9.09		0.293		15.9		2.44		0.179	
Benzo(a)fluoranthene	NA		NA		12.2		NA		NA	
Benzo(e)pyrene	18.2		<0.2	U	53.4		6.82		0.614	
Benzo(a)pyrene	4.69		<0.1	U	21.3		2.69		0.136	
Perylene	83.0		141		15.6		29.8		2.28	
Indeno(1,2,3-c,d)pyrene	13.5		0.645		17.4		2.65		0.249	
Dibenzo(a,h)anthracene	3.43		0.169		9.83		1.20		0.113	
Benzo(g,h,i)perylene	17.0		0.388		44.9		4.76		0.390	
Total PAHs	1552		250		26610		1890		155	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1799.D	ARC1800.D	ARC1801.D	ARC1802.D	ARC1803.D
Client Name	SED-DA-049 (0.5-1.0)	SED-DA-049 (1.0-1.5)	SED-DA-043 (0-0.5)	SED-DA-043 (0.5-1.0)	SED-DA-043 (1.0-1.5)
Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
Collection Date	08/12/13	08/12/13	08/12/13	08/12/13	08/12/13
Received Date	08/13/13	08/13/13	08/13/13	08/13/13	08/13/13
Extraction Date	08/22/13	08/22/13	08/22/13	08/22/13	08/22/13
Extraction Batch	ENV 3092	ENV 3092	ENV 3092	ENV 3092	ENV 3092
Date Acquired	9/3/13 23:16	9/4/13 1:33	9/4/13 2:42	9/4/13 3:51	9/4/13 4:59
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.2	15.0	15.0	15.0
% Dry	49	70	60	76	78
% Moisture	51	30	40	24	22
Dilution	1X	1X	5X	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	29.4		6.26		89.3		22.5		3.76	
1-Methylnaphthalene	16.8		3.21		58.8		13.6		1.86	
2,6-Dimethylnaphthalene	NA		NA		267		NA		NA	
1,6,7-Trimethylnaphthalene	NA		NA		184		NA		NA	
1-Methylfluorene	NA		NA		152		NA		NA	
4-Methyldibenzothiophene	NA		NA		446		NA		NA	
2/3-Methyldibenzothiophene	NA		NA		369		NA		NA	
1-Methyldibenzothiophene	NA		NA		274		NA		NA	
3-Methylphenanthrene	NA		NA		208		NA		NA	
2-Methylphenanthrene	NA		NA		288		NA		NA	
2-Methylanthracene	NA		NA		16.8		NA		NA	
4/9-Methylphenanthrene	NA		NA		386		NA		NA	
1-Methylphenanthrene	NA		NA		187		NA		NA	
3,6-Dimethylphenanthrene	NA		NA		100		NA		NA	
Retene	NA		NA		132		NA		NA	
2-Methylfluoranthene	NA		NA		35.4		NA		NA	
Benzo(b)fluorene	NA		NA		27.8		NA		NA	
C29-Hopane	NA		NA		908		NA		NA	
18a-Oleanane	NA		NA		<2.9	U	NA		NA	
C30-Hopane	NA		NA		1223		NA		NA	
C20-TAS	NA		NA		51.0		NA		NA	
C21-TAS	NA		NA		55.5		NA		NA	
C26(20S)-TAS	NA		NA		54.7		NA		NA	
C26(20R)/C27(20S)-TAS	NA		NA		170		NA		NA	
C28(20S)-TAS	NA		NA		140		NA		NA	
C27(20R)-TAS	NA		NA		120		NA		NA	
C28(20R)-TAS	NA		NA		120		NA		NA	
Surrogate Recovery										
Naphthalene-d8	83		79		86	D	76		80	
Acenaphthene-d10	84		81		91	D	77		81	
Phenanthrene-d10	98		100		108	D	108		98	
Chrysene-d12	91		81		107	D	99		80	
Perylene-d12	21		36		81	D	37		7	L

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1804.D	ARC1805.D	ARC1806.D	ARC1808.D
Client Name	SED-DA-044 (0-0.5)	SED-DA-044 (0.5-1.0)	SED-DA-044 (1.0-1.5)	SED-DA-047 (0.5-1.0)
Matrix	Sediment	Sediment	Sediment	Sediment
Collection Date	08/12/13	08/12/13	08/12/13	08/12/13
Received Date	08/13/13	08/13/13	08/13/13	08/13/13
Extraction Date	08/22/13	08/22/13	08/22/13	08/22/13
Extraction Batch	ENV 3092	ENV 3092	ENV 3092	ENV 3092
Date Acquired	9/4/13 6:08	9/4/13 7:17	9/4/13 8:26	9/4/13 9:34
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.0	15.0	15.0
% Dry	52	75	77	69
% Moisture	48	25	23	31
Dilution	5X	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	7.46		NA		NA		NA	
C1-Decalins	13.8		NA		NA		NA	
C2-Decalins	48.3		NA		NA		NA	
C3-Decalins	226		NA		NA		NA	
C4-Decalins	380		NA		NA		NA	
Naphthalene	14.6		7.42		6.23		8.88	
C1-Naphthalenes	46.9		5.81		5.83		7.87	
C2-Naphthalenes	252		9.50		8.84		12.7	
C3-Naphthalenes	590		13.0		7.79		15.0	
C4-Naphthalenes	697		10.6		4.88		13.6	
Benzothiophene	2.06		NA		NA		NA	
C1-Benzothiophenes	17.9		NA		NA		NA	
C2-Benzothiophenes	16.1		NA		NA		NA	
C3-Benzothiophenes	119		NA		NA		NA	
C4-Benzothiophenes	249		NA		NA		NA	
Biphenyl	9.97		NA		NA		NA	
Acenaphthylene	6.45		0.385		0.092		0.244	
Acenaphthene	3.47		0.297		0.238		0.545	
Dibenzofuran	12.6		NA		NA		NA	
Fluorene	16.5		4.13		5.02		6.67	
C1-Fluorenes	89.7		2.56		2.29		2.68	
C2-Fluorenes	314		7.91		2.88		4.68	
C3-Fluorenes	501		12.5		<0.4	U	<0.4	U
Carbazole	8.27		NA		NA		NA	
Anthracene	<0.6	U	0.264		<0.1	U	0.178	
Phenanthrene	161		11.7		12.1		16.6	
C1-Phenanthrenes/Anthracenes	516		9.28		4.34		5.68	
C2-Phenanthrenes/Anthracenes	1008		14.7		4.31		6.77	
C3-Phenanthrenes/Anthracenes	1088		16.7		0.940		2.62	
C4-Phenanthrenes/Anthracenes	758		11.0		<0.3	U	2.17	
Dibenzothiophene	144		1.86		0.828		1.34	
C1-Dibenzothiophenes	570		6.23		0.858		1.83	
C2-Dibenzothiophenes	1257		13.4		1.22		2.27	
C3-Dibenzothiophenes	1553		15.6		1.12		2.54	
C4-Dibenzothiophenes	1191		11.9		0.651		1.55	
Fluoranthene	47.1		3.37		1.54		1.78	
Pyrene	65.4		2.66		1.16		1.02	
C1-Fluoranthenes/Pyrenes	201		3.44		0.819		1.04	
C2-Fluoranthenes/Pyrenes	339		5.23		<0.5	U	<0.5	U
C3-Fluoranthenes/Pyrenes	347		3.30		<0.5	U	<0.5	U
C4-Fluoranthenes/Pyrenes	364		6.28		<0.5	U	<0.5	U
Naphthobenzothiophene	183		NA		NA		NA	
C1-Naphthobenzothiophenes	468		NA		NA		NA	
C2-Naphthobenzothiophenes	715		NA		NA		NA	
C3-Naphthobenzothiophenes	565		NA		NA		NA	
C4-Naphthobenzothiophenes	324		NA		NA		NA	
Benz(a)anthracene	15.5		<0.2	U	<0.2	U	<0.2	U
Chrysene/Triphenylene	113		<0.1	U	<0.1	U	<0.1	U
C1-Chrysenes	236		8.20		4.89		<0.2	U
C2-Chrysenes	324		4.96		<0.2	U	<0.2	U
C3-Chrysenes	254		4.08		<0.2	U	<0.2	U
C4-Chrysenes	125		<0.2	U	<0.2	U	<0.2	U
Benzo(b)fluoranthene	46.7		3.23		0.377		1.31	
Benzo(k,j)fluoranthene	14.8		0.685		0.064	J	0.273	
Benzo(a)fluoranthene	<0.5	U	NA		NA		NA	
Benzo(e)pyrene	43.8		1.52		<0.2	U	<0.2	U
Benzo(a)pyrene	17.7		0.802		<0.1	U	<0.1	U
Perylene	24.9		111		212.1		192	
Indeno(1,2,3-c,d)pyrene	14.0		0.914		<0.1	U	0.488	
Dibenzo(a,h)anthracene	7.25		0.351		0.277		0.437	
Benzo(g,h,i)perylene	32.8		0.954		0.188		0.278	
Total PAHs	16776		348		292		315	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1804.D	ARC1805.D	ARC1806.D	ARC1808.D
Client Name	SED-DA-044 (0-0.5)	SED-DA-044 (0.5-1.0)	SED-DA-044 (1.0-1.5)	SED-DA-047 (0.5-1.0)
Matrix	Sediment	Sediment	Sediment	Sediment
Collection Date	08/12/13	08/12/13	08/12/13	08/12/13
Received Date	08/13/13	08/13/13	08/13/13	08/13/13
Extraction Date	08/22/13	08/22/13	08/22/13	08/22/13
Extraction Batch	ENV 3092	ENV 3092	ENV 3092	ENV 3092
Date Acquired	9/4/13 6:08	9/4/13 7:17	9/4/13 8:26	9/4/13 9:34
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.0	15.0	15.0
% Dry	52	75	77	69
% Moisture	48	25	23	31
Dilution	5X	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	42.8		5.88		5.84		7.97	
1-Methylnaphthalene	29.6		3.04		3.12		4.13	
2,6-Dimethylnaphthalene	108		NA		NA		NA	
1,6,7-Trimethylnaphthalene	82.6		NA		NA		NA	
1-Methylfluorene	61.6		NA		NA		NA	
4-Methyldibenzothiophene	287		NA		NA		NA	
2/3-Methyldibenzothiophene	234		NA		NA		NA	
1-Methyldibenzothiophene	158		NA		NA		NA	
3-Methylphenanthrene	131		NA		NA		NA	
2-Methylphenanthrene	182		NA		NA		NA	
2-Methylanthracene	9.05		NA		NA		NA	
4/9-Methylphenanthrene	228		NA		NA		NA	
1-Methylphenanthrene	123		NA		NA		NA	
3,6-Dimethylphenanthrene	76.4		NA		NA		NA	
Retene	101		NA		NA		NA	
2-Methylfluoranthene	25.8		NA		NA		NA	
Benzo(b)fluorene	17.3		NA		NA		NA	
C29-Hopane	729		NA		NA		NA	
18a-Oleanane	<2.9	U	NA		NA		NA	
C30-Hopane	1035		NA		NA		NA	
C20-TAS	36.9		NA		NA		NA	
C21-TAS	39.8		NA		NA		NA	
C26(20S)-TAS	46.6		NA		NA		NA	
C26(20R)/C27(20S)-TAS	129		NA		NA		NA	
C28(20S)-TAS	106		NA		NA		NA	
C27(20R)-TAS	52.2		NA		NA		NA	
C28(20R)-TAS	87.9		NA		NA		NA	
Surrogate Recovery								
Naphthalene-d8	82	D	83		78		83	
Acenaphthene-d10	80	D	85		82		82	
Phenanthrene-d10	112	D	98		93		93	
Chrysene-d12	114	D	79		78		77	
Perylene-d12	81	D	18		22		57	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Procedural Blank Report

Sample Name	ENV3092A.D
Client Name	Procedural Blank
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	08/22/13
Extraction Batch	ENV 3092
Date Acquired	9/3/13 4:58
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	0.151	J	1.03	0.342
C1-Naphthalenes	<1	U	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	<0.3	U	0.881	0.294
Acenaphthylene	<0.04	U	0.122	0.041
Acenaphthene	<0.1	U	0.308	0.103
Dibenzofuran	<0.2	U	0.613	0.204
Fluorene	<0.2	U	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	0.090	J	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	0.0	J	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	<1.3	U	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	0.265			

Sample Name	ENV3092A.D
Client Name	Procedural Blank
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	08/22/13
Extraction Batch	ENV 3092
Date Acquired	9/3/13 4:58
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	<1.3	U	3.89	1.30
1-Methylnaphthalene	<0.5	U	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	83
Acenaphthene-d10	88
Phenanthrene-d10	87
Chrysene-d12	95
Perylene-d12	95

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Matrix Spike Report

Sample Name	ARC1790.D	ENV3092C.D	ENV3092D.D
Client Name	SED-DA-042 (0-0.5)	MS (SED-DA-042 (0-0.5) MS)	MSD (SED-DA-042 (0-0.5) MSD)
Matrix	Sediment	Sediment	Sediment
Collection Date	08/09/13	08/09/13	08/09/13
Received Date	08/13/13	08/13/13	08/13/13
Extraction Date	08/22/13	08/22/13	08/22/13
Extraction Batch	ENV 3092	ENV 3092	ENV 3092
Date Acquired	9/3/13 15:16	9/3/13 7:16	9/3/13 8:24
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.0	15.0
% Dry	52	37	45
% Moisture	48	63	55
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	13.6		27.0		201		Y	23.0		140		Y	16		98.9
C1-Decalins	36.4		NA					NA							
C2-Decalins	3.90		NA					NA							
C3-Decalins	8.57		NA					NA							
C4-Decalins	12.7		NA					NA							
Naphthalene	11.9		22.5		158	*		18.5		99			19		100
C1-Naphthalenes	13.0		NA					NA							
C2-Naphthalenes	23.7		NA					NA							
C3-Naphthalenes	26.1		NA					NA							
C4-Naphthalenes	17.3		NA					NA							
Benzothiophene	0.789		6.50		86			6.74		90			4		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	3.62		11.2		114			9.50		89			16		99.1
Acenaphthylene	1.43		7.48		91			7.36		90			2		99.2
Acenaphthene	1.55		7.03		82			7.88		95			11		100
Dibenzofuran	6.84		14.5		115			11.3		66			25		100
Fluorene	9.75		20.4		158	*		15.7		87			26		100
C1-Fluorenes	7.35		NA					NA							
C2-Fluorenes	20.4		NA					NA							
C3-Fluorenes	16.5		NA					NA							
Carbazole	1.10		8.97		119			8.27		108			8		99.1
Anthracene	2.09		9.29		107			9.50		110			2		100
Phenanthrene	23.1		42.3		289		Y	26.4		48		Y	46		99.1
C1-Phenanthrenes/Anthracenes	14.4		NA					NA							
C2-Phenanthrenes/Anthracenes	22.5		NA					NA							
C3-Phenanthrenes/Anthracenes	21.1		NA					NA							
C4-Phenanthrenes/Anthracenes	17.1		NA					NA							
Dibenzothiophene	3.87		15.1		171	*		13.8		151	*		9		98.6
C1-Dibenzothiophenes	9.11		NA					NA							
C2-Dibenzothiophenes	15.9		NA					NA							
C3-Dibenzothiophenes	23.0		NA					NA							
C4-Dibenzothiophenes	18.8		NA					NA							
Fluoranthene	9.81		23.3		200	*		19.6		145	*		17		100
Pyrene	8.05		18.8		160	*		19.0		163	*		1		100
C1-Fluoranthenes/Pyrenes	9.47		NA					NA							
C2-Fluoranthenes/Pyrenes	18.4		NA					NA							
C3-Fluoranthenes/Pyrenes	14.0		NA					NA							
C4-Fluoranthenes/Pyrenes	19.5		NA					NA							
Naphthobenzothiophene	5.68		NA					NA							
C1-Naphthobenzothiophenes	15.9		NA					NA							
C2-Naphthobenzothiophenes	32.6		NA					NA							
C3-Naphthobenzothiophenes	29.7		NA					NA							
C4-Naphthobenzothiophenes	11.4		NA					NA							
Benz(a)anthracene	2.62		10.2		114			10.0		111			2		100
Chrysene/Triphenylene	9.00		16.0		105			16.8		117			5		99.4
C1-Chrysenes	48.1		NA					NA							
C2-Chrysenes	20.7		NA					NA							
C3-Chrysenes	18.1		NA					NA							
C4-Chrysenes	7.08		NA					NA							
Benzo(b)fluoranthene	10.9		19.7		131	*		17.4		96			13		100
Benzo(k,j)fluoranthene	2.29		8.4		91			8.27		90			1		100
Benzo(a)fluoranthene	2.44		NA					NA							
Benzo(e)pyrene	5.64		14.9		138	*		14.7		136	*		1		100
Benzo(a)pyrene	3.27		10.7		111			9.32		91			13		100
Perylene	145		216		1043		Y	173		390		Y	22		100
Indeno(1,2,3-c,d)pyrene	5.30		11.1		87			10.7		82			3		98.3
Dibenzo(a,h)anthracene	2.54		10.3		117			9.64		107			6		99.1
Benzo(g,h,i)perylene	5.96		12.7		101			13.1		107			3		99.1
Average % Recovery					156	*				113					

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Matrix Spike Report

Sample Name	ARC1790.D	ENV3092C.D	ENV3092D.D
Client Name	SED-DA-042 (0-0.5)	MS (SED-DA-042 (0-0.5) MS)	MSD (SED-DA-042 (0-0.5) MSD)
Matrix	Sediment	Sediment	Sediment
Collection Date	08/09/13	08/09/13	08/09/13
Received Date	08/13/13	08/13/13	08/13/13
Extraction Date	08/22/13	08/22/13	08/22/13
Extraction Batch	ENV 3092	ENV 3092	ENV 3092
Date Acquired	9/3/13 15:16	9/3/13 7:16	9/3/13 8:24
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.0	15.0
% Dry	52	37	45
% Moisture	48	63	55
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	13.2		25.2		178	*		20.5		108			21		100
1-Methylnaphthalene	6.74		15.6		133	*		14.6		117			7		100
2,6-Dimethylnaphthalene	10.7		23.5		191	*		17.7		104			28		100
1,6,7-Trimethylnaphthalene	3.19		9.93		101			8.80		84			12		100
1-Methylfluorene	4.01		10.7		99			11.0		104			3		101
4-Methyldibenzothiophene	4.79		15.5		159	*		15.1		153		*	2		101
2/3-Methyldibenzothiophene	3.60		NA					NA							
1-Methyldibenzothiophene	2.47		NA					NA							
3-Methylphenanthrene	4.08		NA					NA							
2-Methylphenanthrene	4.61		NA					NA							
2-Methylanthracene	3.11		NA					NA							
4/9-Methylphenanthrene	3.79		NA					NA							
1-Methylphenanthrene	3.17		10.6		113			10.2		106			4		98.9
3,6-Dimethylphenanthrene	1.15		7.68		98			8.21		106			7		100
Retene	4.23		11.8		127	*		9.66		91			20		89
2-Methylfluoranthene	1.11		9.59		126	*		8.10		104			17		101
Benzo(b)fluorene	2.19		10.4		122	*		9.95		115			5		101
C29-Hopane	32.8		NA					NA							
18a-Oleanane	<0.6	U	NA					NA							
C30-Hopane	28.5		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	5.00		75			4.47		67			11		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	99	99	91
Acenaphthene-d10	96	77	83
Phenanthrene-d10	97	91	91
Chrysene-d12	80	79	80
Perylene-d12	41	51	47

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Duplicate Report

Sample Name	ARC1801.D	ENV3092E.D
Client Name	SED-DA-043 (0-0.5)	Dupl. (SED-DA-043 (0-0.5))
Matrix	Sediment	Sediment
Collection Date	08/12/13	08/12/13
Received Date	08/13/13	08/13/13
Extraction Date	08/22/13	08/22/13
Extraction Batch	ENV 3092	ENV 3092
Date Acquired	9/4/13 2:42	9/3/13 9:33
Method	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.0
% Dry	60	60
% Moisture	40	40
Dilution	5X	5X

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	7.19		6.90		4		1.97	0.658
C1-Decalins	14.7		14.7		0		3.95	1.32
C2-Decalins	89.4		77.0		15		3.95	1.32
C3-Decalins	402		382		5		3.95	1.32
C4-Decalins	595		670		12		3.95	1.32
Naphthalene	15.3		13.3		14		5.12	1.71
C1-Naphthalenes	96.0		86.2		11		15.4	5.14
C2-Naphthalenes	614		554		10		10.3	3.42
C3-Naphthalenes	1196		1254		5		10.3	3.42
C4-Naphthalenes	1474		1352		9		10.3	3.42
Benzothiophene	3.31		2.75		19		1.35	0.450
C1-Benzothiophenes	44.3		38.2		15		2.70	0.900
C2-Benzothiophenes	128		117		9		2.70	0.900
C3-Benzothiophenes	363		322		12		2.70	0.900
C4-Benzothiophenes	564		494		13		2.70	0.900
Biphenyl	16.5		14.5		12		4.40	1.47
Acenaphthylene	9.75		8.38		15		0.612	0.204
Acenaphthene	7.61		7.76		2		1.54	0.513
Dibenzofuran	24.7		21.8		12		3.06	1.02
Fluorene	46.1		38.7		17		2.75	0.916
C1-Fluorenes	215		182		16		5.50	1.83
C2-Fluorenes	628		634		1		5.50	1.83
C3-Fluorenes	920		812		12		5.50	1.83
Carbazole	8.68		8.87		2		2.24	0.748
Anthracene	6.31		6.11		3		1.73	0.576
Phenanthrene	225		236		5		3.12	1.04
C1-Phenanthrenes/Anthracenes	831		804		3		1.16	0.386
C2-Phenanthrenes/Anthracenes	1570		1484		6		4.28	1.43
C3-Phenanthrenes/Anthracenes	1736		1665		4		4.28	1.43
C4-Phenanthrenes/Anthracenes	1194		1142		4		4.28	1.43
Dibenzothiophene	263		242		8		1.74	0.579
C1-Dibenzothiophenes	914		909		1		0.957	0.319
C2-Dibenzothiophenes	1803		1823		1		3.48	1.16
C3-Dibenzothiophenes	2264		1997		13		3.48	1.16
C4-Dibenzothiophenes	1537		1391		10		3.48	1.16
Fluoranthene	51.4		53.6		4		4.99	1.66
Pyrene	101		101		0		2.04	0.680
C1-Fluoranthenes/Pyrenes	355		303		16		7.03	2.34
C2-Fluoranthenes/Pyrenes	476		430		10		7.03	2.34
C3-Fluoranthenes/Pyrenes	475		425		11		7.03	2.34
C4-Fluoranthenes/Pyrenes	368		385		4		7.03	2.34
Naphthobenzothiophene	256		219		15		1.92	0.639
C1-Naphthobenzothiophenes	681		613		10		3.83	1.28
C2-Naphthobenzothiophenes	1008		976		3		3.83	1.28
C3-Naphthobenzothiophenes	783		862		10		3.83	1.28
C4-Naphthobenzothiophenes	423		378		11		3.83	1.28
Benz(a)anthracene	22.0		19.4		13		2.88	0.961
Chrysene/Triphenylene	153		139		10		1.73	0.578
C1-Chrysenes	335		332		1		3.47	1.16
C2-Chrysenes	484		451		7		3.47	1.16
C3-Chrysenes	407		367		10		3.47	1.16
C4-Chrysenes	164		175		6		3.47	1.16
Benzo(b)fluoranthene	53.9		52.4		3		3.04	1.01
Benzo(k,j)fluoranthene	15.9		14.4		10		1.47	0.490
Benzo(a)fluoranthene	12.2		10.5		15		1.47	0.490
Benzo(e)pyrene	53.4		58.5		9		2.65	0.883
Benzo(a)pyrene	21.3		22.0		4		1.52	0.506
Perylene	15.6		17.5		12	X	19.0	6.33
Indeno(1,2,3-c,d)pyrene	17.4		19.3		10		0.753	0.251
Dibenzo(a,h)anthracene	9.83		9.32		5		0.963	0.321
Benzo(g,h,i)perylene	44.9		48.1		7		1.32	0.439
Total PAHs	26610		25294		5			

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Duplicate Report

Sample Name	ARC1801.D	ENV3092E.D
Client Name	SED-DA-043 (0-0.5)	Dupl. (SED-DA-043 (0-0.5))
Matrix	Sediment	Sediment
Collection Date	08/12/13	08/12/13
Received Date	08/13/13	08/13/13
Extraction Date	08/22/13	08/22/13
Extraction Batch	ENV 3092	ENV 3092
Date Acquired	9/4/13 2:42	9/3/13 9:33
Method	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.0
% Dry	60	60
% Moisture	40	40
Dilution	5X	5X

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	89.3		80.2		11		19.4	6.48
1-Methylnaphthalene	58.8		52.7		11		8.19	2.73
2,6-Dimethylnaphthalene	267		239		11		3.91	1.30
1,6,7-Trimethylnaphthalene	184		167		10		1.91	0.637
1-Methylfluorene	152		140		8		2.87	0.956
4-Methyldibenzothiophene	446		455		2		1.37	0.457
2/3-Methyldibenzothiophene	369		375		2		1.37	0.457
1-Methyldibenzothiophene	274		252		8		1.37	0.457
3-Methylphenanthrene	208		215		3		1.46	0.485
2-Methylphenanthrene	288		280		3		1.46	0.485
2-Methylanthracene	16.8		15.1		11		1.46	0.485
4/9-Methylphenanthrene	386		350		10		1.46	0.485
1-Methylphenanthrene	187		190		2		1.46	0.485
3,6-Dimethylphenanthrene	100		88.8		12		1.64	0.548
Retene	132		136		3		3.47	1.16
2-Methylfluoranthene	35.4		36.0		2		3.34	1.11
Benzo(b)fluorene	27.8		22.6		20		1.87	0.623
C29-Hopane	908		944		4		8.62	2.87
18a-Oleanane	<2.9	U	<2.9	U			8.62	2.87
C30-Hopane	1223		1221		0		8.62	2.87
C20-TAS	51.0		46.6		9		8.62	2.87
C21-TAS	55.5		45.9		19		8.62	2.87
C26(20S)-TAS	54.7		53.0		3		8.62	2.87
C26(20R)/C27(20S)-TAS	170		170		0		8.62	2.87
C28(20S)-TAS	140		122		13		8.62	2.87
C27(20R)-TAS	120		113		6		8.62	2.87
C28(20R)-TAS	120		107		12		8.62	2.87
Surrogate Recovery								
Naphthalene-d8	86	D	83	D				
Acenaphthene-d10	91	D	81	D				
Phenanthrene-d10	108	D	103	D				
Chrysene-d12	107	D	102	D				
Perylene-d12	81	D	93	D				

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

Sample Name	ENV3092B.D
Client Name	SRM 1941b
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	08/22/13
Extraction Batch	ENV 3092
Date Acquired	9/3/13 6:07
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	29.9					
C1-Decalins	10.3					
C2-Decalins	12.2					
C3-Decalins	18.8					
C4-Decalins	35.3					
Naphthalene	735		14	848 ± 95	527	1226
C1-Naphthalenes	232					
C2-Naphthalenes	206					
C3-Naphthalenes	141					
C4-Naphthalenes	104					
Benzothiophene	29.1					
C1-Benzothiophenes	15.6					
C2-Benzothiophenes	20.6					
C3-Benzothiophenes	18.0					
C4-Benzothiophenes	<0.7	U				
Biphenyl	67.9					
Acenaphthylene	70.1					
Acenaphthene	31.2					
Dibenzofuran	87.0					
Fluorene	50.4		51	85 ± 15	49.0	130
C1-Fluorenes	58.3					
C2-Fluorenes	133					
C3-Fluorenes	176					
Carbazole	20.8					
Anthracene	189		3	184 ± 18	116	263
Phenanthrene	415		2	406 ± 44	253	585
C1-Phenanthrenes/Anthracenes	299					
C2-Phenanthrenes/Anthracenes	283					
C3-Phenanthrenes/Anthracenes	214					
C4-Phenanthrenes/Anthracenes	139					
Dibenzothiophene	54.7					
C1-Dibenzothiophenes	73.4					
C2-Dibenzothiophenes	110					
C3-Dibenzothiophenes	107					
C4-Dibenzothiophenes	67.5					
Fluoranthene	692		6	651 ± 50	421	911
Pyrene	546		6	581 ± 39	379	806
C1-Fluoranthenes/Pyrenes	360					
C2-Fluoranthenes/Pyrenes	415					
C3-Fluoranthenes/Pyrenes	158					
C4-Fluoranthenes/Pyrenes	117					
Naphthobenzothiophene	124					
C1-Naphthobenzothiophenes	114					
C2-Naphthobenzothiophenes	110					
C3-Naphthobenzothiophenes	79.0					
C4-Naphthobenzothiophenes	33.3					
Benz(a)anthracene	340		1	335 ± 25	217	468
Chrysene/Triphenylene	435		9	399 ± 36	254	566
C1-Chrysenes	305					
C2-Chrysenes	173					
C3-Chrysenes	99.2					
C4-Chrysenes	38.2					
Benzo(b)fluoranthene	324		33	453 ± 21	302	616
Benzo(k,j)fluoranthene	535		19	442 ± 23	293	605
Benzo(a)fluoranthene	69.3					
Benzo(e)pyrene	310		5	325 ± 25	210	455
Benzo(a)pyrene	264		30	358 ± 17	239	488
Perylene	354		11	397 ± 45	246	575
Indeno(1,2,3-c,d)pyrene	277		21	341 ± 57	199	517
Dibenzo(a,h)anthracene	73.7		33	53 ± 10	30.1	81.9
Benzo(g,h,i)perylene	263		16	307 ± 45	183	458
Total PAHs	10861					

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

Sample Name	ENV3092B.D
Client Name	SRM 1941b
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	08/22/13
Extraction Batch	ENV 3092
Date Acquired	9/3/13 6:07
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	241					
1-Methylnaphthalene	114					
2,6-Dimethylnaphthalene	110					
1,6,7-Trimethylnaphthalene	38.0					
1-Methylfluorene	29.5					
4-Methyldibenzothiophene	45.1					
2/3-Methyldibenzothiophene	29.1					
1-Methyldibenzothiophene	13.3					
3-Methylphenanthrene	90.3		15	105 ± 13	64.4	153
2-Methylphenanthrene	95.8					
2-Methylanthracene	57.4					
4/9-Methylphenanthrene	76.5					
1-Methylphenanthrene	70.5		4	73.2 ± 5.9	47.1	103
3,6-Dimethylphenanthrene	39.2					
Retene	42.4					
2-Methylfluoranthene	80.4					
Benzo(b)fluorene	82.8					
C29-Hopane	273					
18a-Oleanane	42.7					
C30-Hopane	312					
C20-TAS	11.8					
C21-TAS	4.48					
C26(20S)-TAS	2.19					
C26(20R)/C27(20S)-TAS	9.08					
C28(20S)-TAS	4.53					
C27(20R)-TAS	7.95					
C28(20R)-TAS	4.20					

Surrogate Recovery	
Naphthalene-d8	75
Acenaphthene-d10	86
Phenanthrene-d10	89
Chrysene-d12	85
Perylene-d12	77

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

Sample Name	MS70062K.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 3092
Date Acquired	9/3/13 3:50
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	681						
C1-Decalins	955						
C2-Decalins	789						
C3-Decalins	846						
C4-Decalins	436						
Naphthalene	718			17	855 ± 46	647	1081
C1-Naphthalenes	1551						
C2-Naphthalenes	1796						
C3-Naphthalenes	1261						
C4-Naphthalenes	652						
Benzothiophene	7.79	J					
C1-Benzothiophenes	28.2						
C2-Benzothiophenes	28.4						
C3-Benzothiophenes	30.4						
C4-Benzothiophenes	24.9						
Biphenyl	156						
Acenaphthylene	9.07	J					
Acenaphthene	17.6						
Dibenzofuran	27.0						
Fluorene	117						
C1-Fluorenes	272						
C2-Fluorenes	376						
C3-Fluorenes	298						
Carbazole	3.6	J					
Anthracene	3.7	J		8	3.42 ± 0.59	2.26	4.81
Phenanthrene	225			14	258 ± 27	185	342
C1-Phenanthrenes/Anthracenes	479						
C2-Phenanthrenes/Anthracenes	512						
C3-Phenanthrenes/Anthracenes	377						
C4-Phenanthrenes/Anthracenes	206						
Dibenzothiophene	44.0			16	51.8 ± 2.1	39.8	64.7
C1-Dibenzothiophenes	122						
C2-Dibenzothiophenes	147						
C3-Dibenzothiophenes	102						
C4-Dibenzothiophenes	60.1						
Fluoranthene	4.61	J		6	4.36 ± 0.40	3.17	5.71
Pyrene	13.0			13	14.81 ± 0.39	11.5	18.2
C1-Fluoranthenes/Pyrenes	71.0						
C2-Fluoranthenes/Pyrenes	152						
C3-Fluoranthenes/Pyrenes	101						
C4-Fluoranthenes/Pyrenes	97.1						
Naphthobenzothiophene	20.7						
C1-Naphthobenzothiophenes	43.5						
C2-Naphthobenzothiophenes	56.2						
C3-Naphthobenzothiophenes	36.0						
C4-Naphthobenzothiophenes	18.2						
Benz(a)anthracene	5.39	J		26	7.03 ± 0.85	4.94	9.5
Chrysene/Triphenylene	40.4			16	47.4 ± 1.7	36.6	58.9
C1-Chrysenes	104						
C2-Chrysenes	118						
C3-Chrysenes	84.0						
C4-Chrysenes	50.4						
Benzo(b)fluoranthene	4.94	J		13	5.62 ± 0.34	4.22	7.15
Benzo(k,j)fluoranthene	0.634	J					
Benzo(a)fluoranthene	<10	U					
Benzo(e)pyrene	9.01	J		18	10.78 ± 0.60	8.14	13.7
Benzo(a)pyrene	1.80	J					
Perylene	0.537	J					
Indeno(1,2,3-c,d)pyrene	0.730	J					
Dibenzo(a,h)anthracene	0.737	J		25	0.574 ± 0.091	0.386	0.798
Benzo(g,h,i)perylene	1.57	J		29	2.11 ± 0.26	1.48	2.84
Total PAHs	14393						

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

Sample Name	MS70062K.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 3092
Date Acquired	9/3/13 3:50
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	1429			13	1630 ± 50	1264	2016
1-Methylnaphthalene	963			17	1140 ± 20	896	1392
2,6-Dimethylnaphthalene	864						
1,6,7-Trimethylnaphthalene	291						
1-Methylfluorene	213						
4-Methyldibenzothiophene	83.2						
2/3-Methyldibenzothiophene	37.1						
1-Methyldibenzothiophene	25.2						
3-Methylphenanthrene	152			30	206 ± 32	139	286
2-Methylphenanthrene	149		*	43	230 ± 14	173	293
2-Methylanthracene	10.6						
4/9-Methylphenanthrene	177			27	232 ± 19	170	301
1-Methylphenanthrene	137			21	169 ± 10	127	215
3,6-Dimethylphenanthrene	39.3						
Retene	19.5						
2-Methylfluoranthene	5.62	J					
Benzo(b)fluorene	13.8						
C29-Hopane	24.3						
18a-Oleanane	<10	U					
C30-Hopane	39.3						
C20-TAS	6.89	J					
C21-TAS	6.39	J					
C26(20S)-TAS	3.38	J					
C26(20R)/C27(20S)-TAS	10.0	J					
C28(20S)-TAS	7.77	J					
C27(20R)-TAS	6.44	J					
C28(20R)-TAS	4.87	J					

Surrogate Recovery	
Naphthalene-d8	97
Acenaphthene-d10	93
Phenanthrene-d10	92
Chrysene-d12	86
Perylene-d12	86

Peak Resolution	
4/9-Methylphenanthrene from 1-Methylyphenanthrene (m/z 192)	89%

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

Sample Name	MS70062J.D
Client Name	AR-WKCC-250-038
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3092
Date Acquired	9/3/13 2:41
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	236		4.7	247	210	284
C1-Decalins	NA					
C2-Decalins	NA					
C3-Decalins	NA					
C4-Decalins	NA					
Naphthalene	235		6.0	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	230		7.6	248	211	285
Acenaphthylene	219		12.6	248	211	285
Acenaphthene	228		9.3	251	213	288
Dibenzofuran	229		8.4	249	211	286
Fluorene	227		9.7	251	213	288
C1-Fluorenes	NA					
C2-Fluorenes	NA					
C3-Fluorenes	NA					
Carbazole	216		13.8	248	211	285
Anthracene	218		14.0	251	213	288
Phenanthrene	224		10.3	248	211	285
C1-Phenanthrenes/Anthracenes	NA					
C2-Phenanthrenes/Anthracenes	NA					
C3-Phenanthrenes/Anthracenes	NA					
C4-Phenanthrenes/Anthracenes	NA					
Dibenzothiophene	233		5.5	247	210	283
C1-Dibenzothiophenes	NA					
C2-Dibenzothiophenes	NA					
C3-Dibenzothiophenes	NA					
C4-Dibenzothiophenes	NA					
Fluoranthene	232		7.5	250	213	288
Pyrene	226		10.3	250	213	288
C1-Fluoranthenes/Pyrenes	NA					
C2-Fluoranthenes/Pyrenes	NA					
C3-Fluoranthenes/Pyrenes	NA					
C4-Fluoranthenes/Pyrenes	NA					
Naphthobenzothiophene	229		9.3	252	214	289
C1-Naphthobenzothiophenes	NA					
C2-Naphthobenzothiophenes	NA					
C3-Naphthobenzothiophenes	NA					
C4-Naphthobenzothiophenes	NA					
Benz(a)anthracene	214		15.3	250	212	287
Chrysene/Triphenylene	230		7.8	249	211	286
C1-Chrysenes	NA					
C2-Chrysenes	NA					
C3-Chrysenes	NA					
C4-Chrysenes	NA					
Benzo(b)fluoranthene	240		4.2	251	213	288
Benzo(k,j)fluoranthene	239		4.0	249	212	286
Benzo(a)fluoranthene	NA					
Benzo(e)pyrene	238		4.6	249	212	286
Benzo(a)pyrene	225		10.4	250	212	287
Perylene	227		9.6	250	213	288
Indeno(1,2,3-c,d)pyrene	220		11.0	246	209	283
Dibenzo(a,h)anthracene	222		11.1	248	211	285
Benzo(g,h,i)perylene	229		8.1	248	211	285

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

Sample Name	MS70062J.D
Client Name	AR-WKCC-250-038
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3092
Date Acquired	9/3/13 2:41
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	233		7.3	250	213	288
1-Methylnaphthalene	231		7.8	250	212	287
2,6-Dimethylnaphthalene	232		7.6	250	213	288
1,6,7-Trimethylnaphthalene	225		10.5	250	213	288
1-Methylfluorene	220		13.5	252	214	290
4-Methyldibenzothiophene	229		9.5	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	226		9.0	247	210	284
3,6-Dimethylphenanthrene	230		8.5	250	213	288
Retene	195		13.4	223	190	257
2-Methylfluoranthene	217		14.9	252	214	289
Benzo(b)fluorene	218		14.6	252	214	290
C29-Hopane	NA					
18a-Oleanane	NA					
C30-Hopane	236		5.6	250	213	288
C20-TAS	NA					
C21-TAS	NA					
C26(20S)-TAS	NA					
C26(20R)/C27(20S)-TAS	222		12.0	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	93
Chrysene-d12	97
Perylene-d12	93

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

Sample Name	MS70062I.D
Client Name	AR-WKICV-250-004
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3092
Date Acquired	9/3/13 1:33
Method	PAH-2012.M
Sample Volume (mL)	1.0

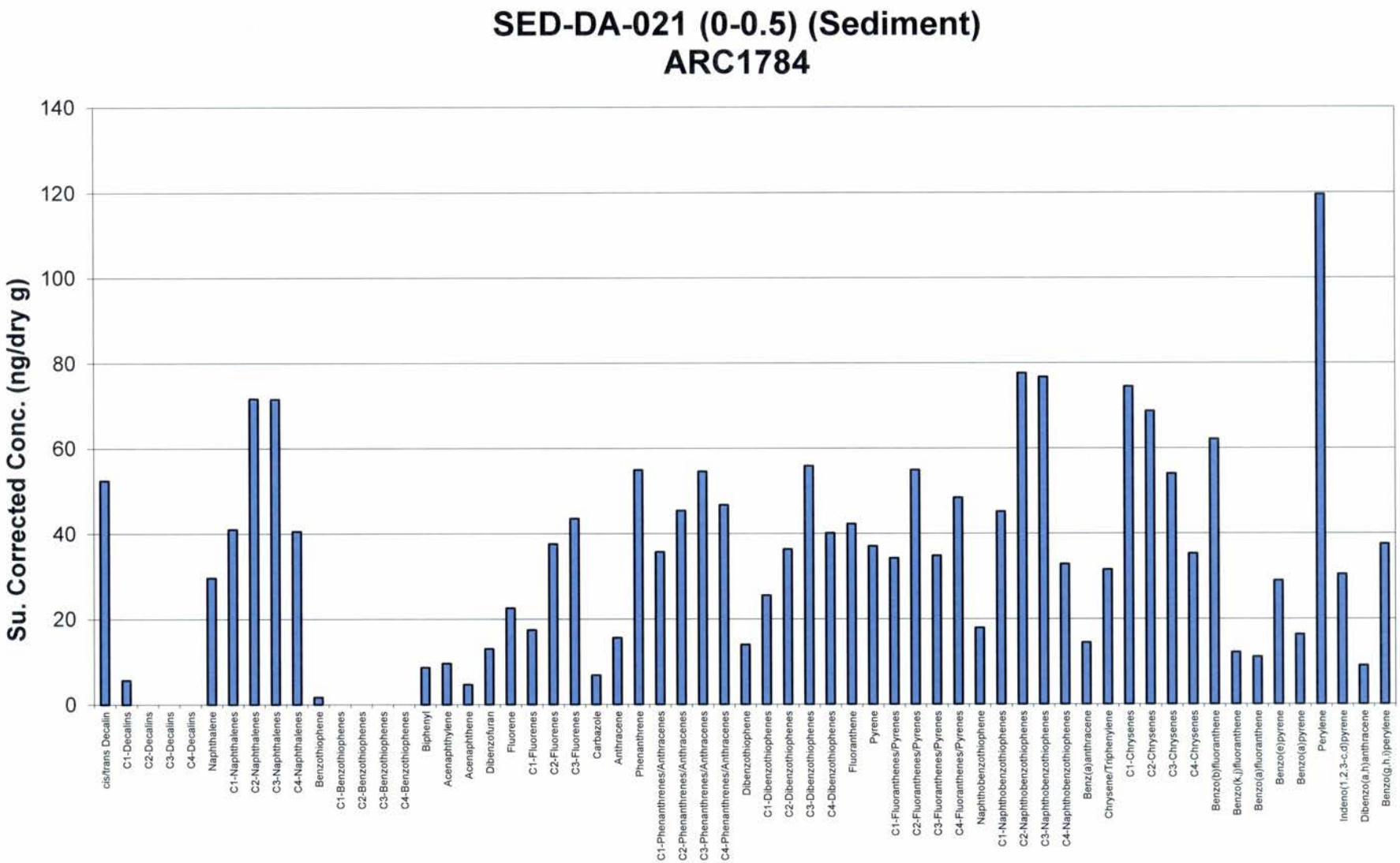
Target Compounds	Concentration (ng/mL)	Q	RPD (%)	ICV Certified Conc. (ng/mL)	-20% Certified Conc. (ng/mL)	+20% Certified Conc. (ng/mL)
cis/trans Decalin	273		8.6	250	200	300
C1-Decalins	NA					
C2-Decalins	NA					
C3-Decalins	NA					
C4-Decalins	NA					
Naphthalene	277		10.3	250	200	300
C1-Naphthalenes	NA					
C2-Naphthalenes	NA					
C3-Naphthalenes	NA					
C4-Naphthalenes	NA					
Benzothiophene	278		10.6	250	200	300
C1-Benzothiophenes	NA					
C2-Benzothiophenes	NA					
C3-Benzothiophenes	NA					
C4-Benzothiophenes	NA					
Biphenyl	277		9.9	251	201	301
Acenaphthylene	269					
Acenaphthene	279		11.0	250	200	300
Dibenzofuran	286		13.5	250	200	300
Fluorene	282		11.9	250	200	300
C1-Fluorenes	NA					
C2-Fluorenes	NA					
C3-Fluorenes	NA					
Carbazole	260		3.7	250	200	300
Anthracene	261		4.3	250	200	300
Phenanthrene	261		4.2	250	200	300
C1-Phenanthrenes/Anthracenes	NA					
C2-Phenanthrenes/Anthracenes	NA					
C3-Phenanthrenes/Anthracenes	NA					
C4-Phenanthrenes/Anthracenes	NA					
Dibenzothiophene	275		9.3	250	200	300
C1-Dibenzothiophenes	NA					
C2-Dibenzothiophenes	NA					
C3-Dibenzothiophenes	NA					
C4-Dibenzothiophenes	NA					
Fluoranthene	284		12.6	250	200	300
Pyrene	269		7.4	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	280		11.3	250	200	300
Chrysene/Triphenylene	290		14.6	250	200	300
C1-Chrysenes	NA					
C2-Chrysenes	NA					
C3-Chrysenes	NA					
C4-Chrysenes	NA					
Benzo(b)fluoranthene	297		17.1	250	200	300
Benzo(k,j)fluoranthene	291		15.2	250	200	300
Benzo(a)fluoranthene	NA					
Benzo(e)pyrene	293		15.7	250	200	300
Benzo(a)pyrene	275		9.6	250	200	300
Perylene	275		9.4	251	200	301
Indeno(1,2,3-c,d)pyrene	280		11.1	250	200	300
Dibenzo(a,h)anthracene	288		14.1	250	200	300
Benzo(g,h,i)perylene	280		11.3	250	200	300

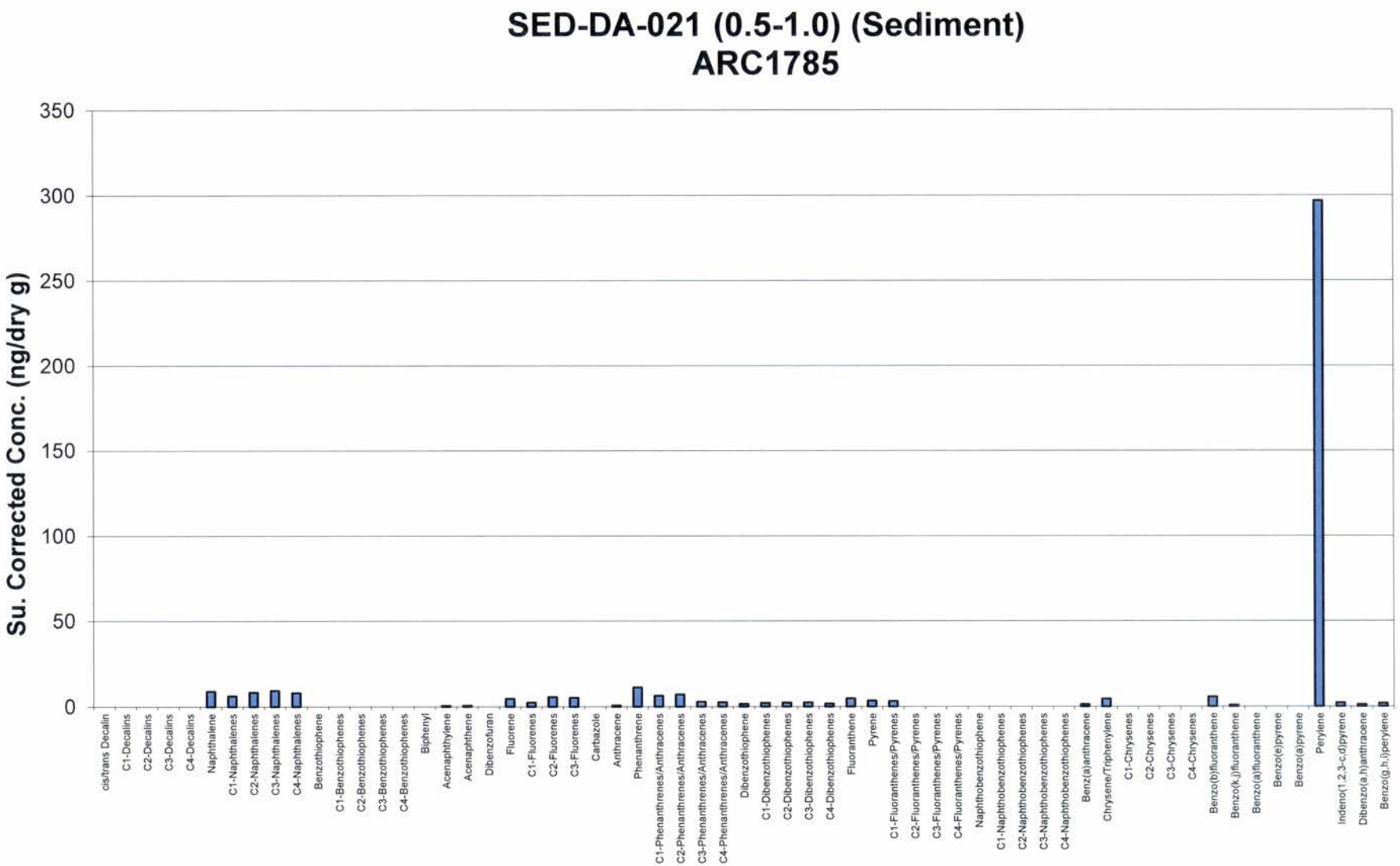
Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Control Material Report

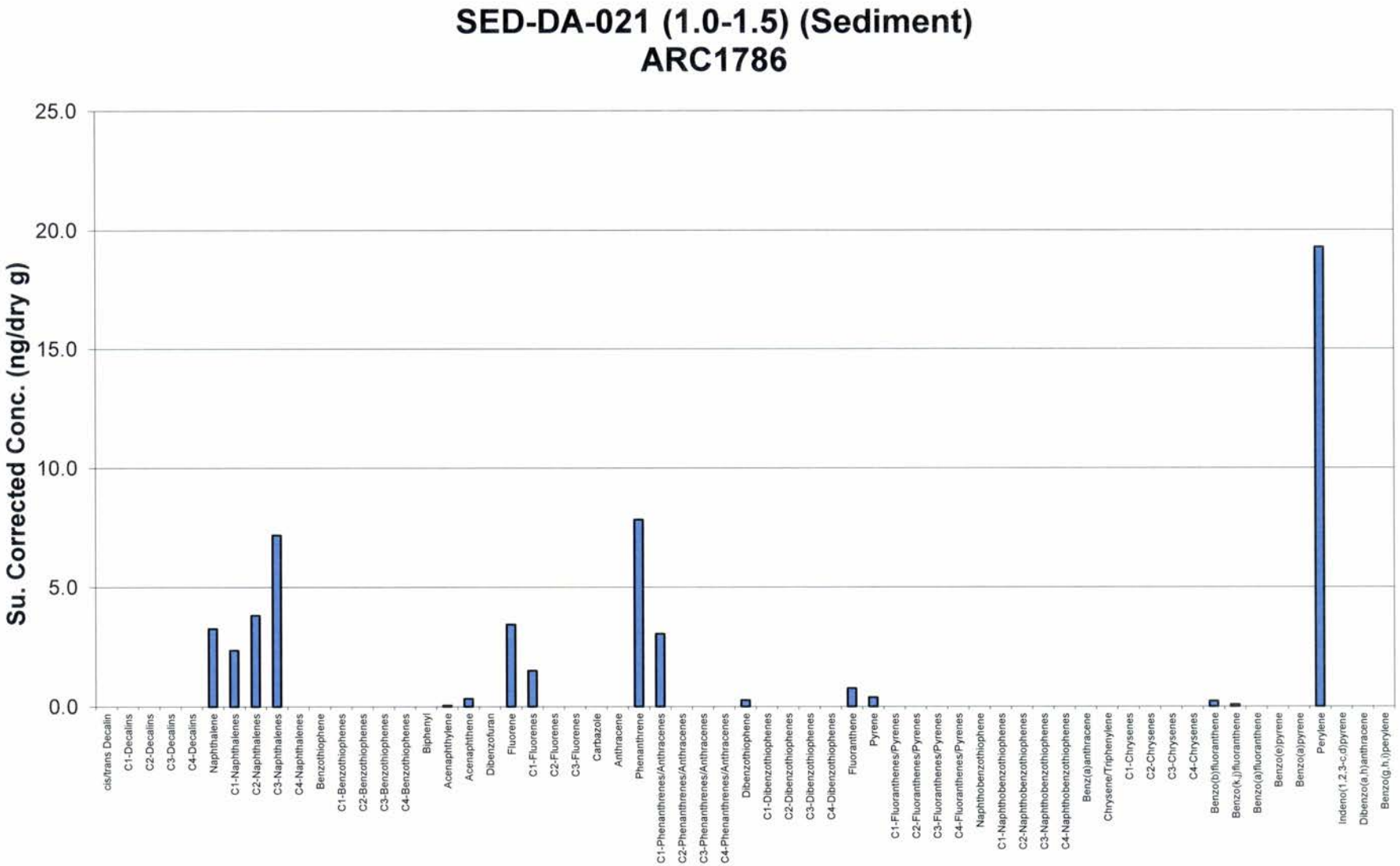
Sample Name	MS70062I.D
Client Name	AR-WKICV-250-004
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3092
Date Acquired	9/3/13 1:33
Method	PAH-2012.M
Sample Volume (mL)	1.0

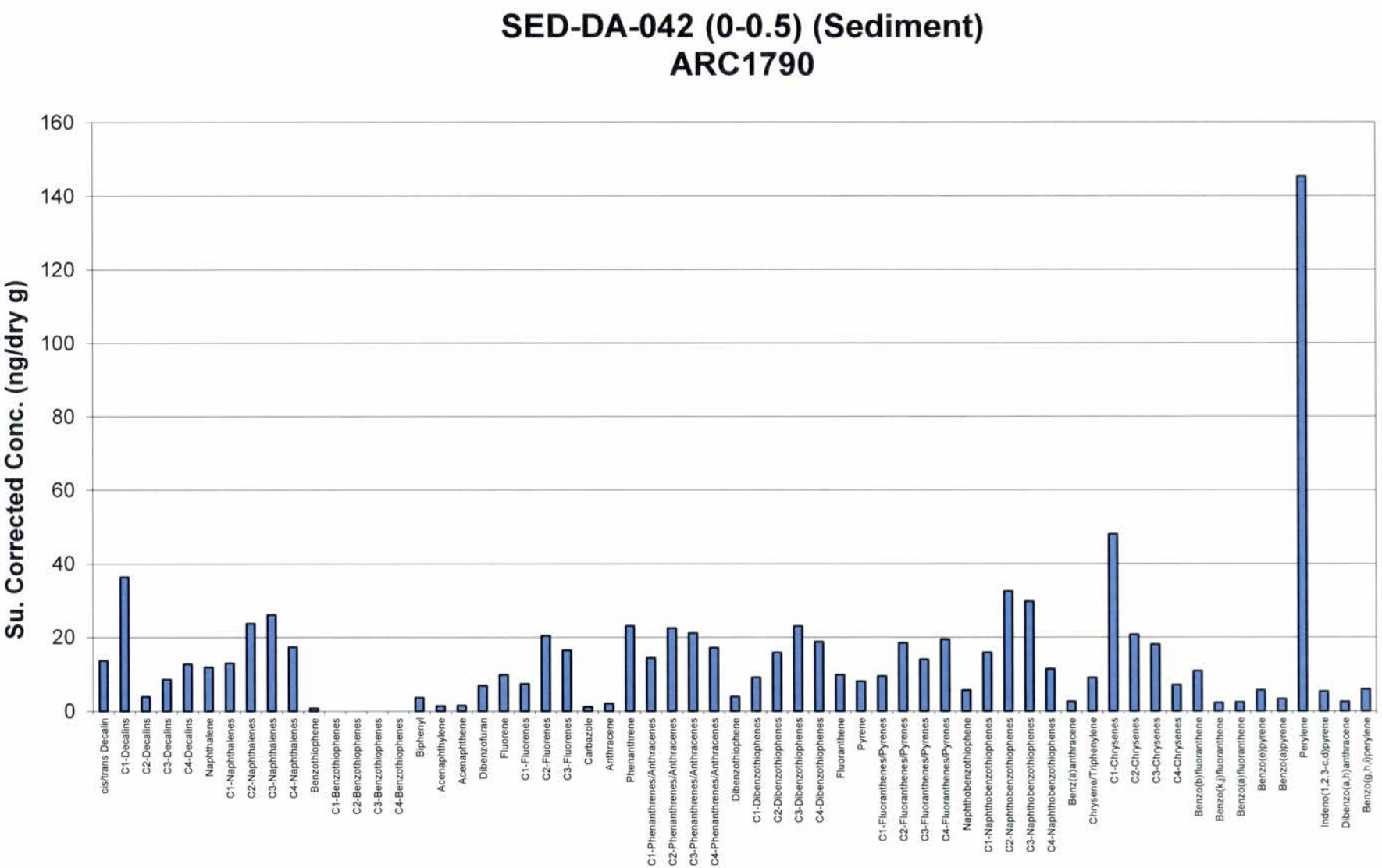
Target Compounds	Concentration (ng/mL)	Q	RPD (%)	ICV Certified Conc. (ng/mL)	-20% Certified Conc. (ng/mL)	+20% Certified Conc. (ng/mL)
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	291		14.8	250	200	301
1-Methylnaphthalene	284		12.5	251	200	301
2,6-Dimethylnaphthalene	284		12.7	250	200	300
1,6,7-Trimethylnaphthalene	285		12.8	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	275		9.3	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	227		9.5	250	200	300
Acenaphthene-d10	227		9.8	250	200	300
Phenanthrene-d10	223		11.5	250	200	300
Chrysene-d12	240		4.0	250	200	300
Perylene-d12	230		8.4	250	200	300

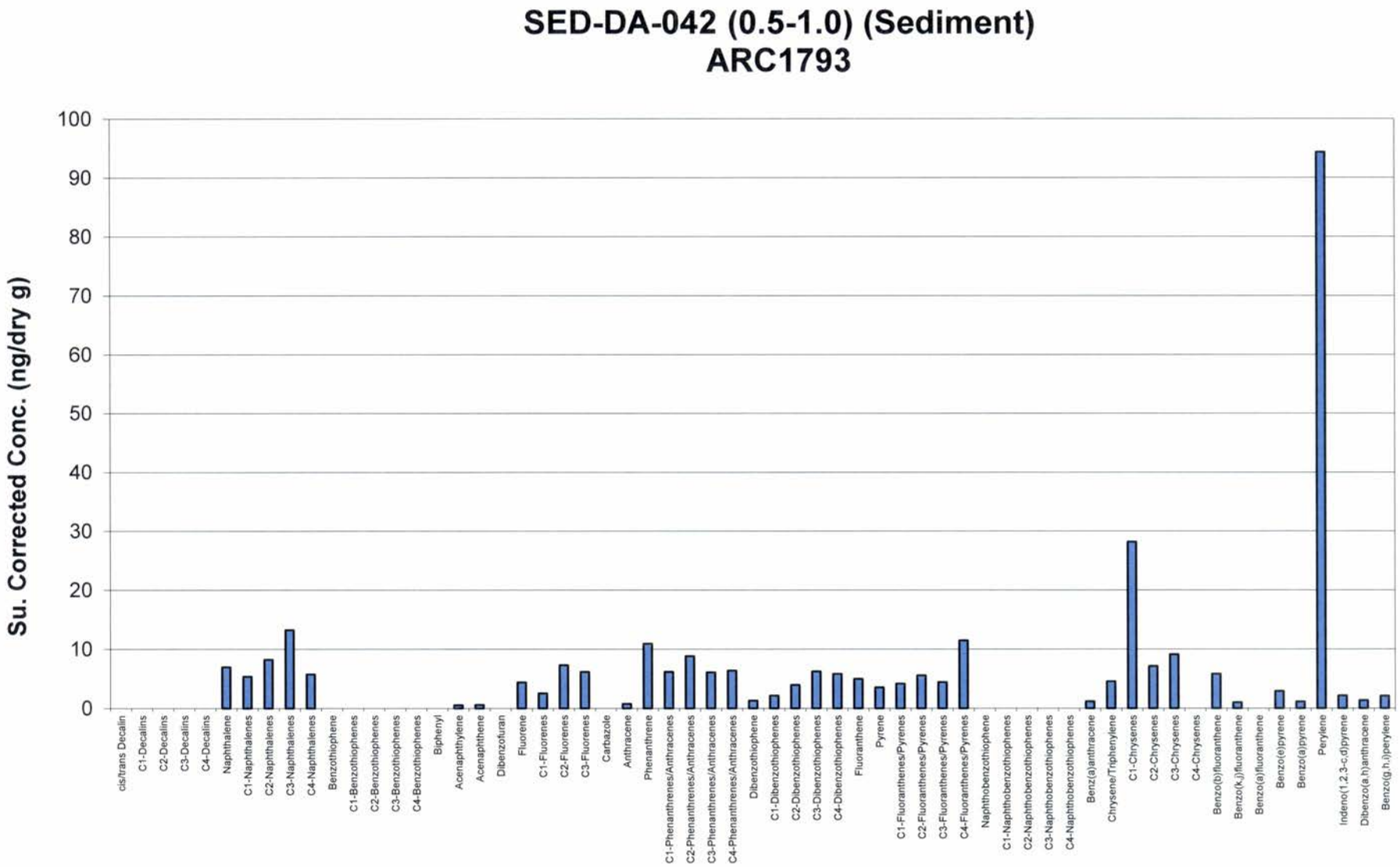
Polycyclic Aromatic Hydrocarbon Histograms

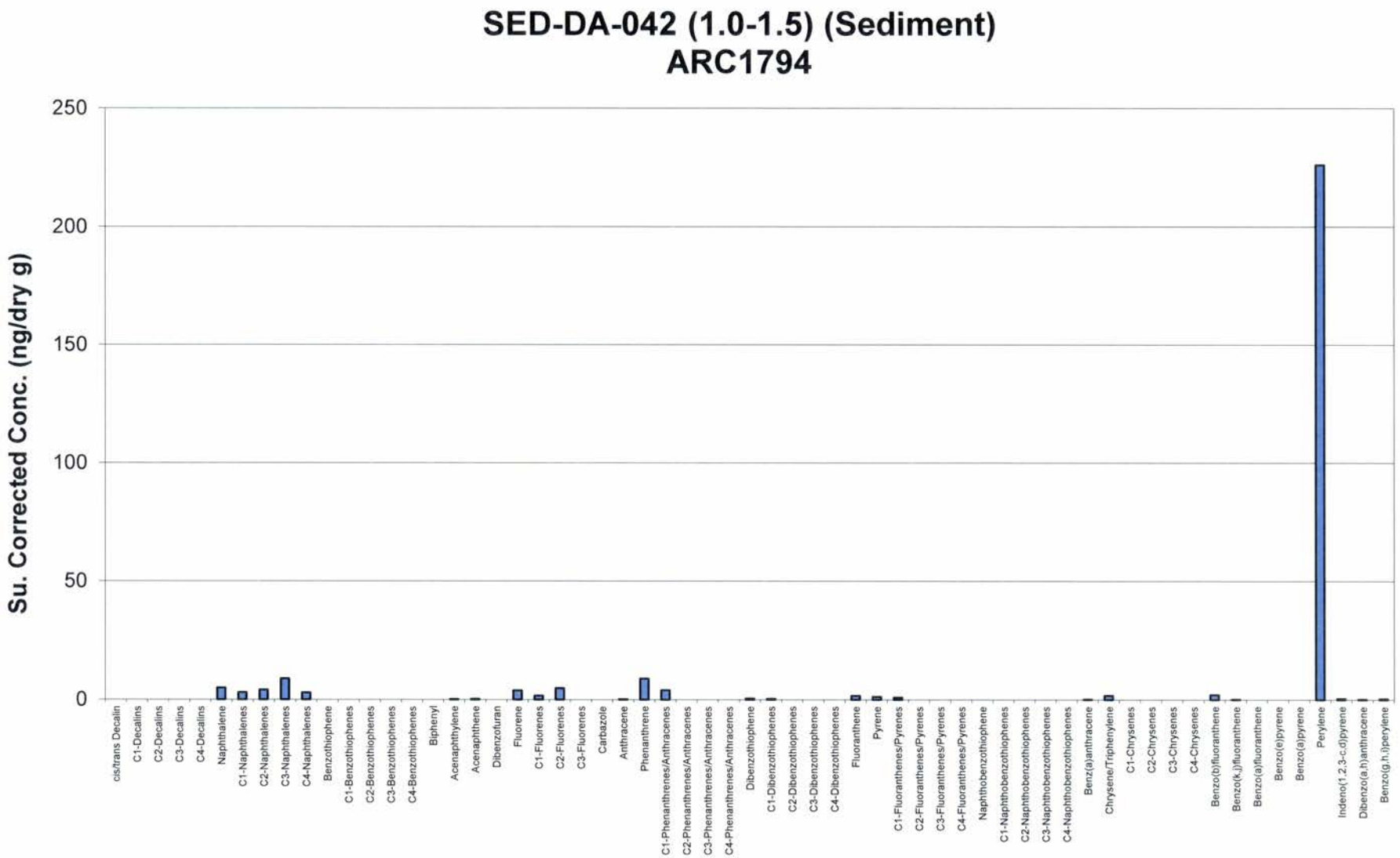

SED-DA-021 (0-0.5) (Sediment)
ARC1784
Su. Corrected Conc. (ng/dry g)
0
20
40
60
80
100
120
140
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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

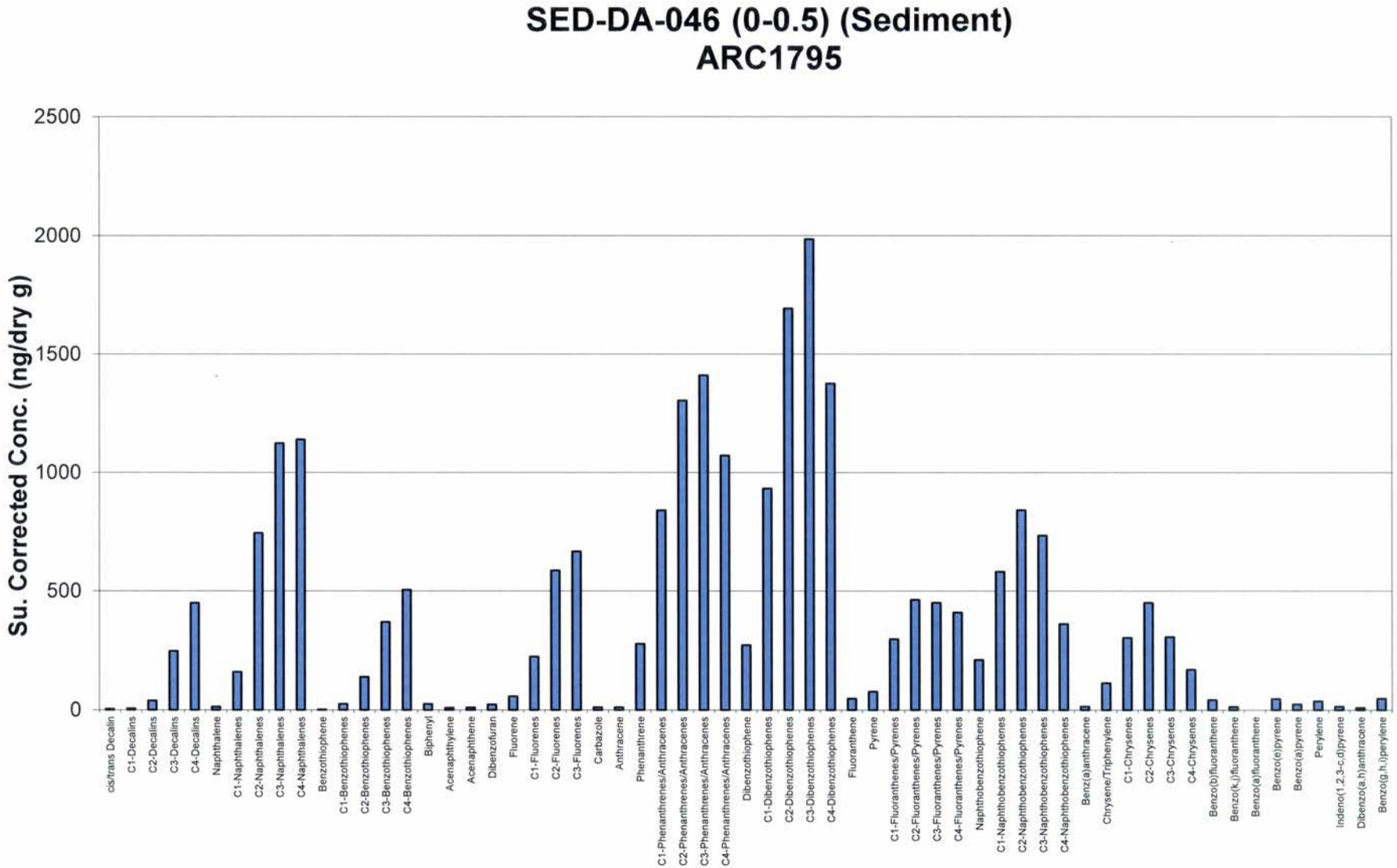

SED-DA-021 (0.5-1.0) (Sediment)
ARC1785
Su. Corrected Conc. (ng/dry g)
350
300
250
200
150
100
50
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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

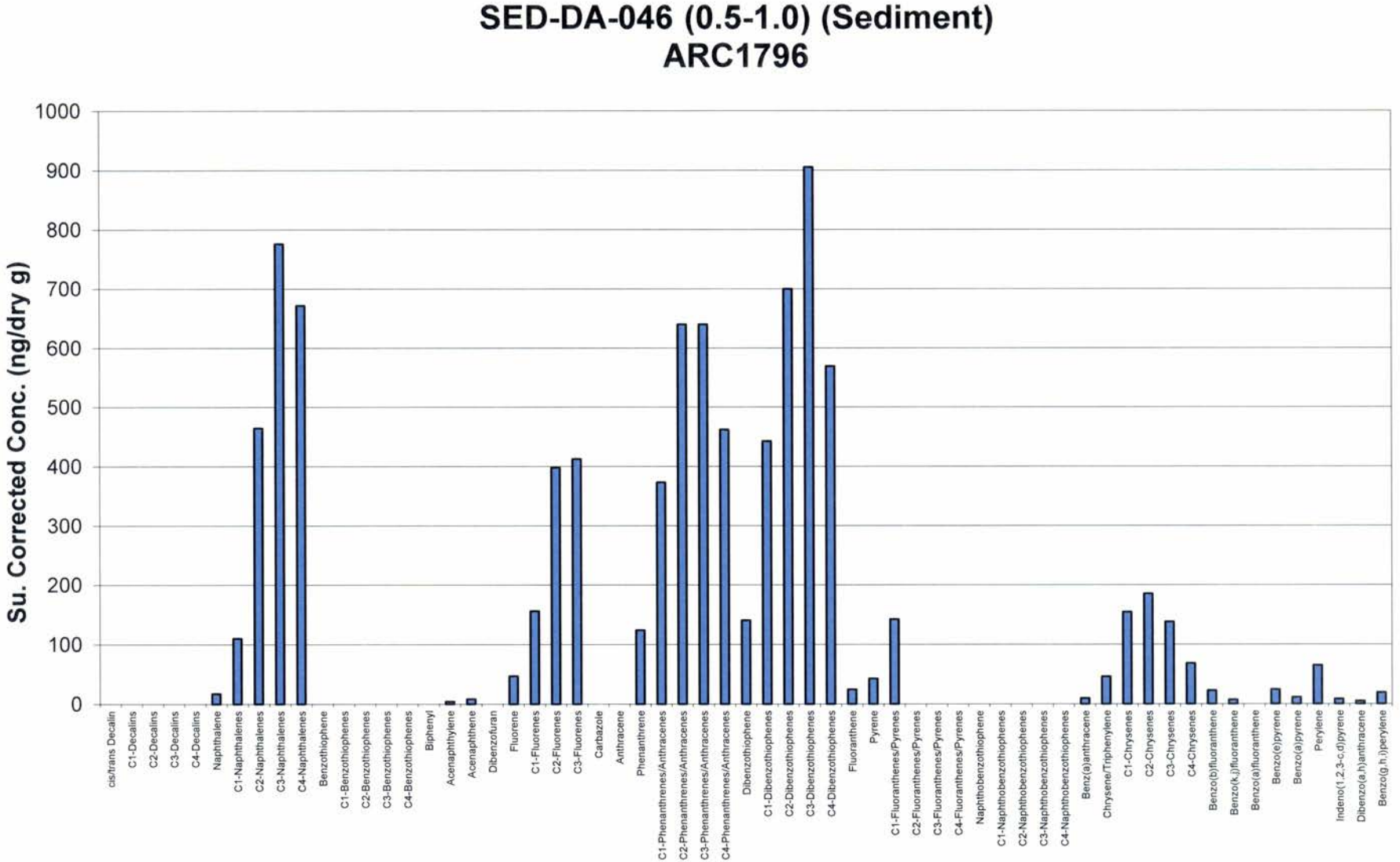

SED-DA-021 (1.0-1.5) (Sediment)
ARC1786
Su. Corrected Conc. (ng/dry g)
25.0
20.0
15.0
10.0
5.0
0.0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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

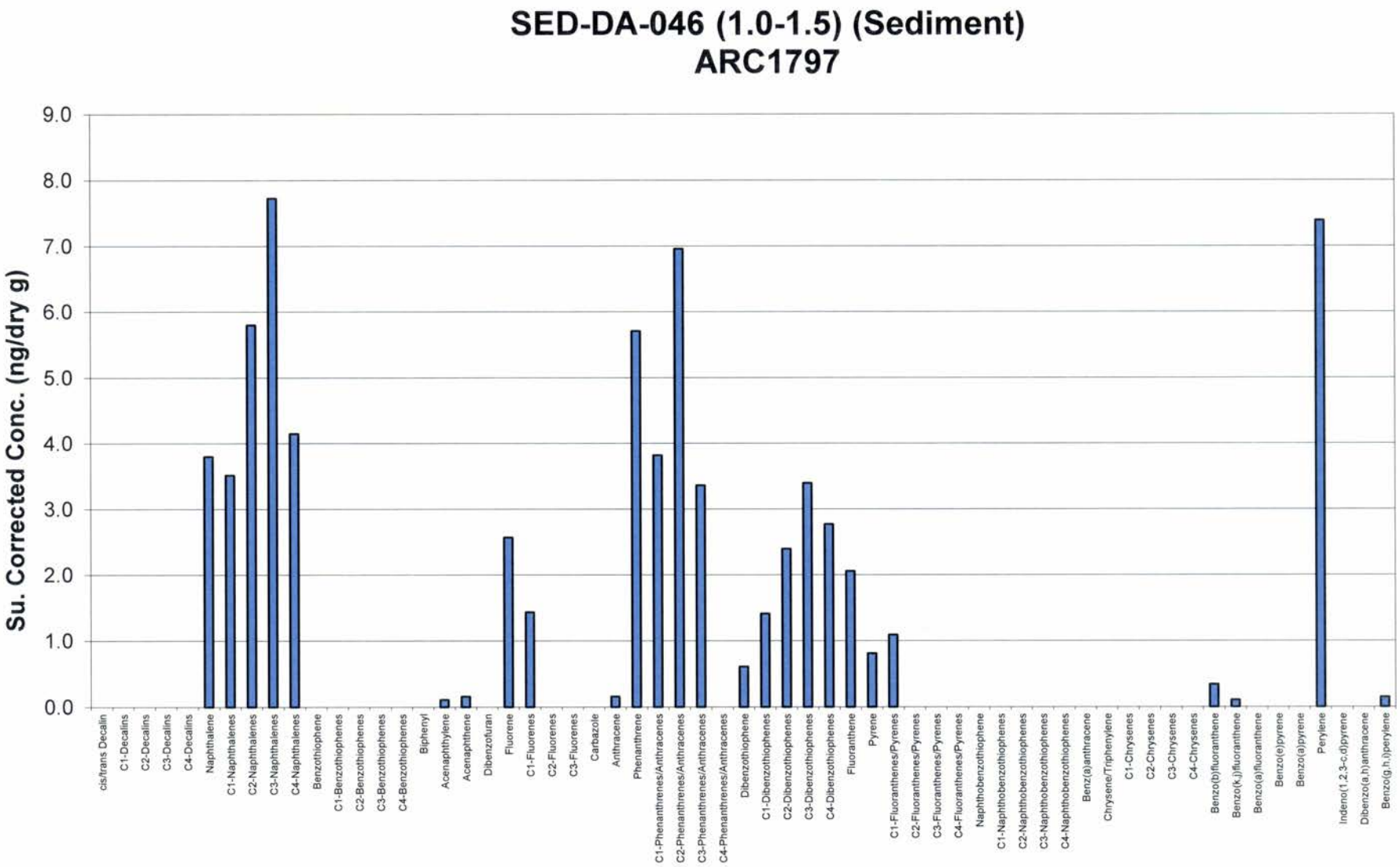

SED-DA-042 (0-0.5) (Sediment)
ARC1790
Su. Corrected Conc. (ng/dry g)
160
140
120
100
80
60
40
20
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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

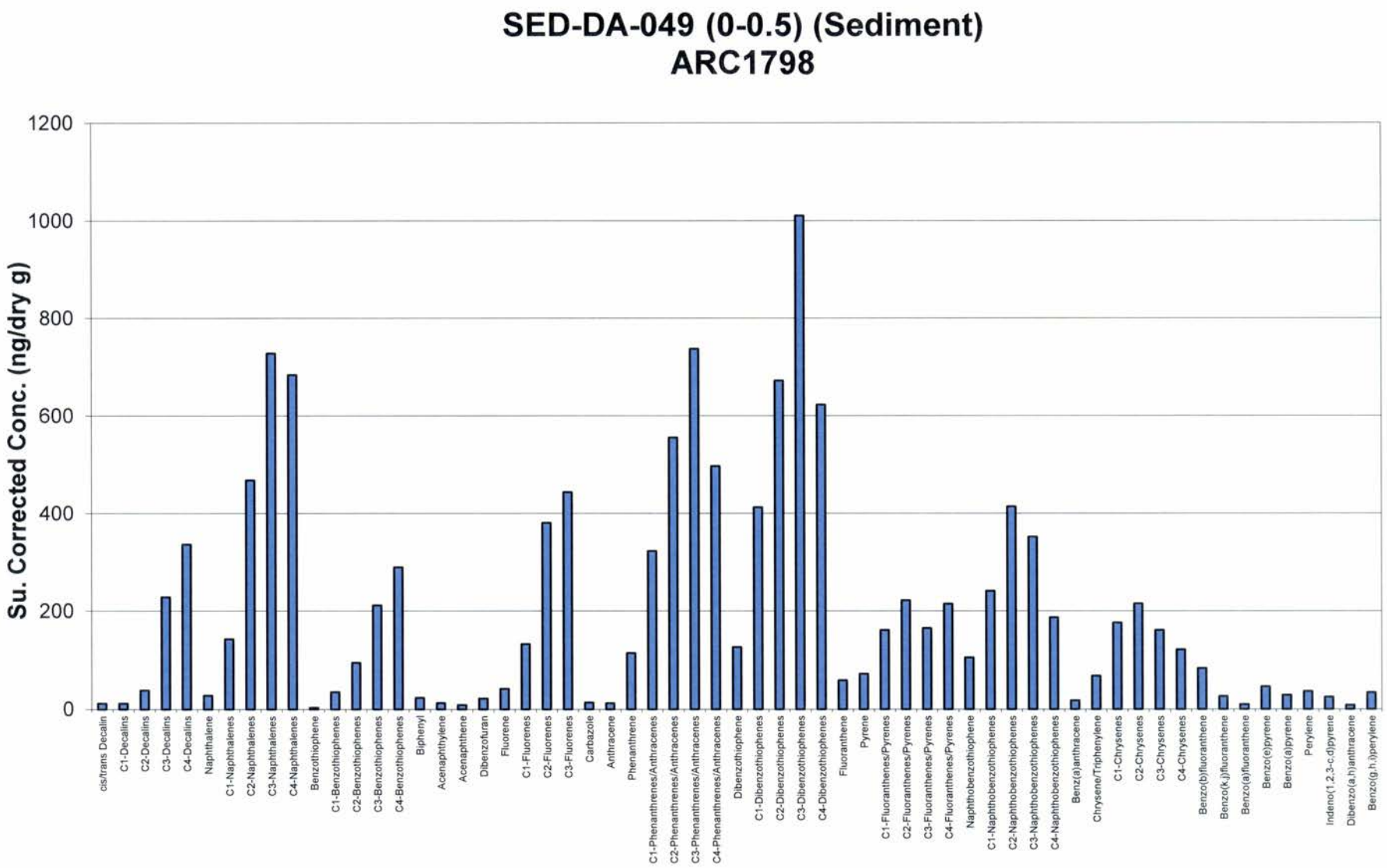

SED-DA-042 (0.5-1.0) (Sediment)
ARC1793
Su. Corrected Conc. (ng/dry g)
100
90
80
70
60
50
40
30
20
10
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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

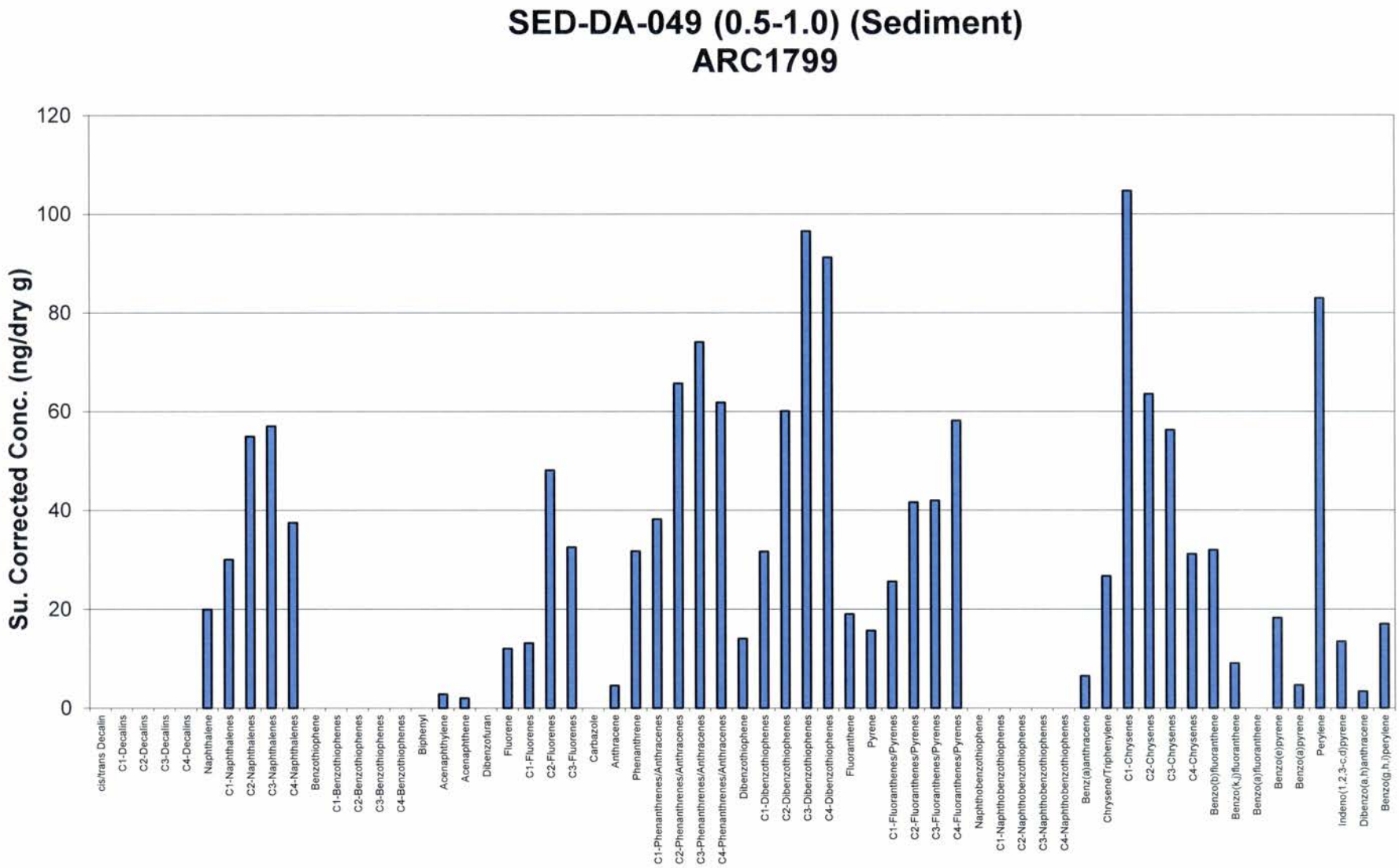

SED-DA-042 (1.0-1.5) (Sediment)
ARC1794
Su. Corrected Conc. (ng/dry g)
250
200
150
100
50
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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

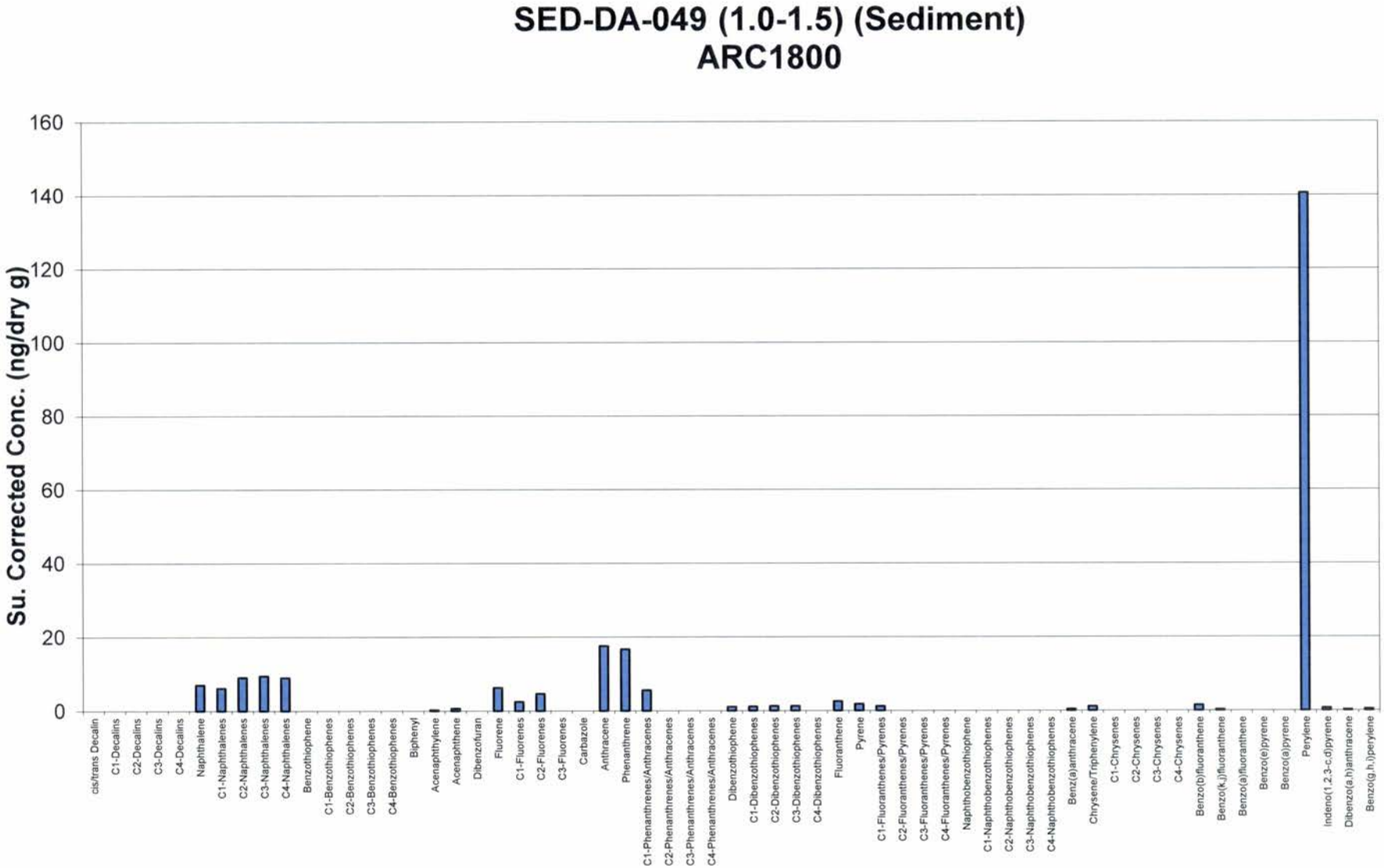

SED-DA-046 (0-0.5) (Sediment)
ARC1795
Su. Corrected Conc. (ng/dry g)
2500
2000
1500
1000
500
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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

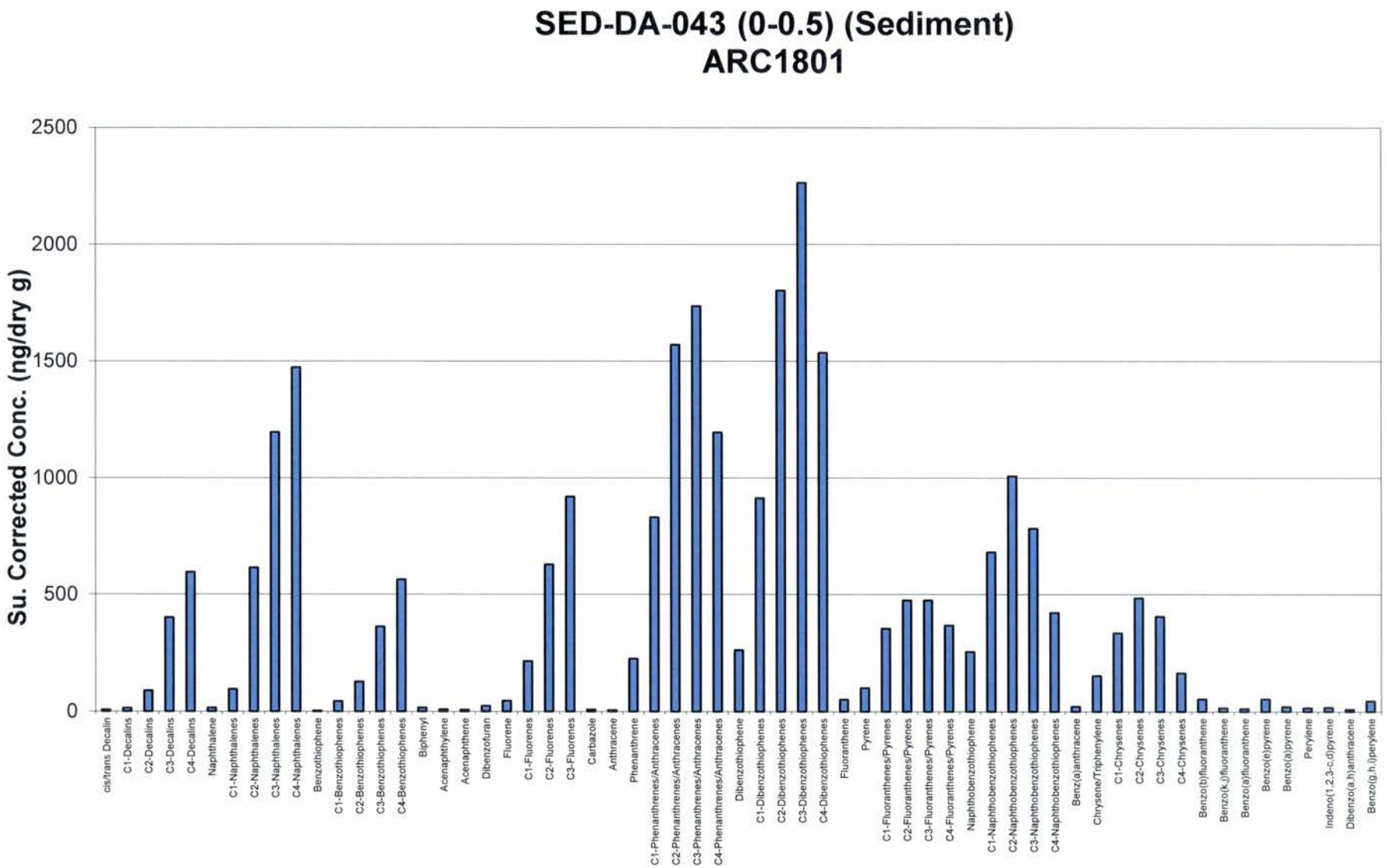

SED-DA-046 (0.5-1.0) (Sediment)
ARC1796
Su. Corrected Conc. (ng/dry g)
1000
900
800
700
600
500
400
300
200
100
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
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

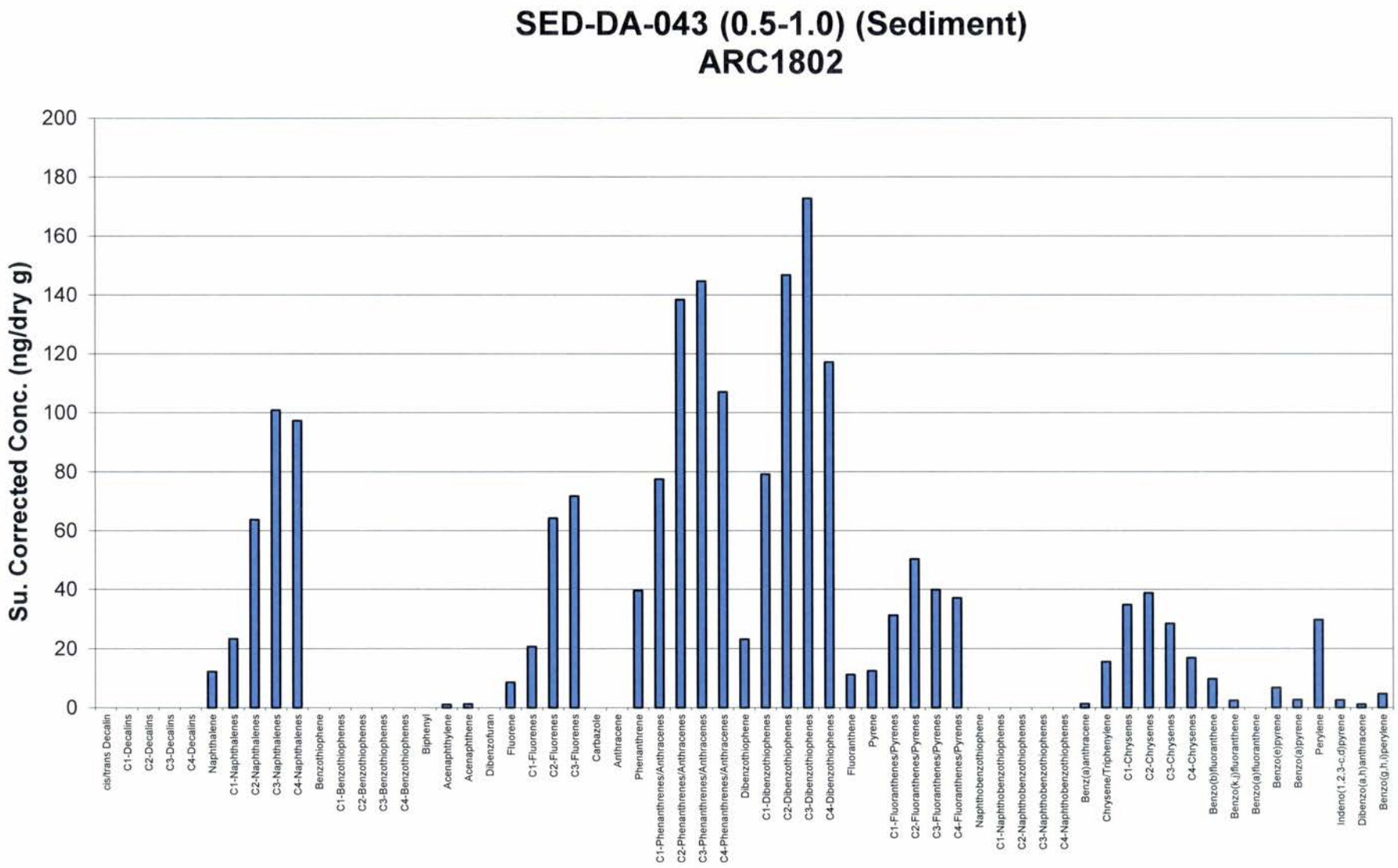

SED-DA-046 (1.0-1.5) (Sediment)
ARC1797
Su. Corrected Conc. (ng/dry g)
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
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

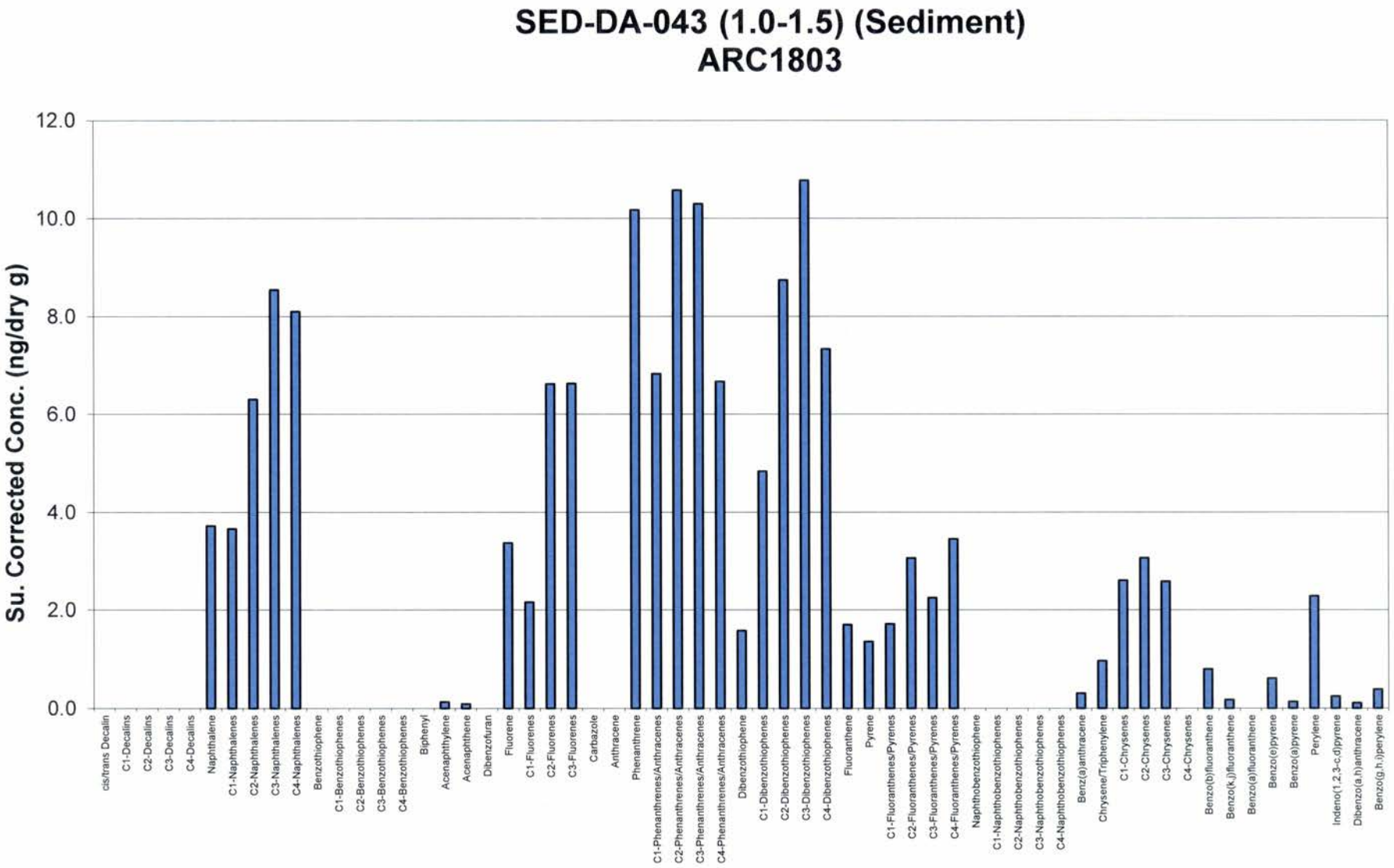

SED-DA-049 (0-0.5) (Sediment)
ARC1798
Su. Corrected Conc. (ng/dry g)
1200
1000
800
600
400
200
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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

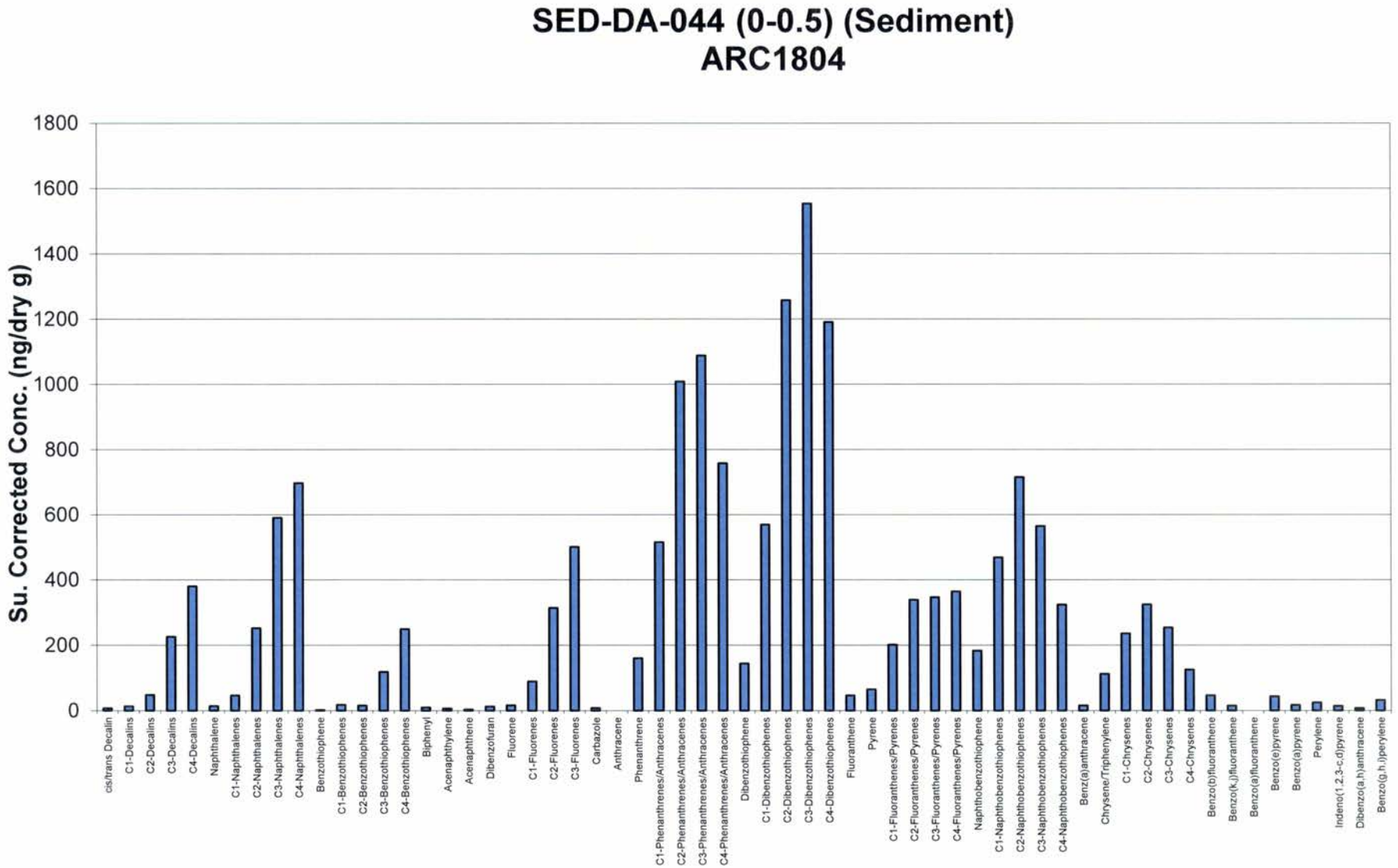

SED-DA-049 (0.5-1.0) (Sediment)
ARC1799
Su. Corrected Conc. (ng/dry g)
120
100
80
60
40
20
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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(e)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

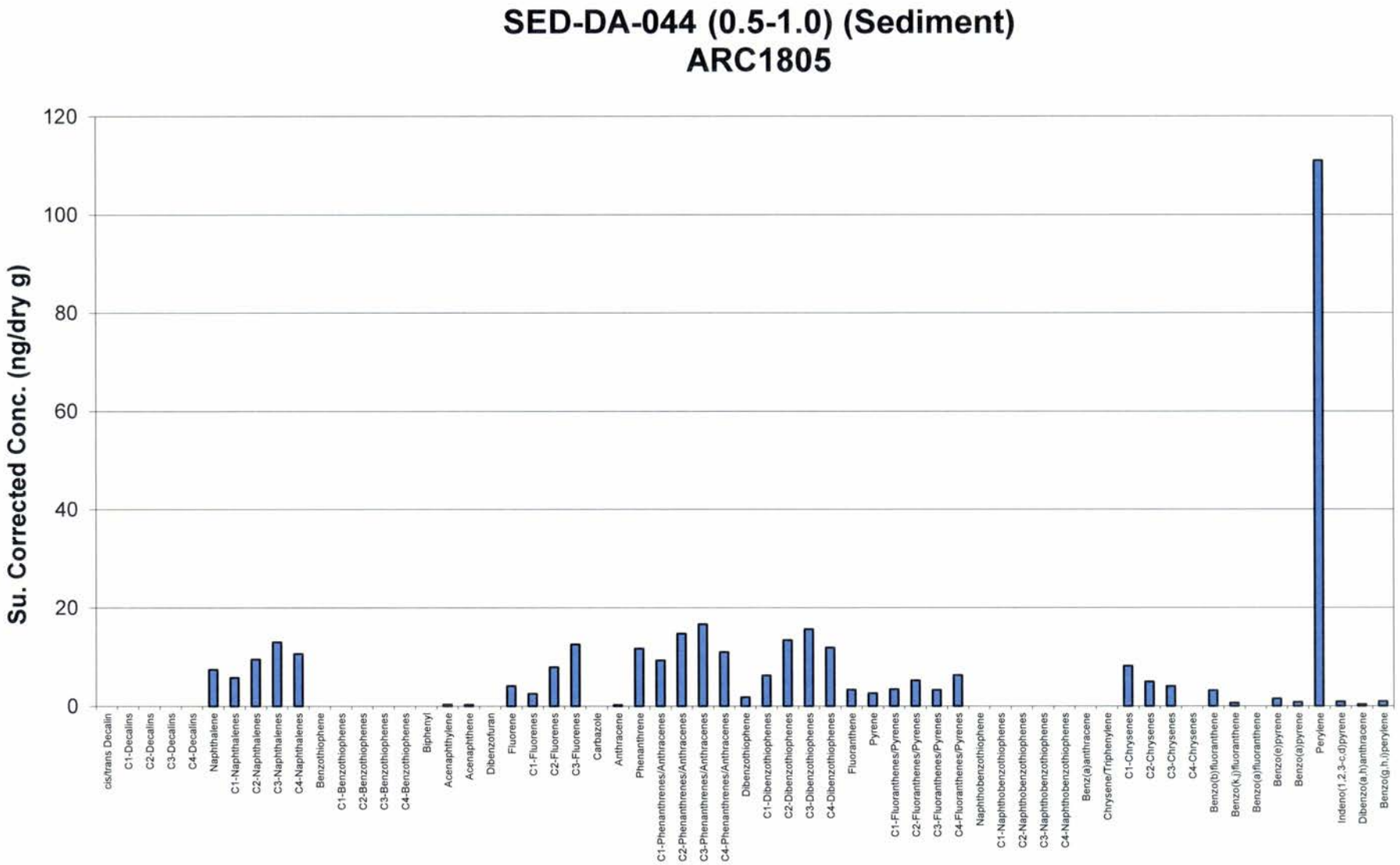

SED-DA-049 (1.0-1.5) (Sediment)
ARC1800
Su. Corrected Conc. (ng/dry g)
160
140
120
100
80
60
40
20
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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

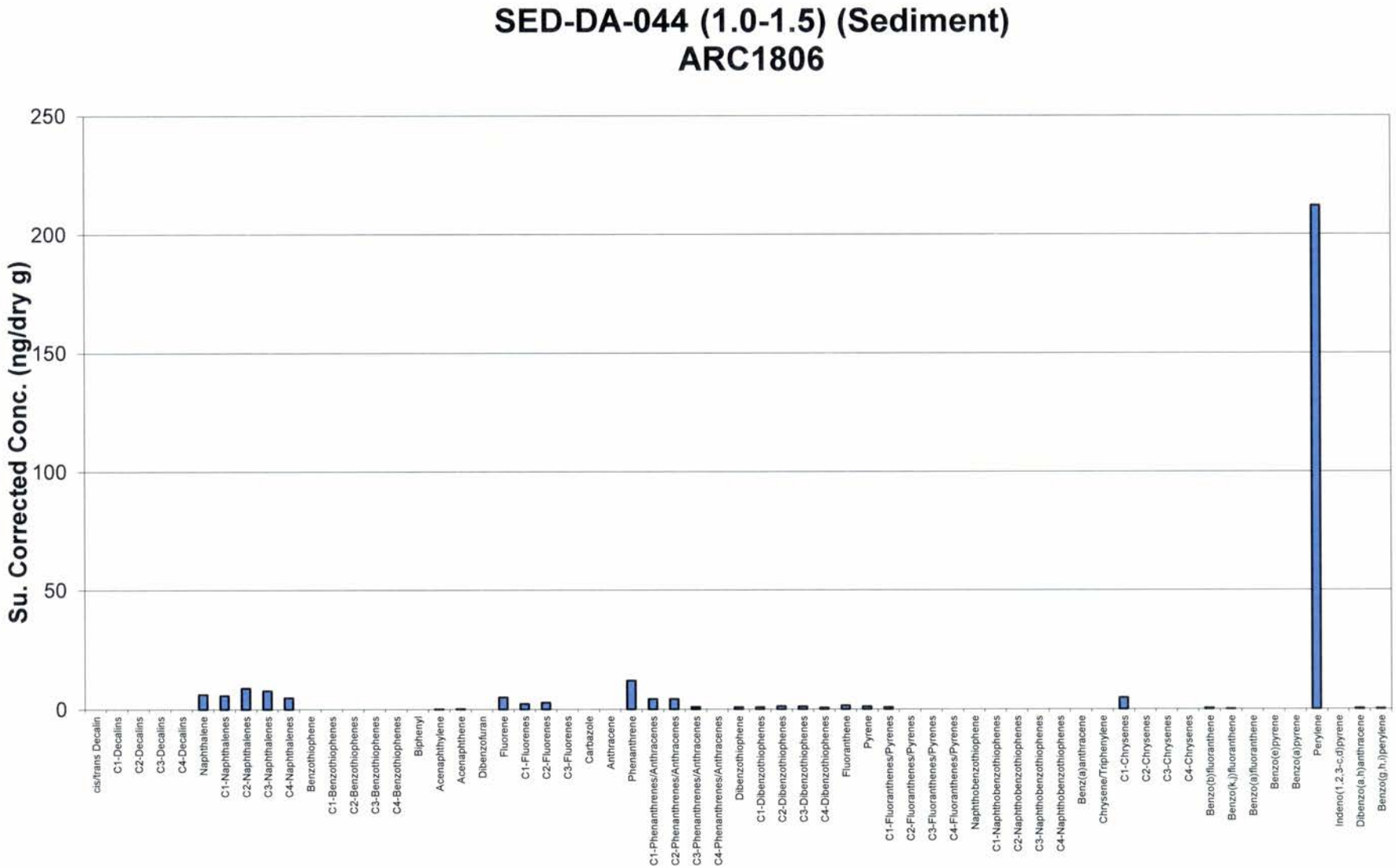

SED-DA-043 (0-0.5) (Sediment)
ARC1801
Su. Corrected Conc. (ng/dry g)
2500
2000
1500
1000
500
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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

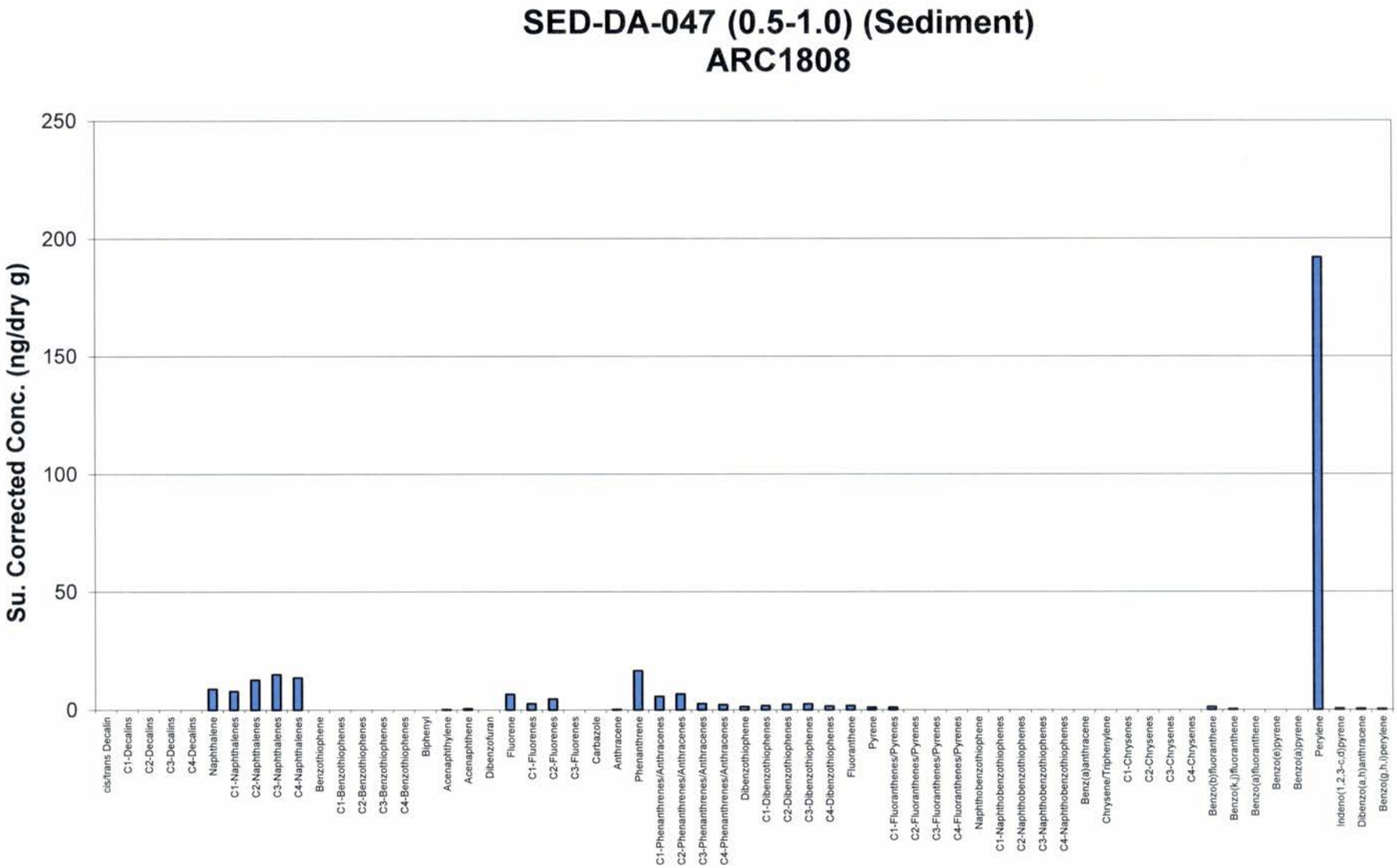

SED-DA-043 (0.5-1.0) (Sediment)
ARC1802
Su. Corrected Conc. (ng/dry g)
200
180
160
140
120
100
80
60
40
20
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
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-043 (1.0-1.5) (Sediment)
ARC1803
Su. Corrected Conc. (ng/dry g)
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-044 (0-0.5) (Sediment)
ARC1804
Su. Corrected Conc. (ng/dry g)
1800
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

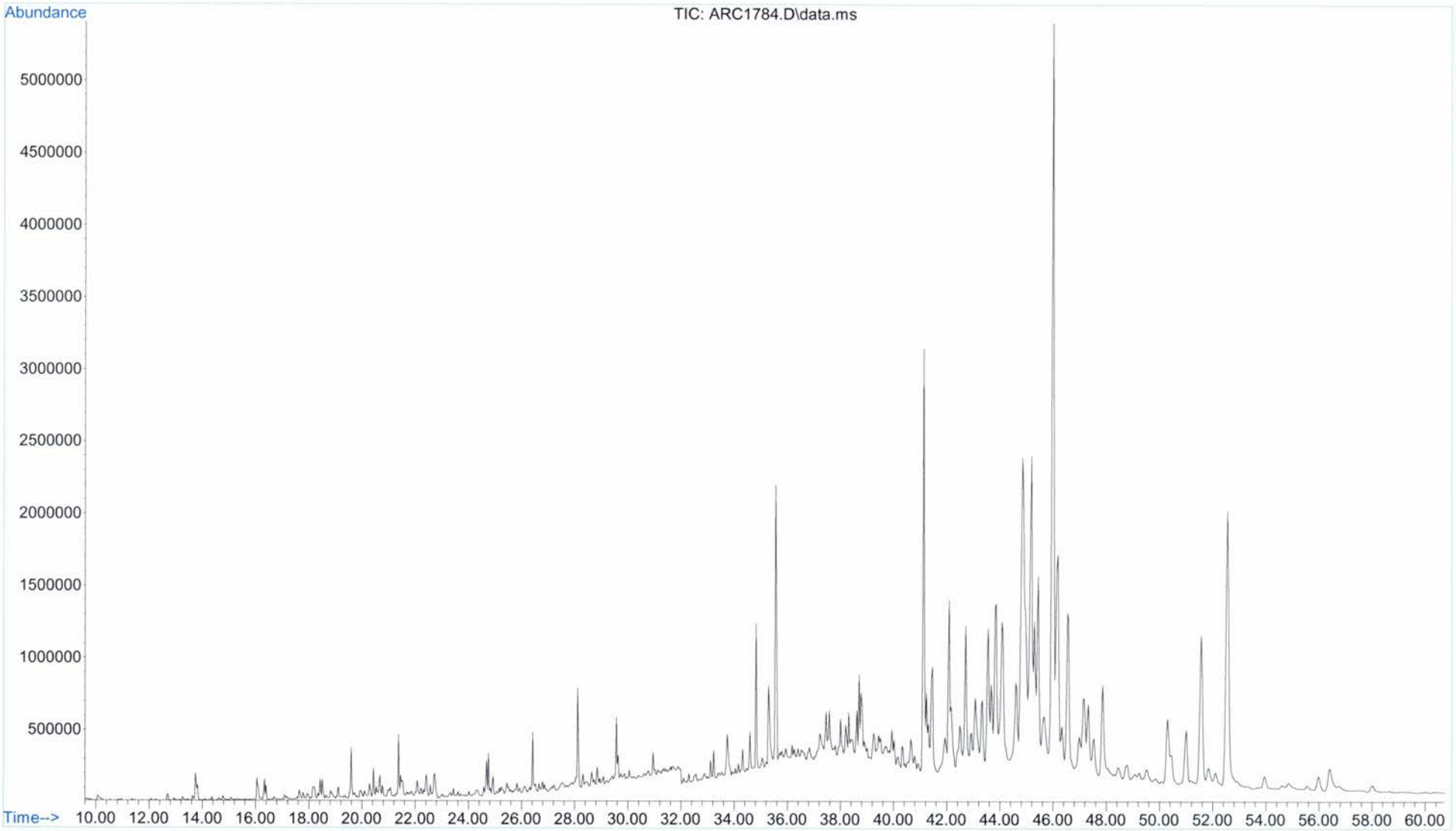

SED-DA-044 (0.5-1.0) (Sediment)
ARC1805
Su. Corrected Conc. (ng/dry g)
120
100
80
60
40
20
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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-044 (1.0-1.5) (Sediment)
ARC1806
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

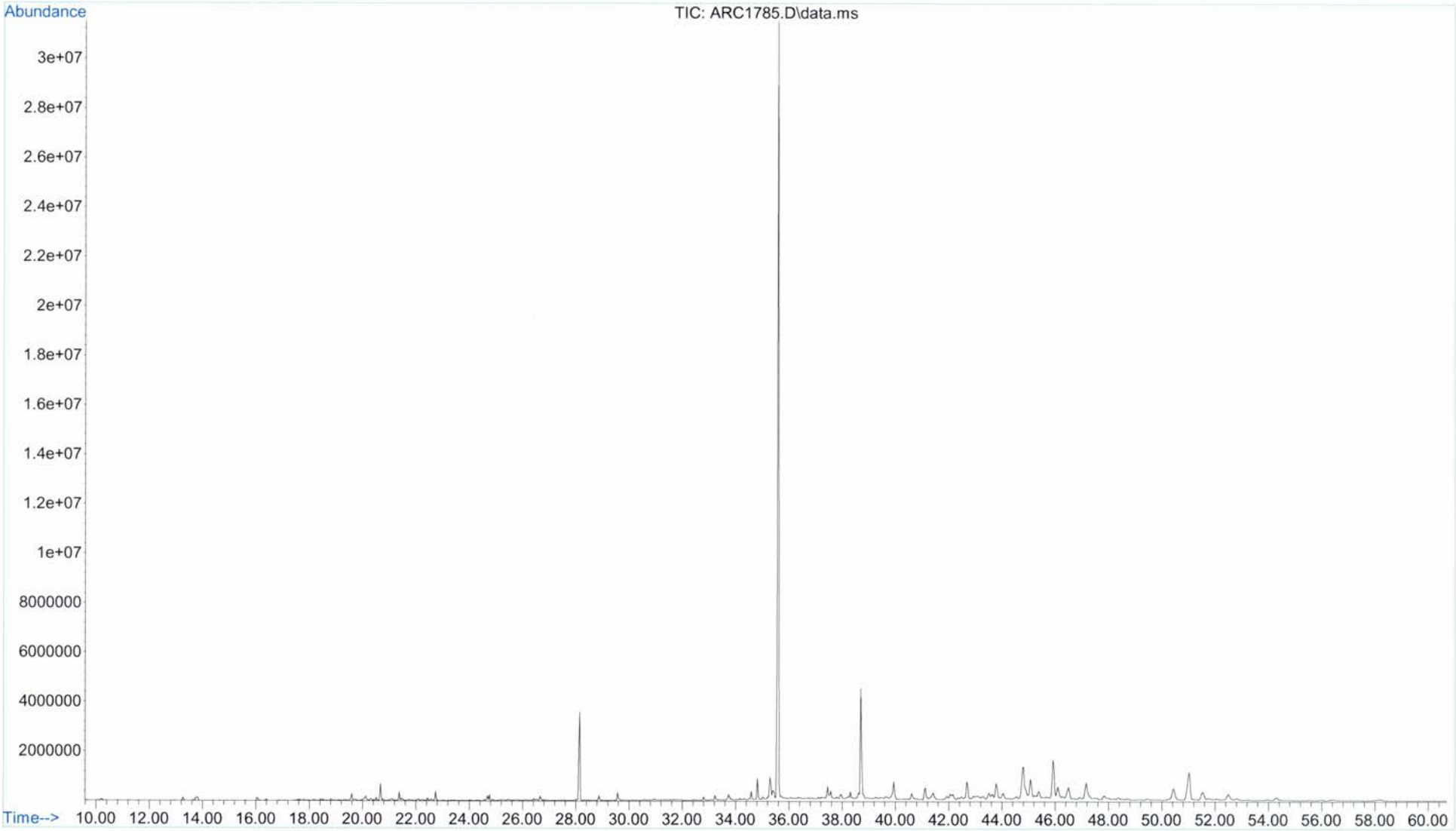

SED-DA-047 (0.5-1.0) (Sediment)
ARC1808
Su. Corrected Conc. (ng/dry g)
250
200
150
100
50
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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

Polycyclic Aromatic Hydrocarbon Total Ion Chromatograms

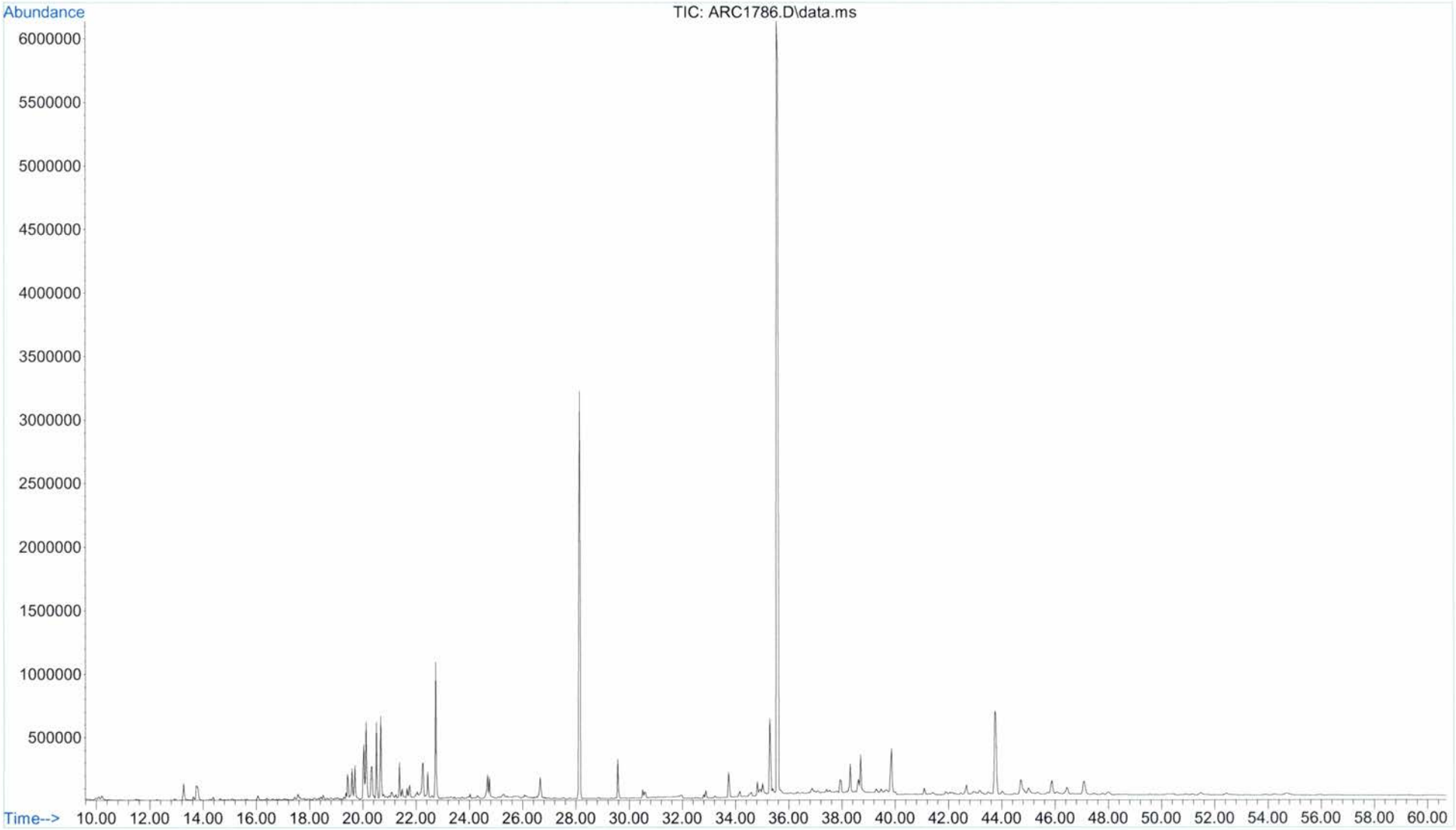
File :C:\GCMS7\MS70062\ARC1784.D
Operator : YM
Acquired : 3 Sep 2013 10:42 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SED-DA-021 (0-0.5)
Misc Info :
Vial Number: 17



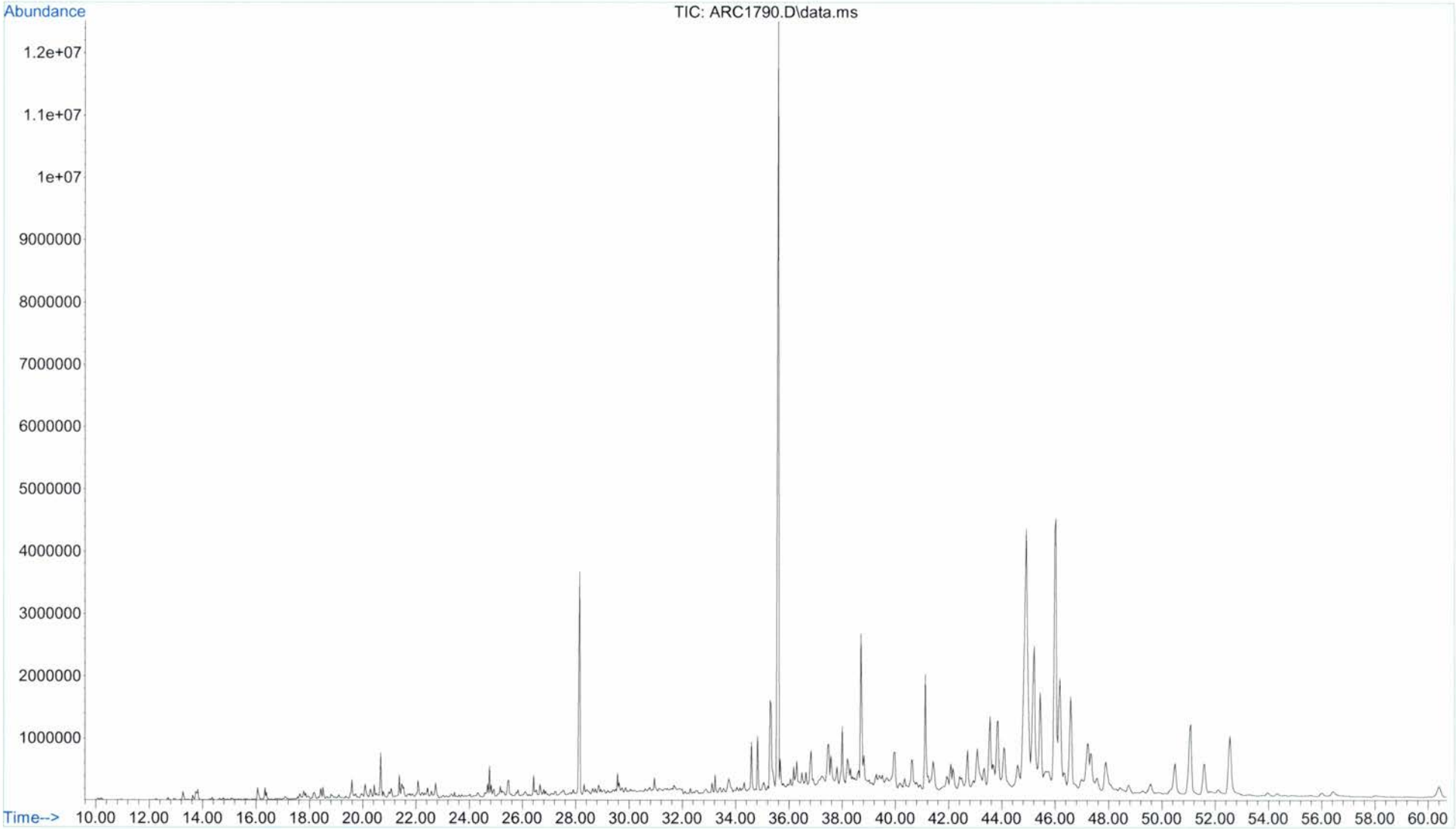
File :C:\GCMS7\MS70062\ARC1785.D
Operator : YM
Acquired : 3 Sep 2013 11:50 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SED-DA-021 (0.5-1.0)
Misc Info :
Vial Number: 18



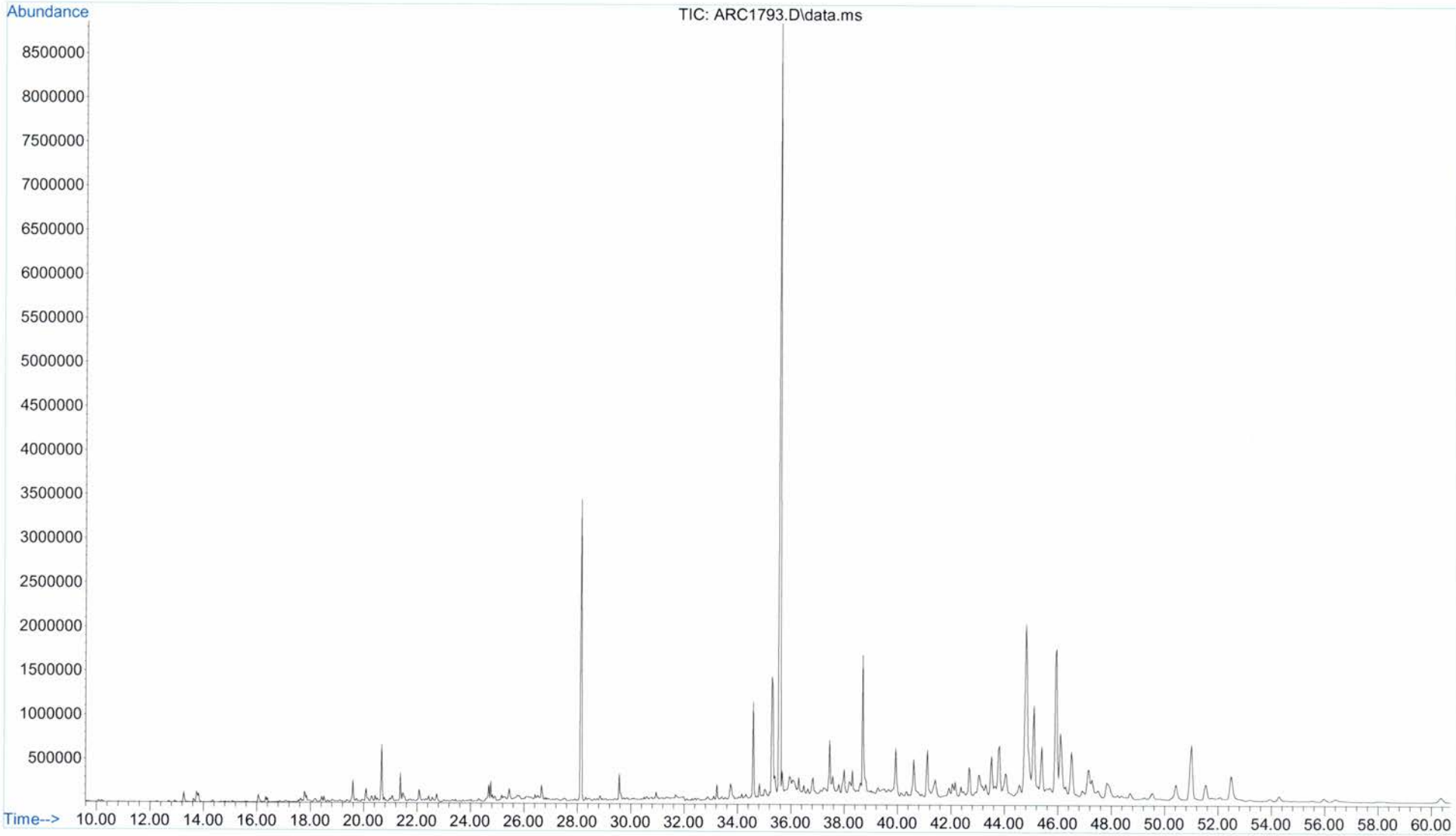
```
File       :C:\GCMS7\MS70062\ARC1786.D
Operator   : YM
Acquired   :  3 Sep 2013  12:59     using AcqMethod PAH-2012.M
Instrument :   GCMSD
Sample Name: SED-DA-021 (1.0-1.5)
Misc Info  :
Vial Number: 19
```



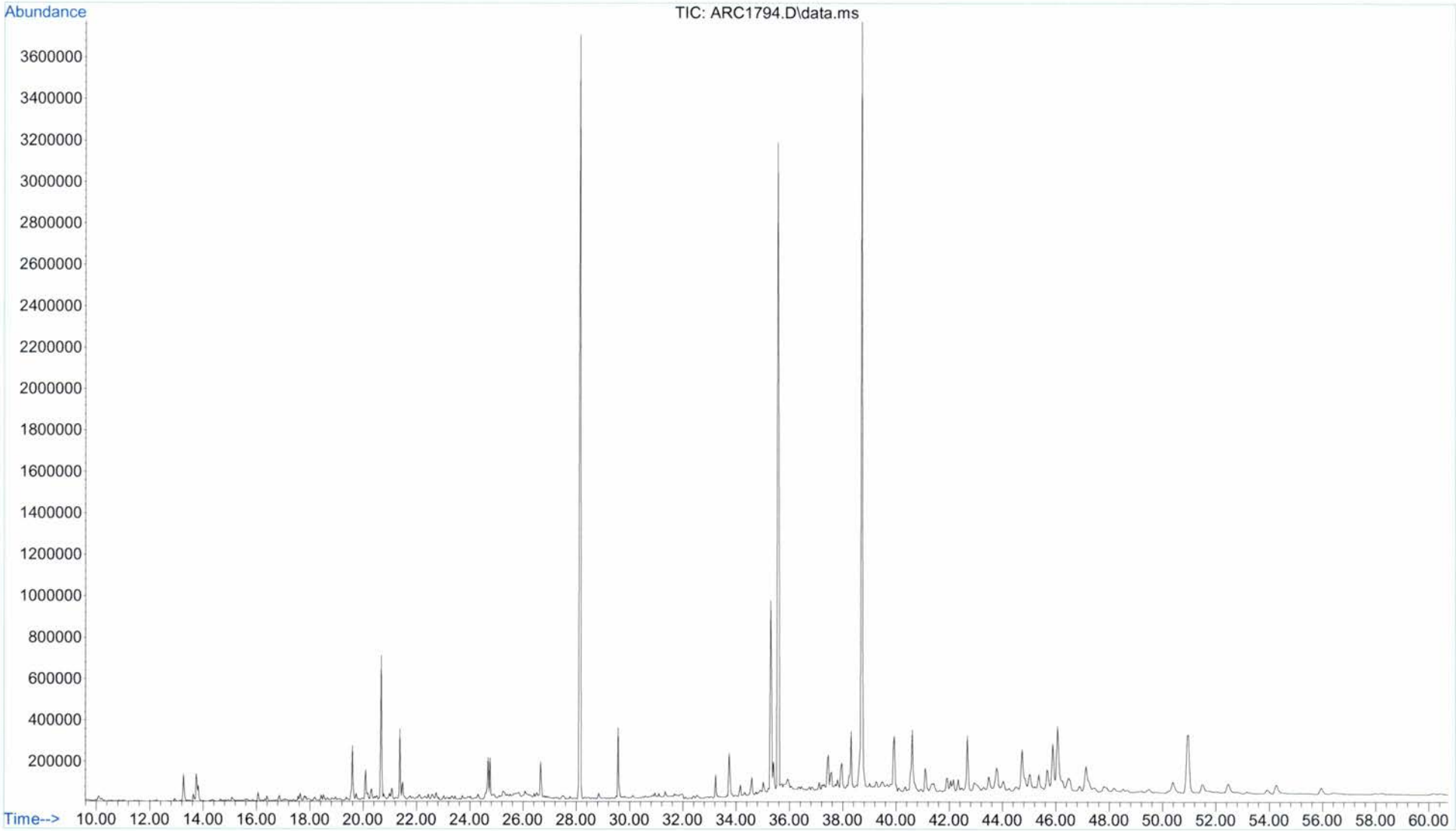
File :C:\GCMS7\MS70062\ARC1790.D
Operator : YM
Acquired : 3 Sep 2013 15:16 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SED-DA-042 (0-0.5)
Misc Info :
Vial Number: 21



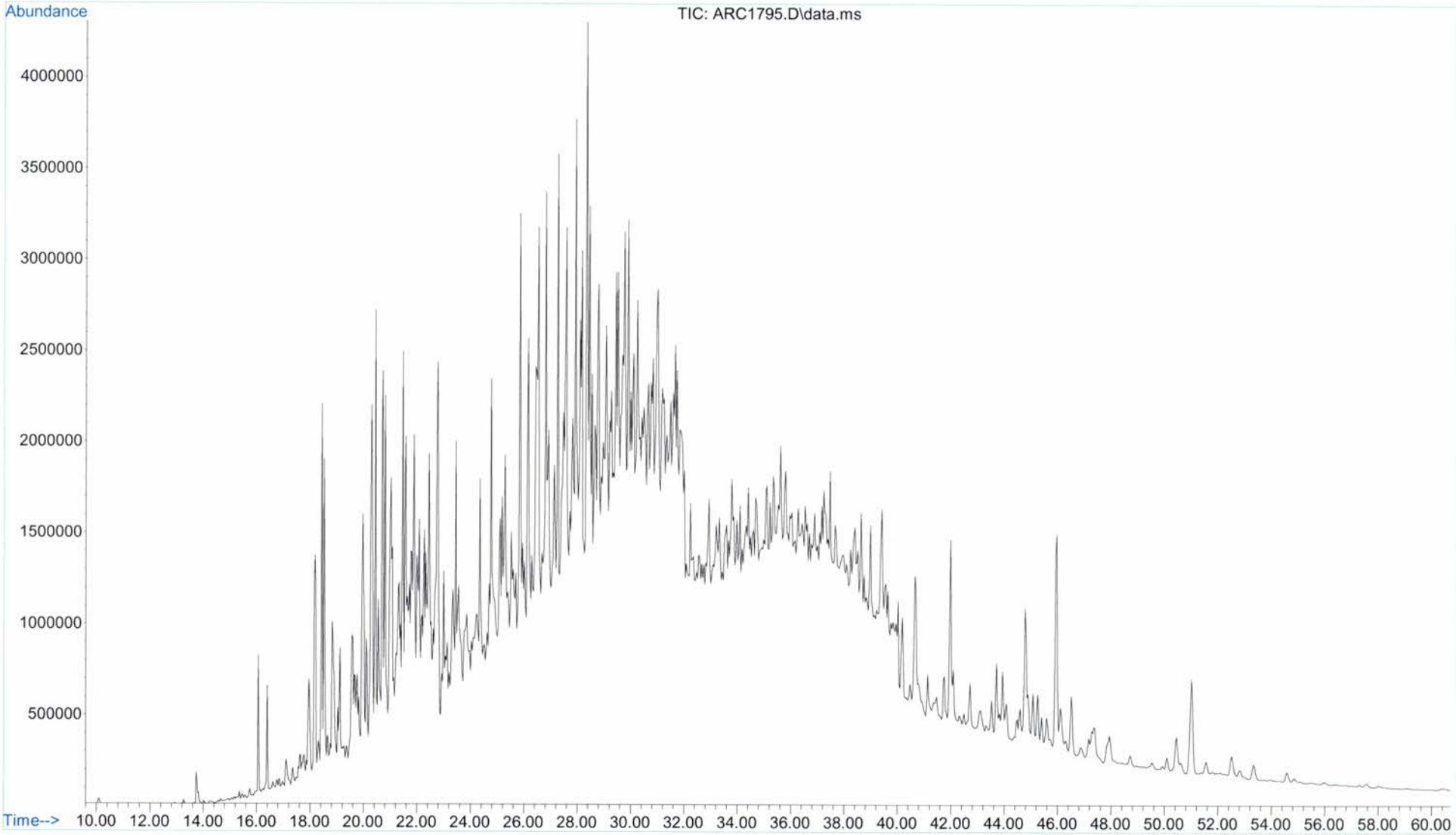
File :C:\GCMS7\MS70062\ARC1793.D
Operator : YM
Acquired : 3 Sep 2013 16:25 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SED-DA-042 (0.5-1.0)
Misc Info :
Vial Number: 22



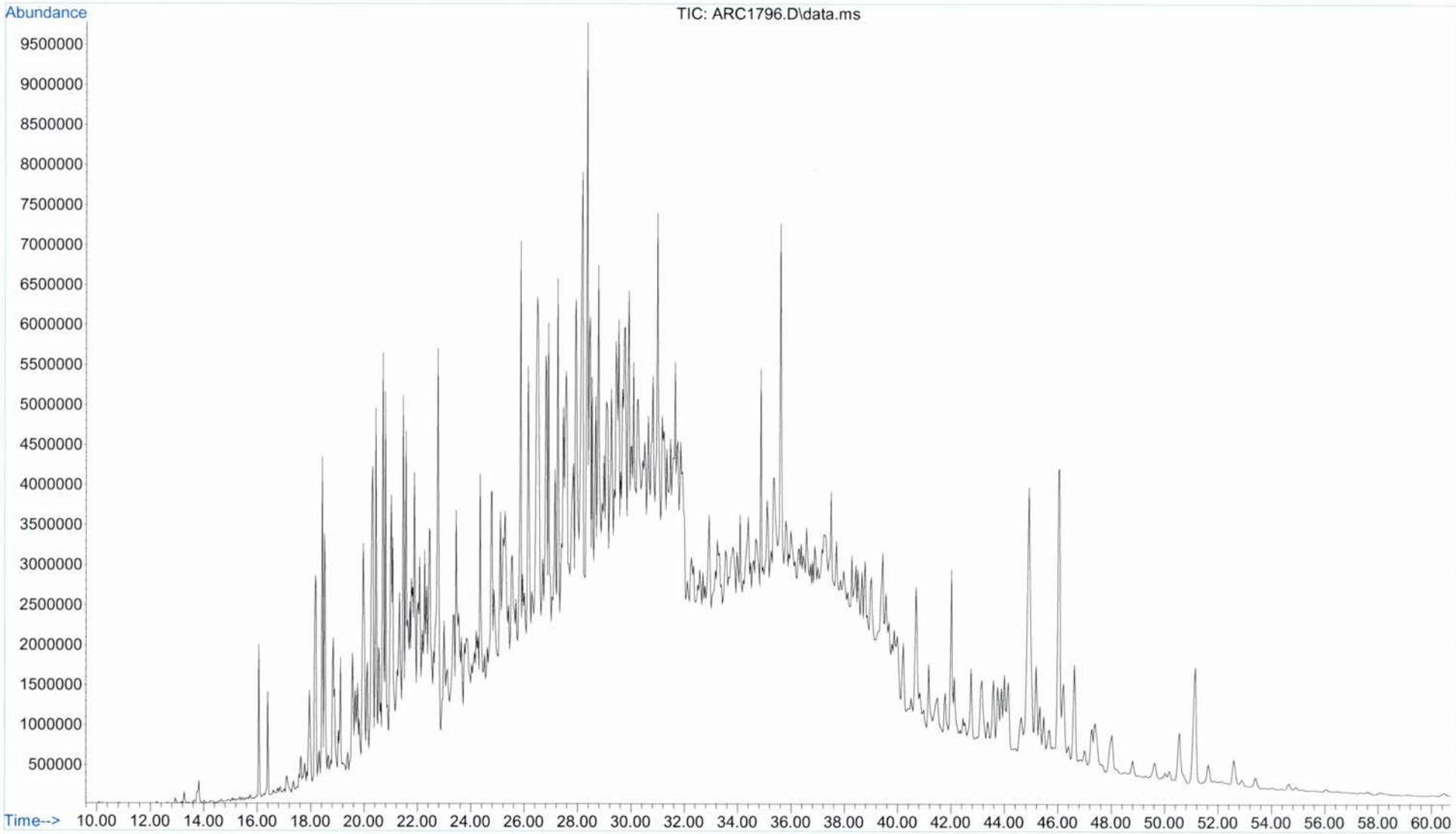
File :C:\GCMS7\MS70062\ARC1794.D
Operator : YM
Acquired : 3 Sep 2013 17:33 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SED-DA-042 (1.0-1.5)
Misc Info :
Vial Number: 23



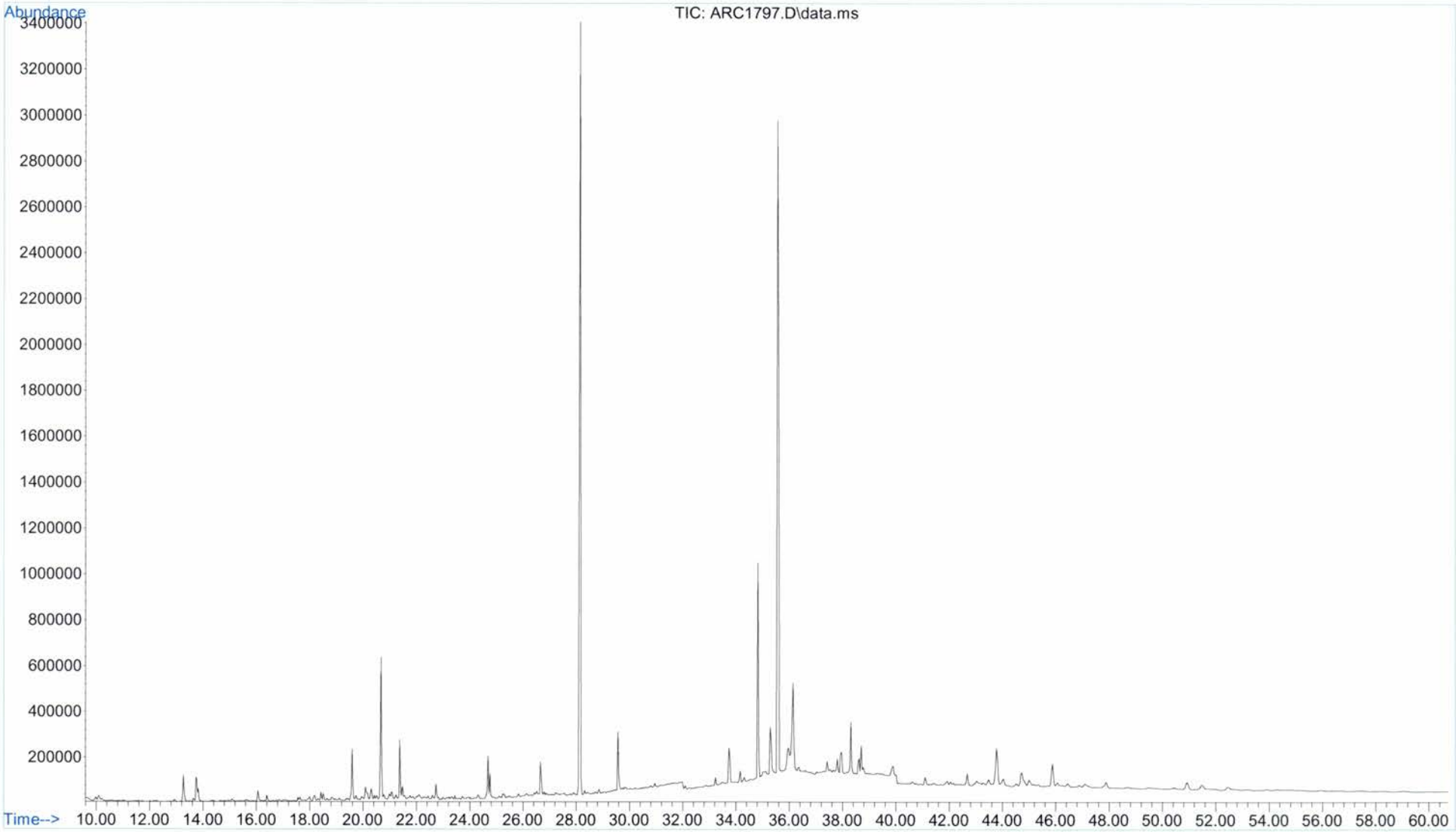
File :C:\GCMS7\MS70062\ARC1795.D
Operator : YM
Acquired : 3 Sep 2013 18:42 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SED-DA-046 (0-0.5)
Misc Info :
Vial Number: 24



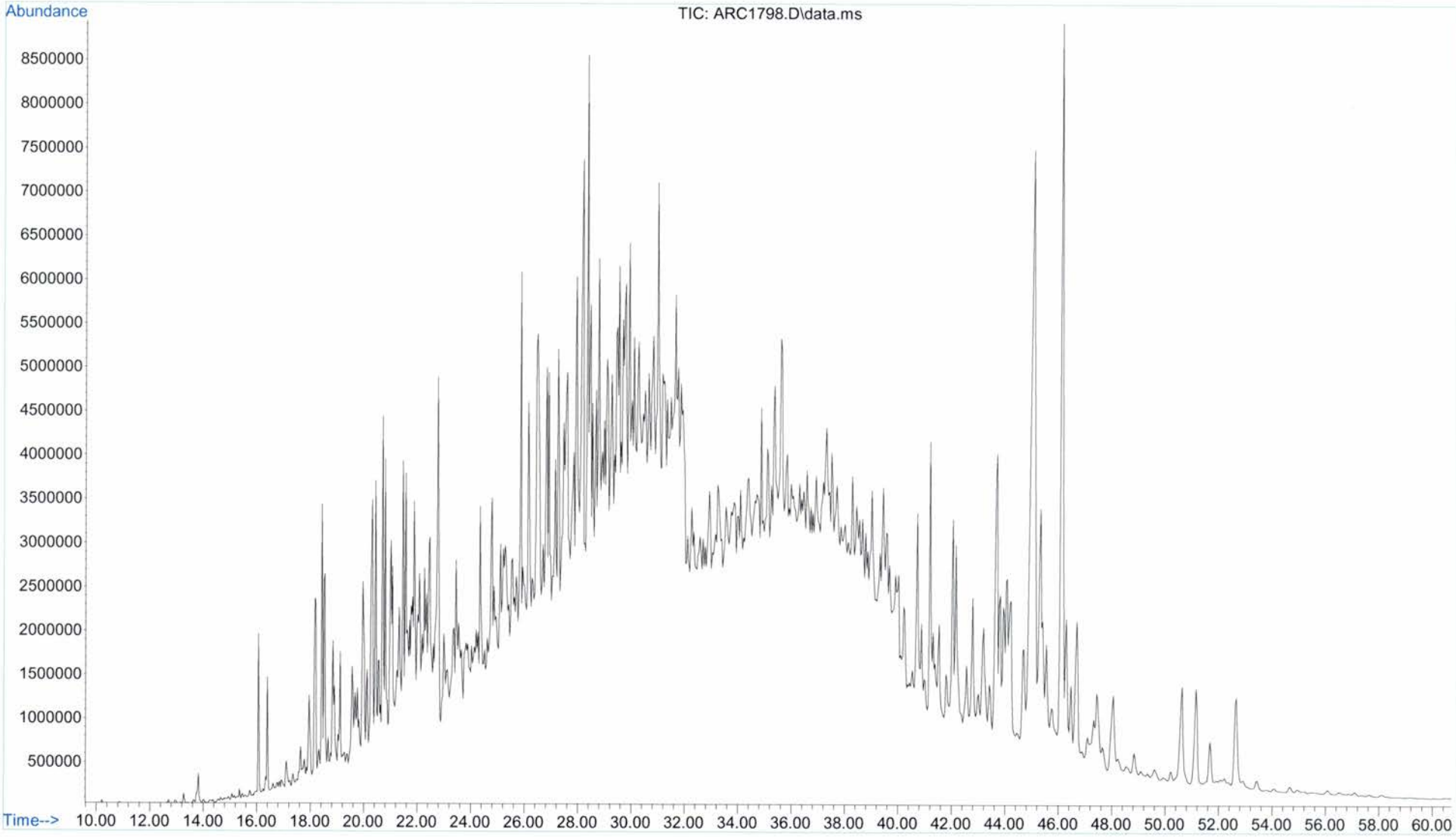
File :C:\GCMS7\MS70062\ARC1796.D
Operator : YM
Acquired : 3 Sep 2013 19:51 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SED-DA-046 (0.5-1.0)
Misc Info :
Vial Number: 25



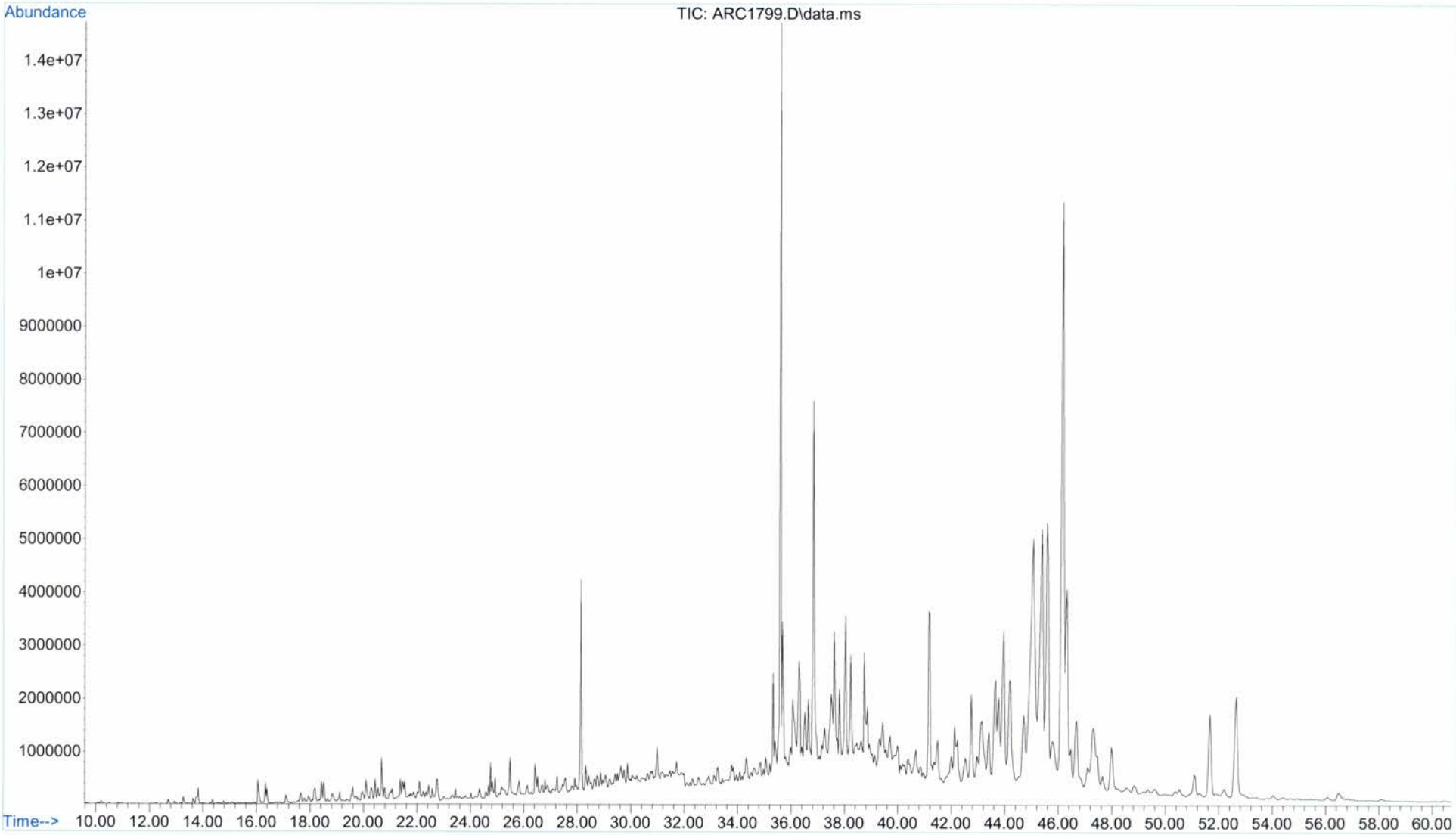
File :C:\GCMS7\MS70062\ARC1797.D
Operator : YM
Acquired : 3 Sep 2013 20:59 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SED-DA-046 (1.0-1.5)
Misc Info :
Vial Number: 26



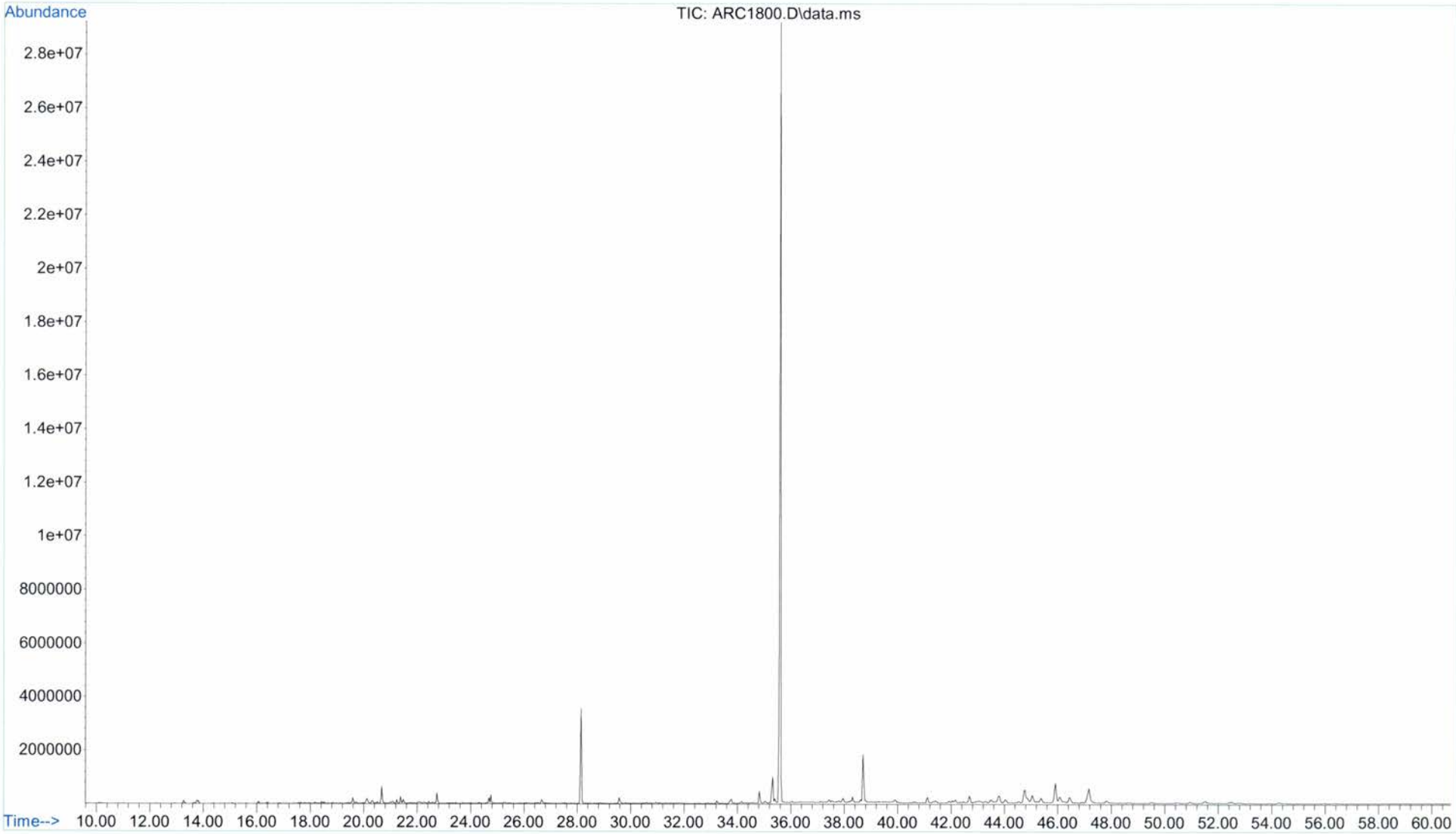
File :C:\GCMS7\MS70062\ARC1798.D
Operator : YM
Acquired : 3 Sep 2013 22:08 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SED-DA-049 (0-0.5)
Misc Info :
Vial Number: 27



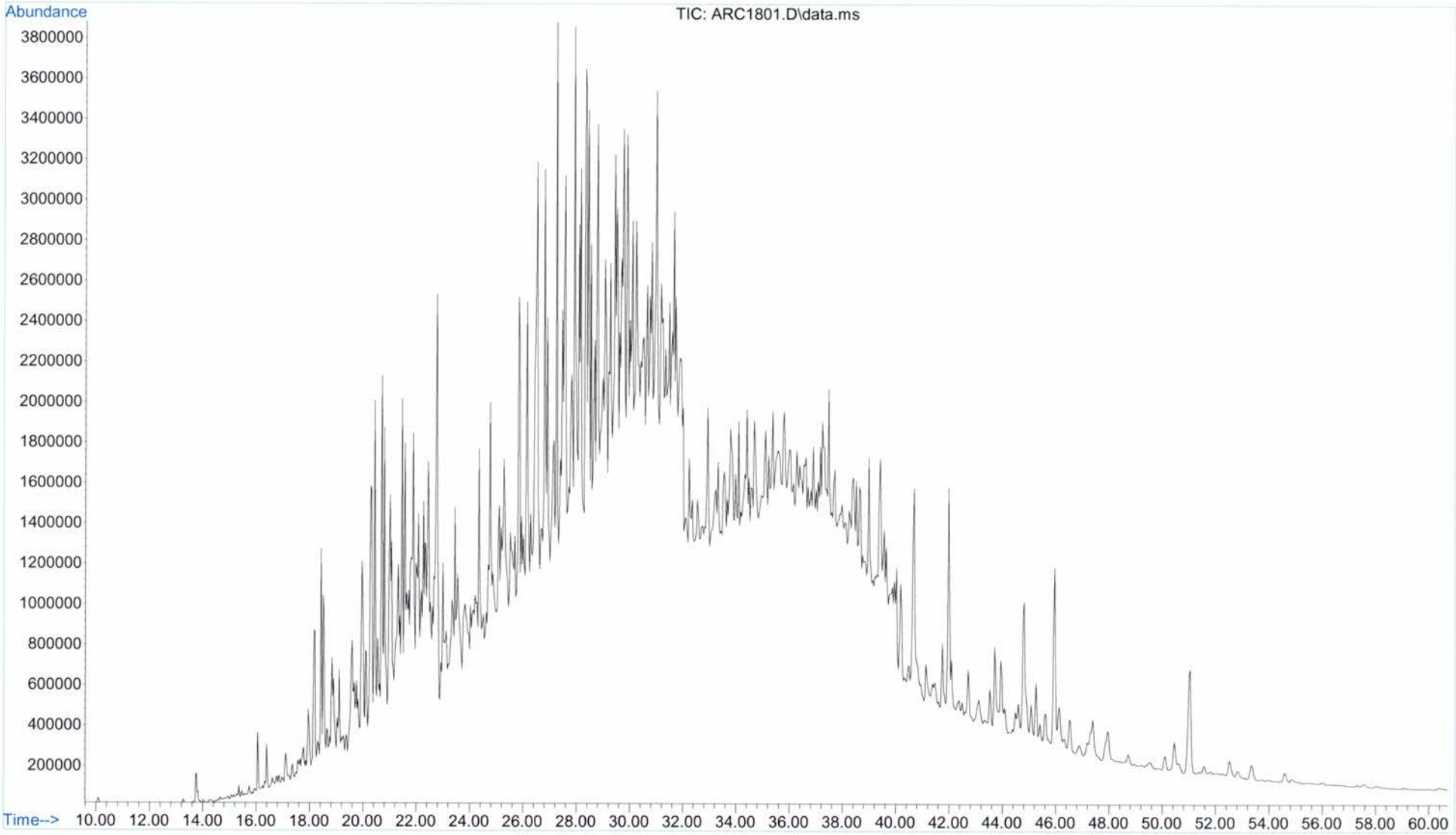
```
File       :C:\GCMS7\MS70062\ARC1799.D
Operator   : YM
Acquired   :  3 Sep 2013  23:16     using AcqMethod PAH-2012.M
Instrument :   GCMSD
Sample Name: SED-DA-049 (0.5-1.0)
Misc Info  :
Vial Number: 28
```



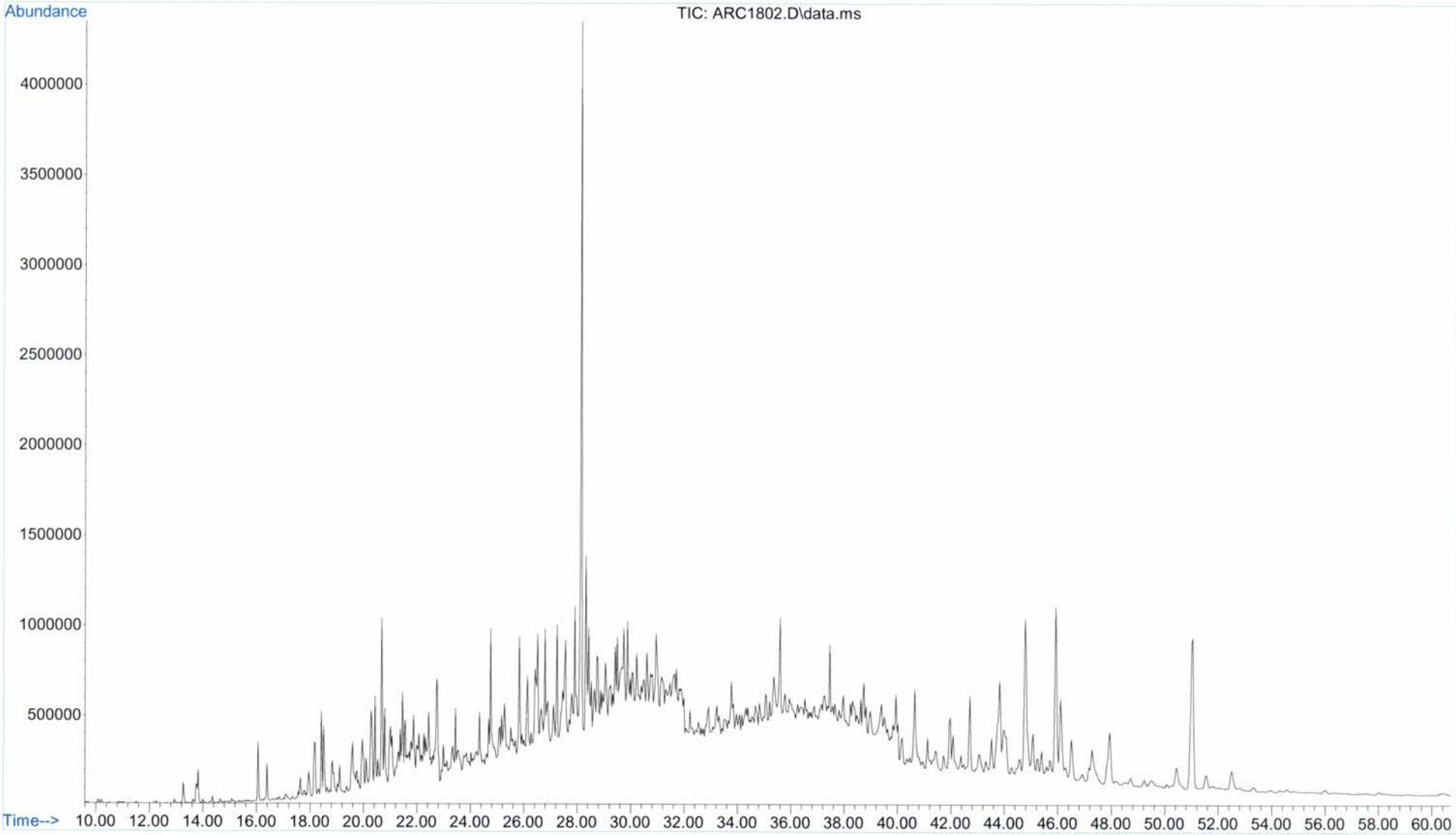
```
File       :C:\GCMS7\MS70062\ARC1800.D
Operator   : YM
Acquired   :  4 Sep 2013    1:33      using AcqMethod PAH-2012.M
Instrument :    GCMSD
Sample Name: SED-DA-049 (1.0-1.5)
Misc Info  :
Vial Number: 30
```



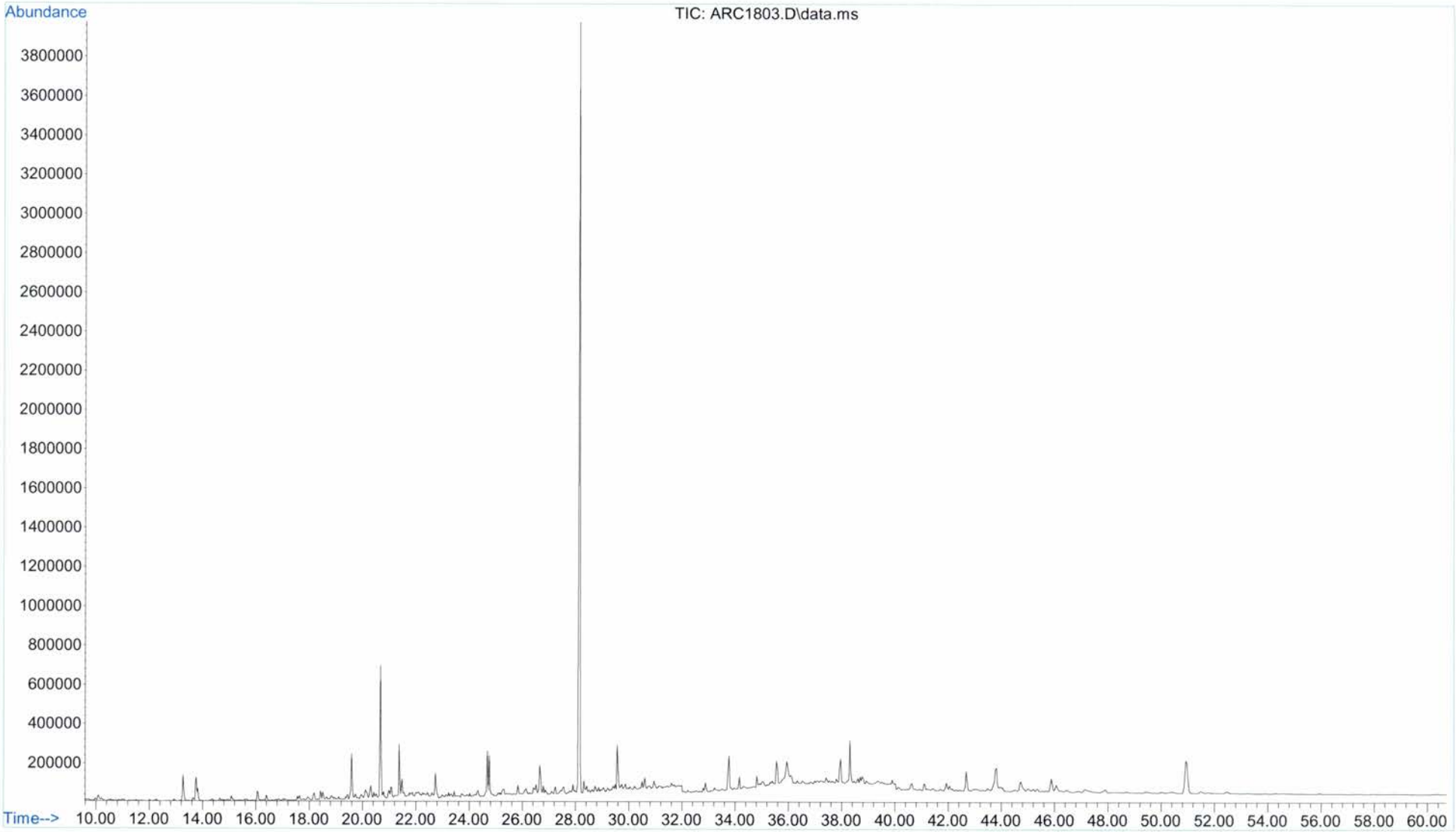
```
File       :C:\GCMS7\MS70062\ARC1801.D
Operator   : YM
Acquired   :  4 Sep 2013    2:42      using AcqMethod PAH-2012.M
Instrument :    GCMSD
Sample Name: SED-DA-043 (0-0.5)
Misc Info  :
Vial Number: 31
```



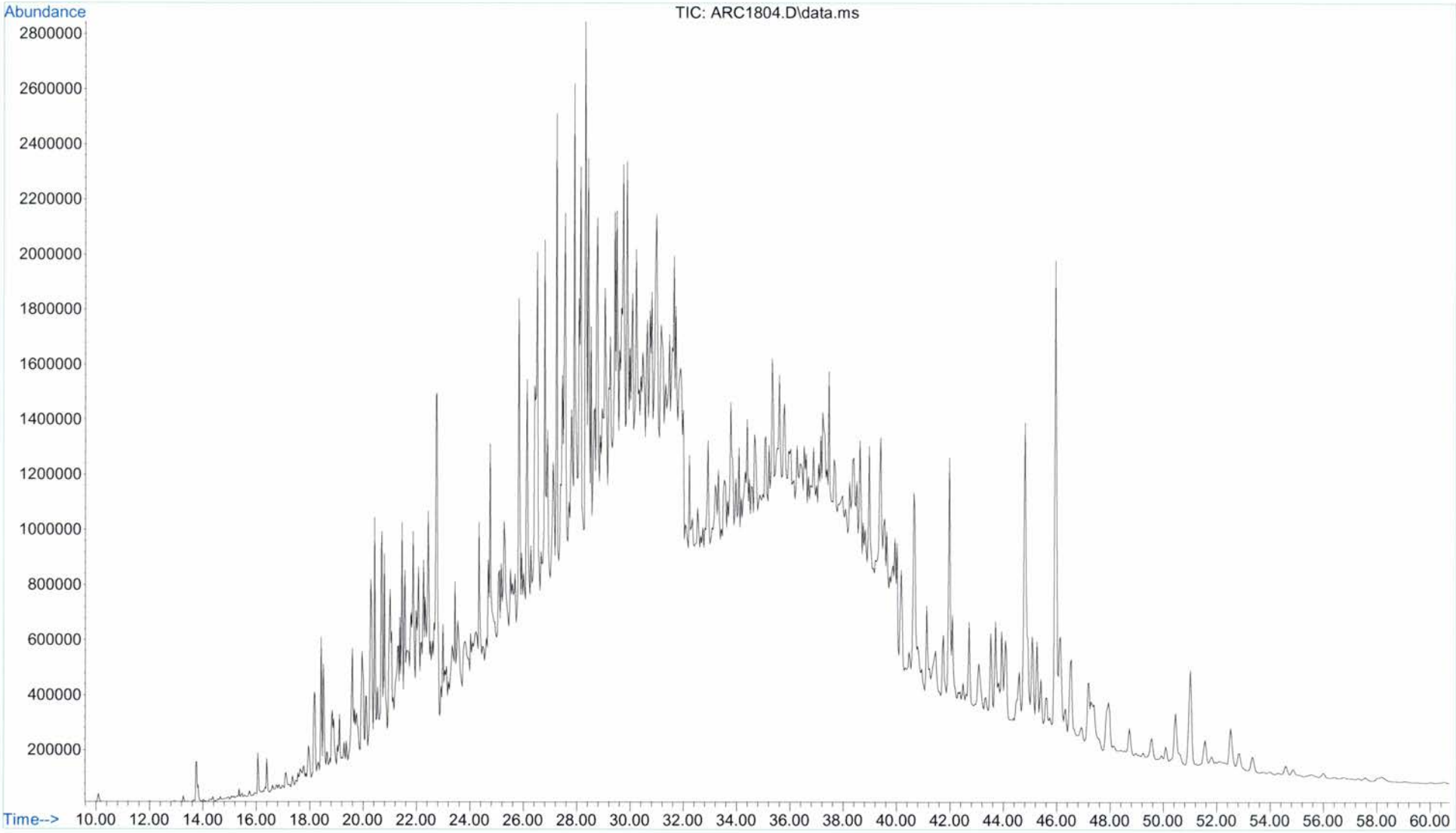
```
File       :C:\GCMS7\MS70062\ARC1802.D
Operator   : YM
Acquired   :  4 Sep 2013    3:51      using AcqMethod PAH-2012.M
Instrument :   GCMSD
Sample Name: SED-DA-043 (0.5-1.0)
Misc Info  :
Vial Number: 32
```



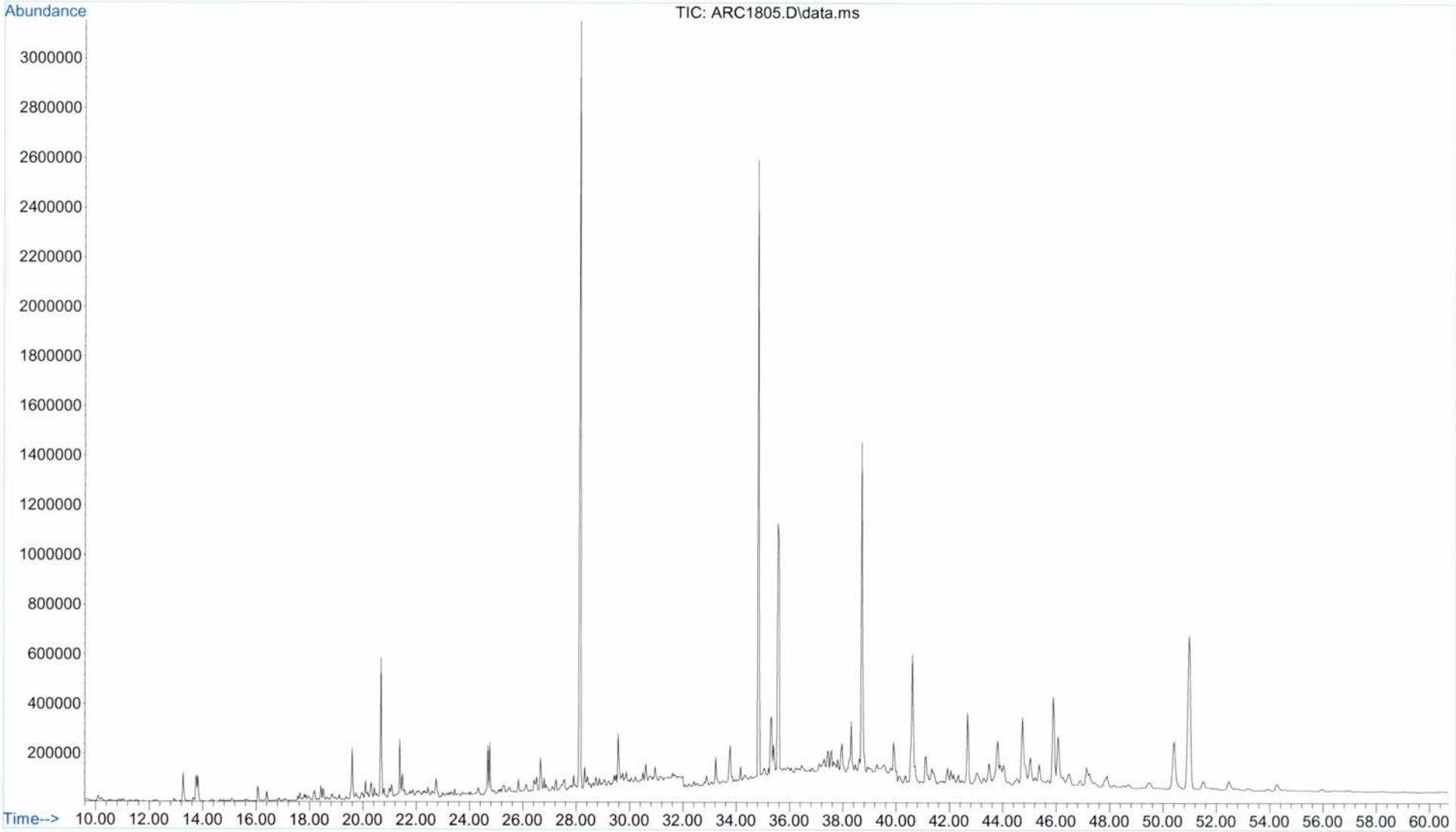
File :C:\GCMS7\MS70062\ARC1803.D
Operator : YM
Acquired : 4 Sep 2013 4:59 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SED-DA-043 (1.0-1.5)
Misc Info :
Vial Number: 33



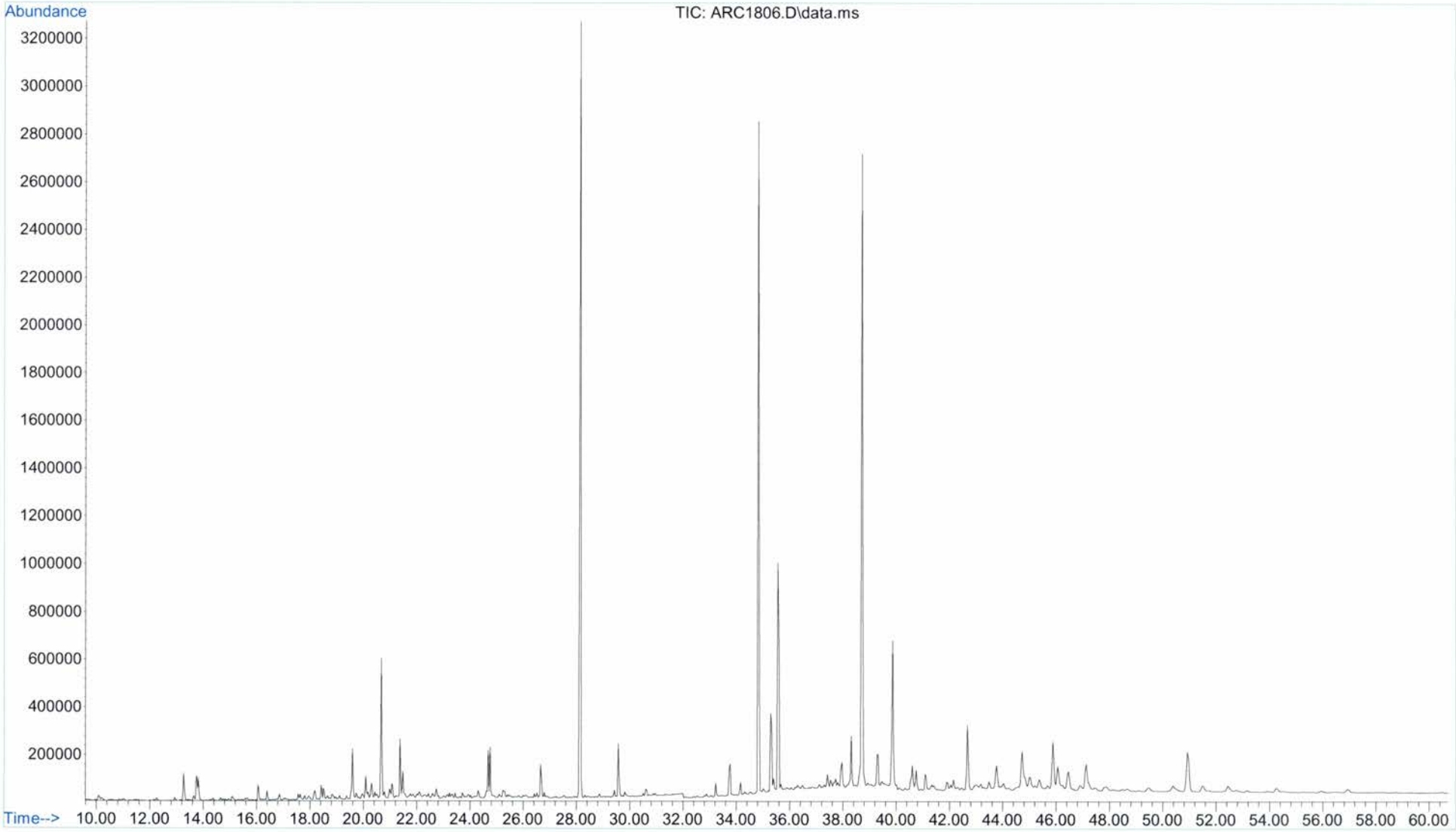
File :C:\GCMS7\MS70062\ARC1804.D
Operator : YM
Acquired : 4 Sep 2013 6:08 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SED-DA-044 (0-0.5)
Misc Info :
Vial Number: 34



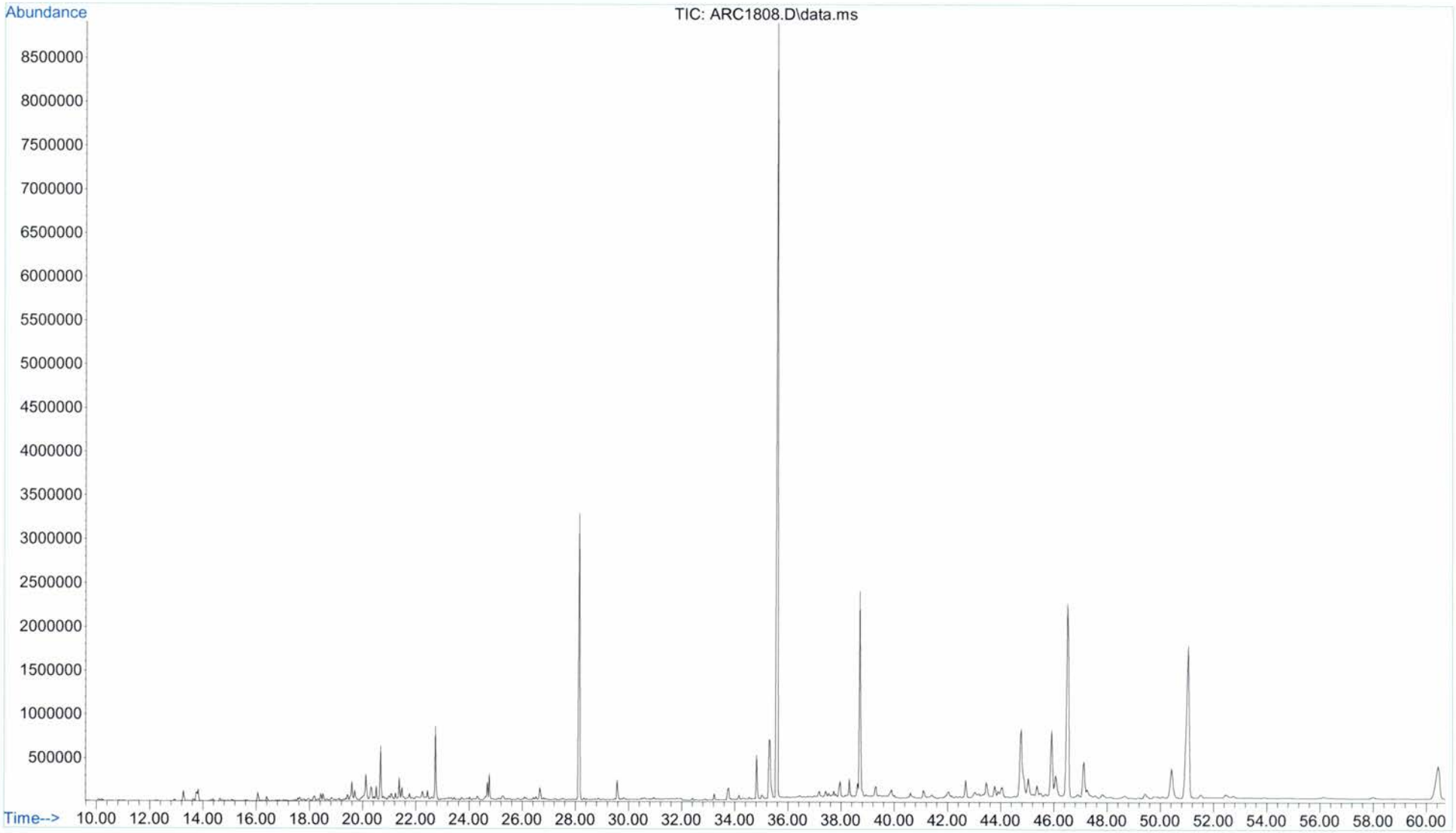
File :C:\GCMS7\MS70062\ARC1805.D
Operator : YM
Acquired : 4 Sep 2013 7:17 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SED-DA-044 (0.5-1.0)
Misc Info :
Vial Number: 35



File :C:\GCMS7\MS70062\ARC1806.D
Operator : YM
Acquired : 4 Sep 2013 8:26 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SED-DA-044 (1.0-1.5)
Misc Info :
Vial Number: 36



File :C:\GCMS7\MS70062\ARC1808.D
Operator : YM
Acquired : 4 Sep 2013 9:34 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SED-DA-047 (0.5-1.0)
Misc Info :
Vial Number: 37



Total Petroleum Hydrocarbons/ Aliphatic Hydrocarbons Raw Data

B&B LABORATORIES ALIPHATICS/TEH QA FORM

Extraction Page: ENV 3092	Analyst: M. Dailey
Client: Arcadis Mayflower	Date: September 23, 2013
Job: #: J13034	Project Quality Manager: W Hand
SDG #: 13081301	Date: 09/24/13

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:	Five compounds were detected outside of the laboratory %recovery limits of 40-120%, however these compounds are outside of the limits due to high native concentrations of hydrocarbons in the sample. Peaks are qualifed with a "Y" - invalid spike
Matirx Spike Duplicate:	Five compounds were detected outside of the laboratory %recovery limits of 40-120%, however these compounds are outside of the limits due to high native concentrations of hydrocarbons in the sample. Peaks are qualifed with a "Y" - invalid spike
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: FID30054 2013-08-29 16-39-24

Acquisition date: 8/29/2013 4:39:24 PM

Acquired by: Meghan Dailey

Data Directory C:\CHEM32\4\DATA\FID30054 2013-08-29 16-39-24

Line	Location	Sample Name	Datafile	Method	Injection Date
4	Vial 1	Solvent Blank	FID30054A.D	ALIFRONT.M	08/29/2013 20:16:37
5	Vial 2	AL-WKCC-25-024	FID30054B.D	ALIFRONT.M	08/29/2013 21:26:51
6	Vial 3	AL-SRM2779-20-01	FID30054C.D	ALIFRONT.M	08/29/2013 22:36:39
7	Vial 1	Solvent Blank	FID30054D.D	ALIFRONT.M	08/29/2013 23:46:58
8	Vial 4	AL-RetWin-001	FID30054E.D	ALIFRONT.M	08/30/2013 00:57:19
9	Vial 5	AL-WKPem-001	FID30054F.D	ALIFRONT.M	08/30/2013 02:07:10
10	Vial 6		ENV3092A.D	ALIFRONT.M	08/30/2013 03:17:27
11	Vial 7		ENV3092C.D	ALIFRONT.M	08/30/2013 04:27:47
12	Vial 8		ENV3092D.D	ALIFRONT.M	08/30/2013 05:38:00
13	Vial 9		ENV3092E.D	ALIFRONT.M	08/30/2013 06:48:15
14	Vial 10	AL-WKCC-25-024	FID30054G.D	ALIFRONT.M	08/30/2013 07:58:33
15	Vial 11		ARC1784.D	ALIFRONT.M	08/30/2013 09:08:51
16	Vial 12		ARC1790.D	ALIFRONT.M	08/30/2013 10:19:15
17	Vial 13		ARC1795.D	ALIFRONT.M	08/30/2013 11:29:21
18	Vial 14		ARC1798.D	ALIFRONT.M	08/30/2013 12:39:33
19	Vial 15		ARC1801.D	ALIFRONT.M	08/30/2013 13:49:55
20	Vial 16		ARC1804.D	ALIFRONT.M	08/30/2013 15:00:06
21	Vial 17	AL-WKCC-25-024	FID30054H.D	ALIFRONT.M	08/30/2013 16:10:22

Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : FID30054B.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 21:26:51
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 02 11:22:57 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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	116	0.00
2		n-C8	1.016	1.008	0.8	114	0.00
3		n-C9	1.082	1.076	0.6	115	0.00
4		n-C10	1.138	1.148	-0.9	116	0.00
5		n-C11	1.134	1.152	-1.6	117	0.00
6	S	n-dodecane-d26	1.052	1.060	-0.8	116	0.00
7		n-C12	1.167	1.192	-2.1	117	0.00
10		n-C13	1.158	1.178	-1.7	116	0.00
12		n-C14	1.185	1.207	-1.9	116	0.00
14		n-C15	1.193	1.211	-1.5	116	0.00
15		n-C16	1.197	1.217	-1.7	117	0.00
16	I	5a-androstane	1.000	1.000	0.0	117	0.00
18		n-C17	0.986	0.998	-1.2	116	0.00
19		Pristane	0.979	0.995	-1.6	116	0.00
20		n-C18	0.969	0.982	-1.3	116	0.00
21		Phytane	0.988	1.000	-1.2	116	0.00
22		n-C19	0.967	0.980	-1.3	117	0.00
23	S	n-eicosane-d42	0.776	0.777	-0.1	116	0.00
24		n-C20	0.972	0.981	-0.9	116	0.00
25		n-C21	0.984	0.991	-0.7	116	0.00
26		n-C22	0.986	0.990	-0.4	116	0.00
27		n-C23	0.991	0.994	-0.3	116	0.00
28		n-C24	0.990	0.992	-0.2	116	0.00
29		n-C25	0.992	0.990	0.2	116	0.00
30		n-C26	0.992	0.989	0.3	116	0.00
31		n-C27	0.966	0.961	0.5	115	0.00
32		n-C28	0.979	0.973	0.6	115	0.00
33		n-C29	0.987	0.978	0.9	115	0.00
34	S	n-triacontane-d62	0.764	0.748	2.1	114	0.00
35		n-C30	0.979	0.972	0.7	115	0.00
36		n-C31	0.963	0.953	1.0	114	0.00
37		n-C32	0.960	0.947	1.4	114	0.00
38		n-C33	0.939	0.928	1.2	114	0.00
39		n-C34	0.957	0.940	1.8	114	0.00
40		n-C35	0.945	0.913	3.4	112	0.00
41		n-C36	1.019	0.999	2.0	112	0.00
42		n-C37	0.930	0.879	5.5	108	0.00
43		n-C38	0.923	0.881	4.6	108	0.00

44	n-C39	0.889	0.806	9.3	102	0.00
45	n-C40	0.827	0.807	2.4	109	0.00

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.019	0.000	100.0#	0#	-8.57#
9	i-14	0.019	0.000	100.0#	0#	-9.26#
11	i-15	0.019	0.000	100.0#	0#	-10.40#
13	i-16	0.019	0.000	100.0#	0#	-11.28#
17	i-18	0.019	0.000	100.0#	0#	-13.15#
46	TPH	0.019	0.000	100.0#	0#	-27.80#
47	TRH1	0.019	0.000	100.0#	0#	-7.42#
48	TRH2	0.019	0.000	100.0#	0#	-15.24#
49	TRH3	0.019	0.000	100.0#	0#	-22.37#
50	TRH4	0.019	0.000	100.0#	0#	-27.18#
51	TRH5	0.019	0.000	100.0#	0#	-31.94#
52	TRH6	0.019	0.000	100.0#	0#	-42.91#
53	GRO	0.019	0.000	100.0#	0#	-5.04#
54	DRO	0.019	0.000	100.0#	0#	-13.69#
55	RRO	0.019	0.000	100.0#	0#	-31.59#

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

FID3C08FRONT082713.M Mon Sep 02 11:23:07 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : FID30054B.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 21:26:51
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 02 11:22:57 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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	12.386	361781	50.000	ug/mlm
16) I	5a-androstane	17.368	448661	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.137	191787	25.202	ug/mlm
23) S	n-eicosane-d42	16.848	175136	25.197	ug/mlm
34) S	n-triacontane-d62	28.651	167715	24.487	ug/mlm
Target Compounds					
2)	n-C8	3.077	182466	24.813	ug/mlm
3)	n-C9	4.345	194589	24.856	ug/mlm
4)	n-C10	5.737	207584	25.210	ug/mlm
5)	n-C11	7.084	208548	25.427	ug/mlm
7)	n-C12	8.342	211852	25.081	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	9.512	213425	25.476	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.605	216955	25.305	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.633	218079	25.263	ug/mlm
15)	n-C16	12.623	218011	25.179	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.672	220965	25.000	ug/mlm
19)	Pristane	13.781	220874	25.184	ug/mlm
20)	n-C18	14.796	220190	25.348	ug/mlm
21)	Phytane	14.950	223511	25.258	ug/mlm
22)	n-C19	15.991	219323	25.302	ug/mlm
24)	n-C20	17.236	220091	25.268	ug/mlm
25)	n-C21	18.509	220107	24.970	ug/mlm
26)	n-C22	19.792	221980	25.120	ug/mlm
27)	n-C23	21.065	220381	24.822	ug/mlm
28)	n-C24	22.318	219728	24.767	ug/mlm
29)	n-C25	23.546	220876	24.856	ug/mlm
30)	n-C26	24.743	221910	24.974	ug/mlm
31)	n-C27	25.904	215266	24.858	ug/mlm
32)	n-C28	27.031	218017	24.848	ug/mlm
33)	n-C29	28.124	219354	24.806	ug/mlm
35)	n-C30	29.186	216887	24.737	ug/mlm
36)	n-C31	30.215	213634	24.756	ug/mlm
37)	n-C32	31.214	209342	24.345	ug/mlm
38)	n-C33	32.181	207907	24.701	ug/mlm
39)	n-C34	33.122	210202	24.508	ug/mlm
40)	n-C35	34.043	204637	24.179	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : FID30054B.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 21:26:51
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 02 11:22:57 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.049	219230	24.021	ug/mlm
42)	n-C37	36.201	197062	23.657	ug/mlm
43)	n-C38	37.541	197703	23.917	ug/mlm
44)	n-C39	39.094	180534	22.670	ug/mlm
45)	n-C40	40.931	180383	24.349	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

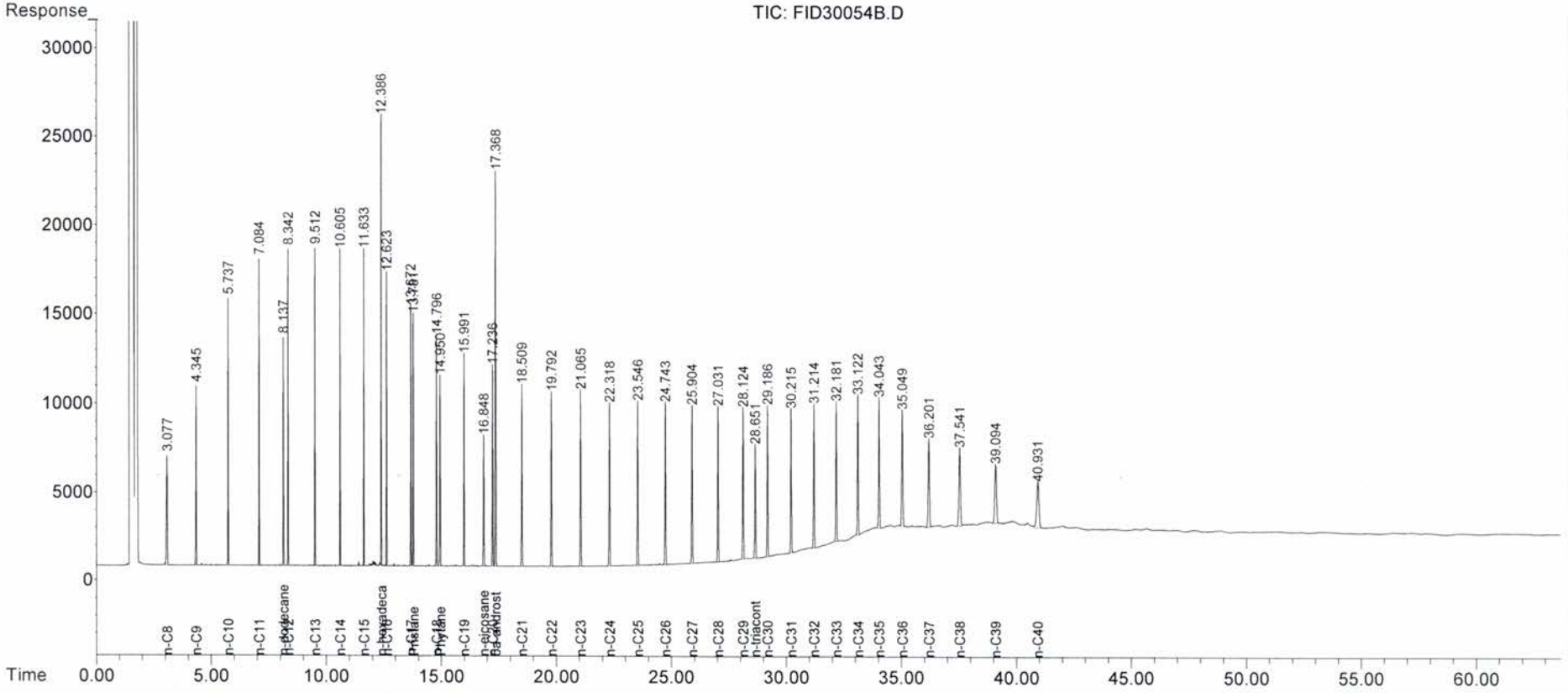
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : FID30054B.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 21:26:51
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 02 11:22:57 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : FID30054G.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 07:58:33
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 02 11:28:16 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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	114	0.00
2		n-C8	1.016	1.006	1.0	111	-0.01
3		n-C9	1.082	1.072	0.9	112	0.00
4		n-C10	1.138	1.141	-0.3	113	0.00
5		n-C11	1.134	1.142	-0.7	113	0.00
6	S	n-dodecane-d26	1.052	1.053	-0.1	113	0.00
7		n-C12	1.167	1.184	-1.5	113	0.00
10		n-C13	1.158	1.171	-1.1	113	0.00
12		n-C14	1.185	1.200	-1.3	113	0.00
14		n-C15	1.193	1.205	-1.0	113	0.00
15		n-C16	1.197	1.211	-1.2	113	0.00
16	I	5a-androstane	1.000	1.000	0.0	114	0.00
18		n-C17	0.986	1.003	-1.7	113	0.00
19		Pristane	0.979	0.997	-1.8	113	0.00
20		n-C18	0.969	0.985	-1.7	113	0.00
21		Phytane	0.988	1.003	-1.5	113	0.00
22		n-C19	0.967	0.982	-1.6	113	0.00
23	S	n-eicosane-d42	0.776	0.779	-0.4	113	0.00
24		n-C20	0.972	0.986	-1.4	113	0.00
25		n-C21	0.984	0.994	-1.0	113	0.00
26		n-C22	0.986	0.991	-0.5	113	0.00
27		n-C23	0.991	0.995	-0.4	113	0.00
28		n-C24	0.990	0.997	-0.7	113	0.00
29		n-C25	0.992	0.990	0.2	112	-0.01
30		n-C26	0.992	0.990	0.2	112	-0.01
31		n-C27	0.966	0.962	0.4	112	-0.01
32		n-C28	0.979	0.976	0.3	112	-0.01
33		n-C29	0.987	0.983	0.4	112	-0.01
34	S	n-triacontane-d62	0.764	0.752	1.6	112	-0.01
35		n-C30	0.979	0.966	1.3	111	-0.01
36		n-C31	0.963	0.975	-1.2	113	-0.01
37		n-C32	0.960	0.958	0.2	112	-0.01
38		n-C33	0.939	0.936	0.3	112	-0.01
39		n-C34	0.957	0.947	1.0	111	-0.01
40		n-C35	0.945	0.920	2.6	109	-0.01
41		n-C36	1.019	1.021	-0.2	111	-0.01
42		n-C37	0.930	0.892	4.1	106	-0.01
43		n-C38	0.923	0.865	6.3	103	-0.02

44	n-C39	0.889	0.831	6.5	102	-0.01
45	n-C40	0.827	0.766	7.4	101	-0.02

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.019	0.000	100.0#	0#	-8.57#
9	i-14	0.019	0.000	100.0#	0#	-9.26#
11	i-15	0.019	0.000	100.0#	0#	-10.40#
13	i-16	0.019	0.000	100.0#	0#	-11.28#
17	i-18	0.019	0.000	100.0#	0#	-13.15#
46	TPH	0.019	0.000	100.0#	0#	-27.80#
47	TRH1	0.019	0.000	100.0#	0#	-7.42#
48	TRH2	0.019	0.000	100.0#	0#	-15.24#
49	TRH3	0.019	0.000	100.0#	0#	-22.37#
50	TRH4	0.019	0.000	100.0#	0#	-27.18#
51	TRH5	0.019	0.000	100.0#	0#	-31.94#
52	TRH6	0.019	0.000	100.0#	0#	-42.91#
53	GRO	0.019	0.000	100.0#	0#	-5.04#
54	DRO	0.019	0.000	100.0#	0#	-13.69#
55	RRO	0.019	0.000	100.0#	0#	-31.59#

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

FID3C08FRONT082713.M Mon Sep 02 11:28:28 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : FID30054G.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 07:58:33
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 02 11:28:16 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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	12.382	353523	50.000	ug/mlm
16) I	5a-androstane	17.360	435144	50.072	ug/mlm
	System Monitoring Compounds				
6) S	n-dodecane-d26	8.133	186183	25.038	ug/mlm
23) S	n-eicosane-d42	16.842	170342	25.269	ug/mlm
34) S	n-triacontane-d62	28.641	163569	24.624	ug/mlm
	Target Compounds				
2)	n-C8	3.064	177934	24.762	ug/mlm
3)	n-C9	4.336	189475	24.768	ug/mlm
4)	n-C10	5.731	201641	25.061	ug/mlm
5)	n-C11	7.080	202151	25.223	ug/mlm
7)	n-C12	8.339	205685	24.919	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	9.508	207377	25.332	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.601	210826	25.165	ug/mlm
13)	i-16	0.000	0	N.D.	ug/ml
14)	n-C15	11.629	212029	25.136	ug/mlm
15)	n-C16	12.619	211853	25.039	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.666	215282	25.114	ug/mlm
19)	Pristane	13.777	214709	25.242	ug/mlm
20)	n-C18	14.791	214113	25.414	ug/mlm
21)	Phytane	14.945	217369	25.327	ug/mlm
22)	n-C19	15.986	213145	25.353	ug/mlm
24)	n-C20	17.228	214543	25.396	ug/mlm
25)	n-C21	18.502	214145	25.048	ug/mlm
26)	n-C22	19.784	215490	25.143	ug/mlm
27)	n-C23	21.057	214033	24.856	ug/mlm
28)	n-C24	22.309	214109	24.884	ug/mlm
29)	n-C25	23.535	214316	24.867	ug/mlm
30)	n-C26	24.730	215444	24.999	ug/mlm
31)	n-C27	25.892	209110	24.897	ug/mlm
32)	n-C28	27.020	212073	24.922	ug/mlm
33)	n-C29	28.114	213748	24.923	ug/mlm
35)	n-C30	29.175	208988	24.576	ug/mlm
36)	n-C31	30.204	211853	25.312	ug/mlm
37)	n-C32	31.200	205468	24.637	ug/mlm
38)	n-C33	32.169	203342	24.909	ug/mlm
39)	n-C34	33.110	205301	24.681	ug/mlm
40)	n-C35	34.031	200025	24.368	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : FID30054G.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 07:58:33
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 02 11:28:16 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.037	217348	24.554	ug/mlm
42)	n-C37	36.187	193875	23.998	ug/mlm
43)	n-C38	37.520	188137	23.467	ug/mlm
44)	n-C39	39.079	180514	23.371	ug/mlm
45)	n-C40	40.910	166149	23.124	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

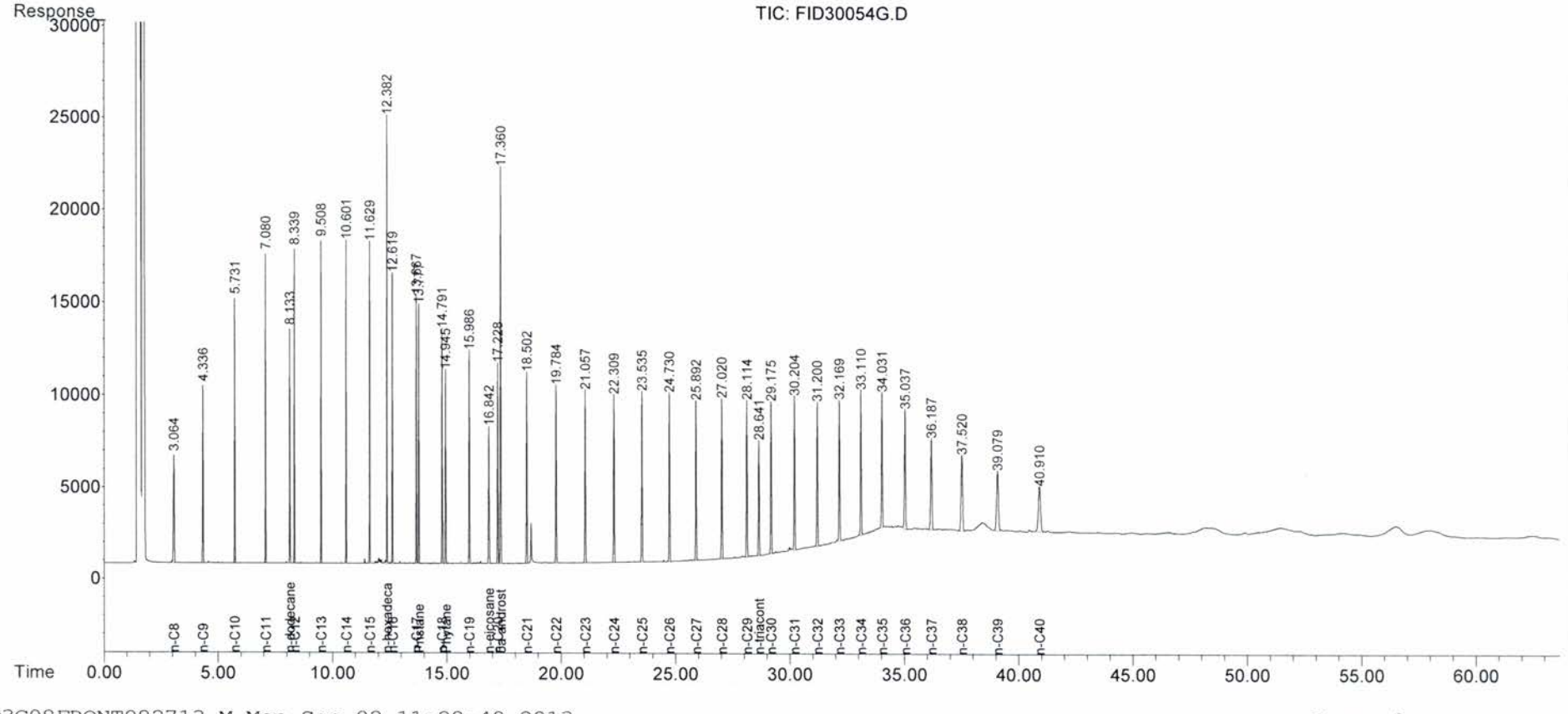
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : FID30054G.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 07:58:33
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 02 11:28:16 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



100

Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : FID30054H.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 16:10:22
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 17 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 02 11:33:36 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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	111	0.00
2		n-C8	1.016	1.078	-6.1	116	0.00
3		n-C9	1.082	1.142	-5.5	117	0.00
4		n-C10	1.138	1.180	-3.7	114	0.00
5		n-C11	1.134	1.160	-2.3	112	0.00
6	S	n-dodecane-d26	1.052	1.062	-1.0	111	0.00
7		n-C12	1.167	1.195	-2.4	111	0.00
10		n-C13	1.158	1.180	-1.9	111	0.00
12		n-C14	1.185	1.210	-2.1	111	0.00
14		n-C15	1.193	1.214	-1.8	111	0.00
15		n-C16	1.197	1.220	-1.9	111	0.00
16	I	5a-androstane	1.000	1.000	0.0	111	0.00
18		n-C17	0.986	1.007	-2.1	111	0.00
19		Pristane	0.979	1.003	-2.5	111	0.00
20		n-C18	0.969	0.988	-2.0	111	0.00
21		Phytane	0.988	1.006	-1.8	111	0.00
22		n-C19	0.967	0.984	-1.8	111	0.00
23	S	n-eicosane-d42	0.776	0.780	-0.5	110	0.00
24		n-C20	0.972	0.987	-1.5	111	0.00
25		n-C21	0.984	0.994	-1.0	110	0.00
26		n-C22	0.986	0.990	-0.4	110	0.00
27		n-C23	0.991	0.993	-0.2	110	0.00
28		n-C24	0.990	0.997	-0.7	110	0.00
29		n-C25	0.992	0.988	0.4	110	0.00
30		n-C26	0.992	0.988	0.4	109	0.00
31		n-C27	0.966	0.959	0.7	109	0.00
32		n-C28	0.979	0.975	0.4	109	0.00
33		n-C29	0.987	0.973	1.4	109	0.00
34	S	n-triacontane-d62	0.764	0.747	2.2	108	0.00
35		n-C30	0.979	0.961	1.8	108	0.00
36		n-C31	0.963	0.980	-1.8	111	0.00
37		n-C32	0.960	0.959	0.1	110	0.00
38		n-C33	0.939	0.937	0.2	109	0.00
39		n-C34	0.957	0.948	0.9	109	0.00
40		n-C35	0.945	0.943	0.2	109	0.00
41		n-C36	1.019	1.003	1.6	107	0.00
42		n-C37	0.930	0.901	3.1	105	0.00
43		n-C38	0.923	0.869	5.9	101	0.00

44	n-C39	0.889	0.887	0.2	107	0.02
45	n-C40	0.827	0.800	3.3	103	0.02

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.019	0.000	100.0#	0#	-8.57#
9	i-14	0.019	0.000	100.0#	0#	-9.26#
11	i-15	0.019	0.000	100.0#	0#	-10.40#
13	i-16	0.019	0.000	100.0#	0#	-11.28#
17	i-18	0.019	0.000	100.0#	0#	-13.15#
46	TPH	0.019	0.000	100.0#	0#	-27.80#
47	TRH1	0.019	0.000	100.0#	0#	-7.42#
48	TRH2	0.019	0.000	100.0#	0#	-15.24#
49	TRH3	0.019	0.000	100.0#	0#	-22.37#
50	TRH4	0.019	0.000	100.0#	0#	-27.18#
51	TRH5	0.019	0.000	100.0#	0#	-31.94#
52	TRH6	0.019	0.000	100.0#	0#	-42.91#
53	GRO	0.019	0.000	100.0#	0#	-5.04#
54	DRO	0.019	0.000	100.0#	0#	-13.69#
55	RRO	0.019	0.000	100.0#	0#	-31.59#

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

FID3C08FRONT082713.M Mon Sep 02 11:33:41 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : FID30054H.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 16:10:22
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 17 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 02 11:33:36 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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	12.385	344809	50.000	ug/mlm
16) I	5a-androstane	17.368	425025	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.136	183069	25.241	ug/mlm
23) S	n-eicosane-d42	16.849	166572	25.298	ug/mlm
34) S	n-triacontane-d62	28.653	158633	24.449	ug/mlm
Target Compounds					
2)	n-C8	3.075	185963	26.533	ug/mlm
3)	n-C9	4.343	196862	26.384	ug/mlm
4)	n-C10	5.735	203449	25.924	ug/mlm
5)	n-C11	7.082	200222	25.613	ug/mlm
7)	n-C12	8.341	202505	25.154	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	9.511	203785	25.523	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.604	207273	25.366	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.633	208257	25.312	ug/mlm
15)	n-C16	12.623	208157	25.224	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.672	211068	25.209	ug/mlm
19)	Pristane	13.781	211003	25.397	ug/mlm
20)	n-C18	14.796	209726	25.486	ug/mlm
21)	Phytane	14.950	212953	25.403	ug/mlm
22)	n-C19	15.991	208571	25.400	ug/mlm
24)	n-C20	17.236	209820	25.428	ug/mlm
25)	n-C21	18.511	209040	25.033	ug/mlm
26)	n-C22	19.794	210293	25.120	ug/mlm
27)	n-C23	21.066	208540	24.795	ug/mlm
28)	n-C24	22.322	209064	24.876	ug/mlm
29)	n-C25	23.549	208915	24.818	ug/mlm
30)	n-C26	24.744	210050	24.953	ug/mlm
31)	n-C27	25.904	203634	24.822	ug/mlm
32)	n-C28	27.032	206990	24.904	ug/mlm
33)	n-C29	28.127	206726	24.678	ug/mlm
35)	n-C30	29.189	203131	24.456	ug/mlm
36)	n-C31	30.218	208058	25.450	ug/mlm
37)	n-C32	31.213	200969	24.671	ug/mlm
38)	n-C33	32.180	198732	24.924	ug/mlm
39)	n-C34	33.125	200712	24.703	ug/mlm
40)	n-C35	34.045	200266	24.978	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : FID30054H.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 16:10:22
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 17 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 02 11:33:36 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.058	208586	24.125	ug/mlm
42)	n-C37	36.210	191321	24.246	ug/mlm
43)	n-C38	37.546	184635	23.578	ug/mlm
44)	n-C39	39.112	188248	24.953	ug/mlm
45)	n-C40	40.950	169361	24.133	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

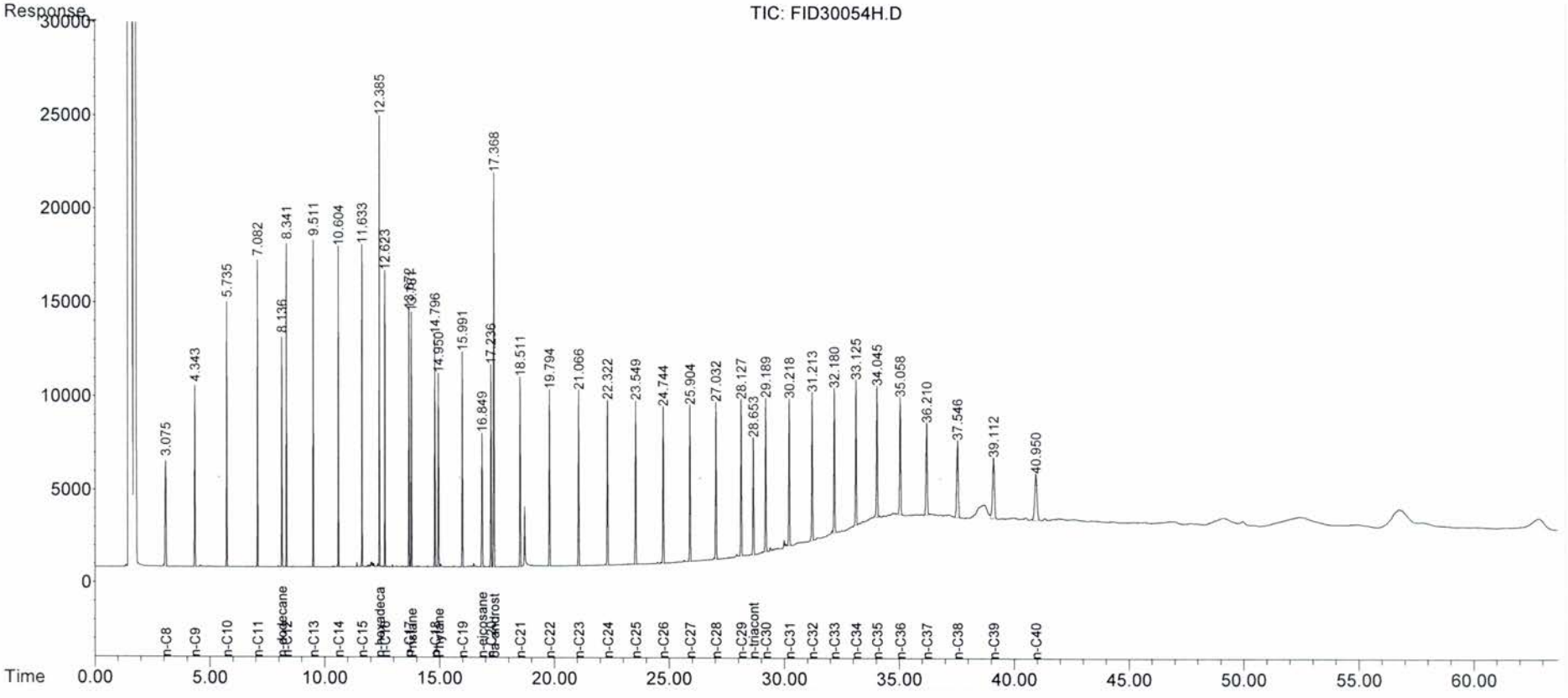
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : FID30054H.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 16:10:22
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 17 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 02 11:33:36 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**FID30054C.D**		FID30054C.D
Sample Name	**AL-SRM2779-20-01**		AL-SRM2779-20-01
Misc Info	**0**		29-Aug-2013, 22:36:39
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3092\FID30054**		ALIFRONT.M
Operator	**Meghan Dailey**		
Date Acquired	**29-Aug-2013, 22:36:39**		0.05
Instrument Name	**HP5890**		
Acq. Method File	**ALIFRONT.M**	Vial #	3
Vial Number	**3**	IS Area 1	345318
Sample Multiplier	**0.05**	IS Area 2	504983

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.08	2203310	15.70	15.695
3)	n-C9	4.35	2021650	13.53	13.528
4)	n-C10	5.75	1806600	11.49	11.493
5)	n-C11	7.10	1617200	10.33	10.329
7)	n-C12	8.36	1593420	9.88	9.882
8)	i-13	8.53	382775	2.39	2.393
9)	i-14	9.23	305458	1.87	1.866
10)	n-C13	9.53	1339760	8.38	8.377
11)	i-15	10.39	304253	1.85	1.846
12)	n-C14	10.62	1202800	7.35	7.349
13)	i-16	11.28	486200	2.94	2.941
14)	n-C15	11.65	1192680	7.24	7.237
15)	n-C16	12.64	993849	6.01	6.013
17)	i-18	13.16	315760	1.61	1.615
18)	n-C17	13.69	924842	4.65	4.648
19)	Pristane	13.79	500464	2.53	2.535
20)	n-C18	14.81	774404	3.96	3.960
21)	Phytane	14.96	297206	1.49	1.492
22)	n-C19	16.01	670870	3.44	3.438
24)	n-C20	17.25	582756	2.97	2.972
25)	n-C21	18.52	483061	2.43	2.434
26)	n-C22	19.81	427441	2.15	2.149
27)	n-C23	21.08	391656	1.96	1.960
28)	n-C24	22.33	355557	1.78	1.780
29)	n-C25	23.56	285745	1.43	1.428
30)	n-C26	24.75	238949	1.19	1.195
31)	n-C27	25.91	183817	0.94	0.943
32)	n-C28	27.04	155018	0.78	0.785
33)	n-C29	28.13	157085	0.79	0.789
35)	n-C30	29.19	140110	0.71	0.710
36)	n-C31	30.22	109650	0.56	0.564
37)	n-C32	31.21	90002.8	0.46	0.465
38)	n-C33	32.18	83841	0.44	0.442
39)	n-C34	33.13	72178.4	0.37	0.374
40)	n-C35	34.05	59746.5	0.31	0.314
41)	n-C36	35.05	41789.6	0.20	0.203
42)	n-C37	36.21	36436.1	0.19	0.194
43)	n-C38	37.54	33199.7	0.18	0.178
44)	n-C39	39.10	27042	0.15	0.151
45)	n-C40	40.93	26016.1	0.16	0.156
46)	TPH	7.10	130207000	679.12	679.120
47)	TRH1	7.10	22612700	117.94	117.942
48)	TRH2	11.65	15418300	80.42	80.418
49)	TRH3	21.08	2603150	13.58	13.577
50)	TRH4	25.91	1573570	8.21	8.207
51)	TRH5	30.22	1329040	6.93	6.932
52)	TRH6	35.05	176433	0.92	0.920
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	8.14	140958	0.97	97.0
23)	n-eicosane-d42	16.86	151802	0.97	97.2
34)	n-triacontane-d62	28.66	139495	0.90	90.5
1)	n-hexadecane-d34	12.39	345318	2.50	345318.000
16)	5a-androstane	17.38	504983	2.50	504983.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : FID30054C.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 22:36:39
Operator : Meghan Dailey
Sample : AL-SRM2779-20-01
Misc :
ALS Vial : 3 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Sep 02 13:59:10 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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	12.391	345318	50.000 ug/mlm
16) I	5a-androstane	17.381	504983	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.138	140958	0.970 ug/mlm
23) S	n-eicosane-d42	16.856	151802	0.970 ug/mlm
34) S	n-triacontane-d62	28.660	139495	0.905 ug/mlm
Target Compounds				
2)	n-C8	3.077	2203313	15.695 ug/mlm
3)	n-C9	4.353	2021650	13.528 ug/mlm
4)	n-C10	5.748	1806598	11.493 ug/mlm
5)	n-C11	7.098	1617196	10.329 ug/mlm
7)	n-C12	8.356	1593419	9.882 ug/mlm
8)	i-13	8.534	382775	2.393 ug/mlm
9)	i-14	9.235	305458	1.866 ug/mlm
10)	n-C13	9.527	1339759	8.377 ug/mlm
11)	i-15	10.388	304253	1.846 ug/mlm
12)	n-C14	10.620	1202796	7.349 ug/mlm
13)	i-16	11.282	486200	2.941 ug/mlm
14)	n-C15	11.648	1192681	7.237 ug/mlm
15)	n-C16	12.638	993849	6.013 ug/mlm
17)	i-18	13.164	315760	1.615 ug/mlm
18)	n-C17	13.687	924842	4.648 ug/mlm
19)	Pristane	13.786	500464	2.535 ug/mlm
20)	n-C18	14.812	774404	3.960 ug/mlm
21)	Phytane	14.958	297206	1.492 ug/mlm
22)	n-C19	16.007	670870	3.438 ug/mlm
24)	n-C20	17.253	582756	2.972 ug/mlm
25)	n-C21	18.524	483061	2.434 ug/mlm
26)	n-C22	19.805	427441	2.149 ug/mlm
27)	n-C23	21.076	391656	1.960 ug/mlm
28)	n-C24	22.332	355557	1.780 ug/mlm
29)	n-C25	23.557	285745	1.428 ug/mlm
30)	n-C26	24.752	238949	1.195 ug/mlm
31)	n-C27	25.911	183817	0.943 ug/mlm
32)	n-C28	27.039	155018	0.785 ug/mlm
33)	n-C29	28.128	157085	0.789 ug/mlm
35)	n-C30	29.192	140110	0.710 ug/mlm
36)	n-C31	30.220	109650	0.564 ug/mlm
37)	n-C32	31.214	90003	0.465 ug/mlm
38)	n-C33	32.184	83841	0.442 ug/mlm
39)	n-C34	33.126	72178	0.374 ug/mlm
40)	n-C35	34.048	59747	0.314 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : FID30054C.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 22:36:39
Operator : Meghan Dailey
Sample : AL-SRM2779-20-01
Misc :
ALS Vial : 3 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Sep 02 13:59:10 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.051	41790	0.203	ug/mlm
42)	n-C37	36.209	36436	0.194	ug/mlm
43)	n-C38	37.540	33200	0.178	ug/mlm
44)	n-C39	39.095	27042	0.151	ug/mlm
45)	n-C40	40.931	26016	0.156	ug/mlm
46)	TPH	7.098f	130207074	679.122	ug/mlm
47)	TRH1	7.098	22612730	117.941	ug/mlm
48)	TRH2	11.648f	15418323	80.417	ug/mlm
49)	TRH3	21.076f	2603145	13.577	ug/mlm
50)	TRH4	25.911f	1573574	8.207	ug/mlm
51)	TRH5	30.220f	1329042	6.932	ug/mlm
52)	TRH6	35.051f	176433	0.920	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

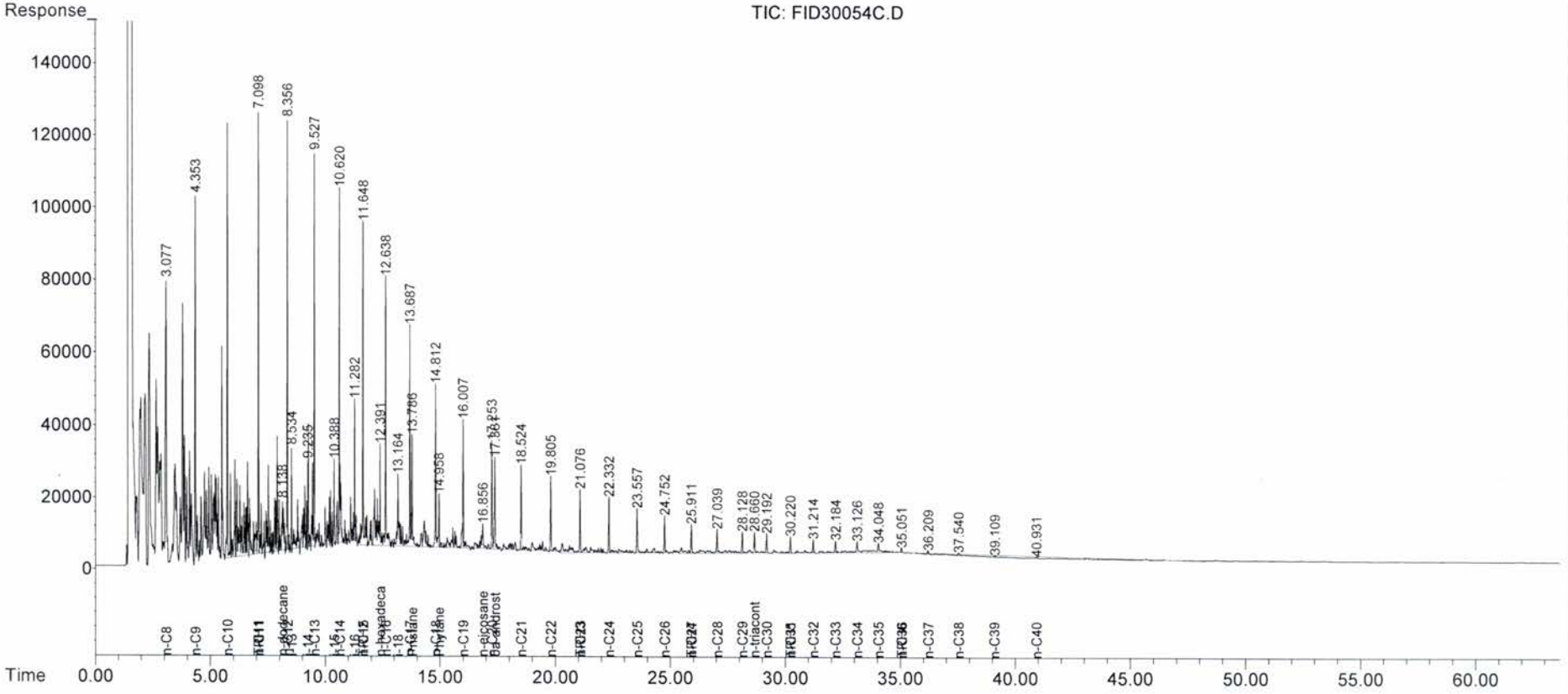
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : FID30054C.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 22:36:39
Operator : Meghan Dailey
Sample : AL-SRM2779-20-01
Misc :
ALS Vial : 3 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Sep 02 13:59:10 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**FID30054F.D**		FID30054F.D
Sample Name	**AL-WKPem-001**		AL-WKPem-001
Misc Info	**0**		30-Aug-2013, 02:07:10
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3092\FID30054**		ALIFRONT.M
Operator	**Meghan Dailey**		
Date Acquired	**30-Aug-2013, 02:07:10**		1
Instrument Name	**HP5890**		
Acq. Method File	**ALIFRONT.M**	Vial #	5
Vial Number	**5**	IS Area 1	359402
Sample Multiplier	**1**	IS Area 2	459368

#	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	12.38	21312200	2443.92	2443.920
47)	TRH1	8.13	165570	18.99	18.986
48)	TRH2	12.38	1027110	117.78	117.781
49)	TRH3	25.37	9515.54	1.09	1.091
50)	TRH4	28.64	173331	19.88	19.876
51)	TRH5	34.76	157451	18.06	18.055
52)	TRH6	40.89	433290	49.69	49.686
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	8.13	154405	20.42	102.1
23)	n-eicosane-d42	16.84	142575	20.03	100.4
34)	n-triacontane-d62	28.64	139188	19.85	99.3
1)	n-hexadecane-d34	12.38	359402	50.00	359402.000
16)	5a-androstane	17.36	459368	50.07	459368.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : FID30054F.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 02:07:10
Operator : Meghan Dailey
Sample : AL-WKPem-001
Misc :
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 04 14:04:08 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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	12.382	359402	50.000	ug/mlm
16) I	5a-androstane	17.358	459368	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.134	154405	20.424	ug/mlm
23) S	n-eicosane-d42	16.839	142575	20.035	ug/mlm
34) S	n-triacontane-d62	28.639	139188	19.848	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/mld
3)	n-C9	0.000	0	N.D.	ug/ml
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 : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : FID30054F.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 02:07:10
Operator : Meghan Dailey
Sample : AL-WKPem-001
Misc :
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 04 14:04:08 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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	12.382f	21312175	2443.916	ug/mlm
47)	TRH1	8.134	165570	18.986	ug/mlm
48)	TRH2	12.382f	1027112	117.781	ug/mlm
49)	TRH3	25.373f	9516	1.091	ug/mlm
50)	TRH4	28.639f	173331	19.876	ug/mlm
51)	TRH5	34.763f	157451	18.055	ug/mlm
52)	TRH6	40.890	433290	49.686	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/ml

SemiQuant Compounds - Not Calibrated on this Instrument

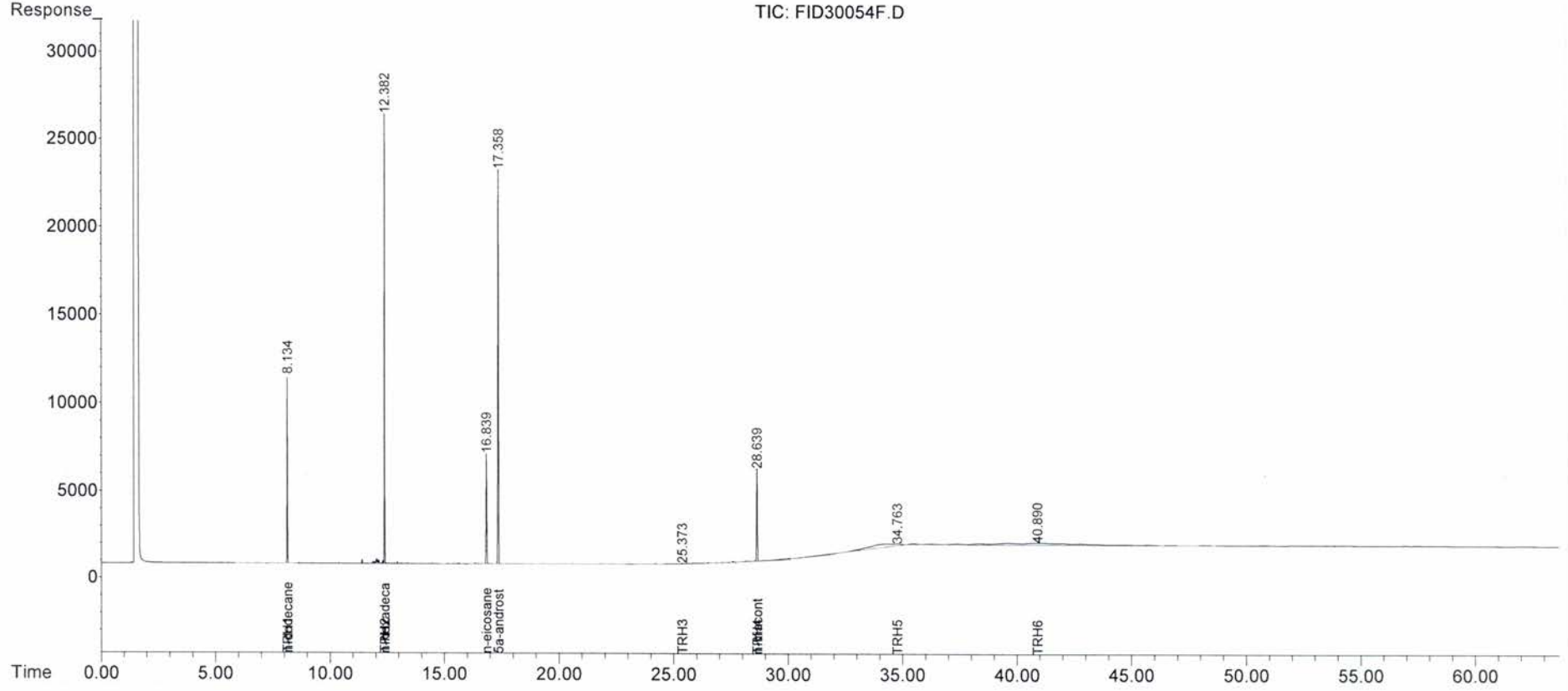
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : FID30054F.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 02:07:10
Operator : Meghan Dailey
Sample : AL-WKPem-001
Misc :
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 04 14:04:08 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ENV3092A.D**		ENV3092A.D
Sample Name	**Procedural Blank**		Procedural Blank
Misc Info	**0**		30-Aug-2013, 03:17:27
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3092\FID30054**		ALIFRONT.M
Operator	**Meghan Dailey**		
Date Acquired	**30-Aug-2013, 03:17:27**		0.066667
Instrument Name	**HP5890**		
Acq. Method File	**ALIFRONT.M**	Vial #	6
Vial Number	**6**	IS Area 1	314670
Sample Multiplier	**0.066667**	IS Area 2	391560

#	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	12.38	18057300	161.95	161.951
47)	TRH1	8.13	135863	1.22	1.219
48)	TRH2	12.38	957501	8.59	8.588
49)	TRH3	22.33	14969.9	0.13	0.134
50)	TRH4	28.64	158608	1.42	1.423
51)	TRH5	34.76	129088	1.16	1.158
52)	TRH6	39.44	102373	0.92	0.918
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	8.13	121807	1.23	92.0
23)	n-eicosane-d42	16.84	119092	1.31	98.4
34)	n-triacontane-d62	28.64	115477	1.29	96.6
1)	n-hexadecane-d34	12.38	314670	3.33	314670.000
16)	5a-androstane	17.35	391560	3.34	391560.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ENV3092A.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 03:17:27
Operator : Meghan Dailey
Sample : Procedural Blank
Misc :
ALS Vial : 6 Sample Multiplier: 0.066667

Integration File: autoint1.e
Quant Time: Sep 04 13:50:14 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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	12.380	314670	50.000	ug/mlm
16) I	5a-androstane	17.354	391560	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.132	121807	1.227	ug/mlm
23) S	n-eicosane-d42	16.837	119092	1.309	ug/mlm
34) S	n-triacontane-d62	28.636	115477	1.288	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 : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ENV3092A.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 03:17:27
Operator : Meghan Dailey
Sample : Procedural Blank
Misc :
ALS Vial : 6 Sample Multiplier: 0.066667

Integration File: autoint1.e
Quant Time: Sep 04 13:50:14 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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	12.380f	18057275	161.951	ug/mlm
47)	TRH1	8.132	135863	1.219	ug/mlm
48)	TRH2	12.380f	957501	8.588	ug/mlm
49)	TRH3	22.332	14970	0.134	ug/mlm
50)	TRH4	28.636f	158608	1.423	ug/mlm
51)	TRH5	34.757f	129088	1.158	ug/mlm
52)	TRH6	39.441	102373	0.918	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

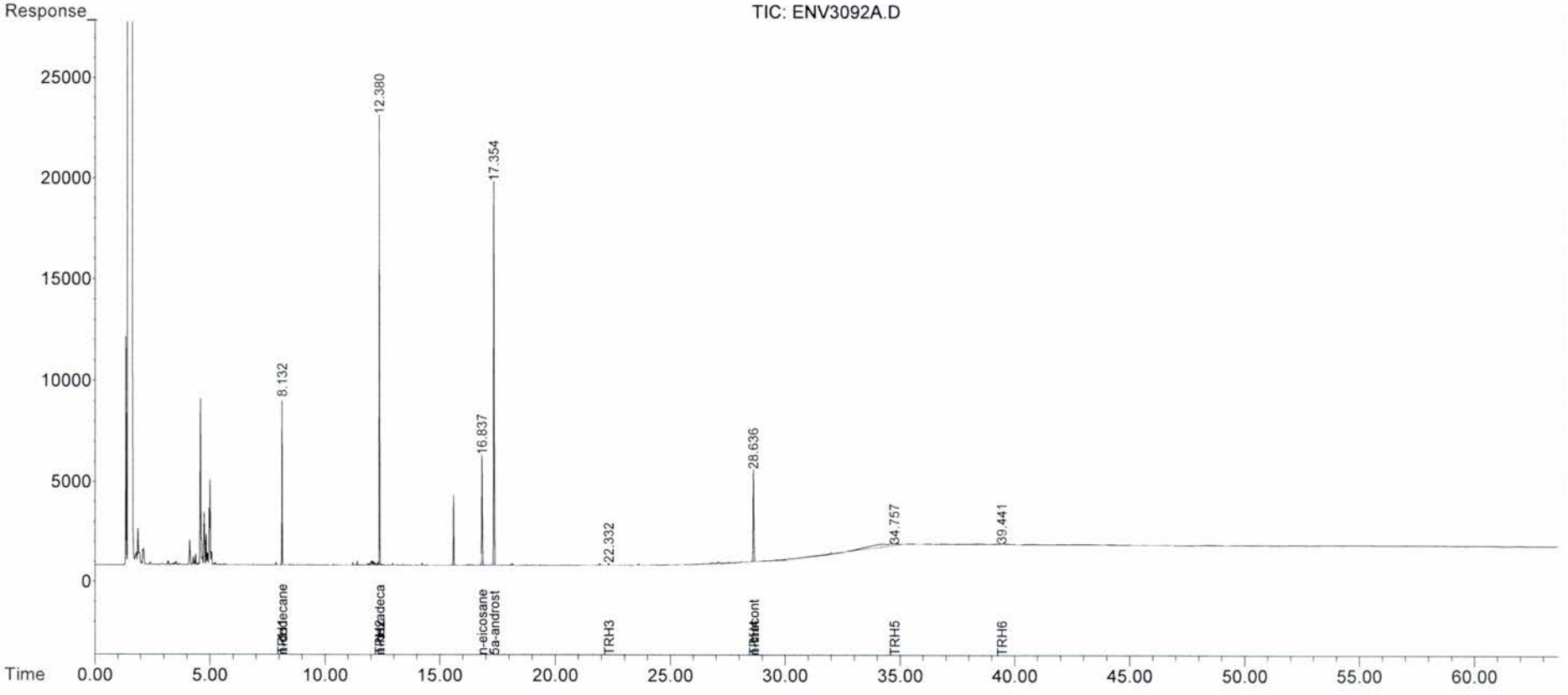
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ENV3092A.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 03:17:27
Operator : Meghan Dailey
Sample : Procedural Blank
Misc :
ALS Vial : 6 Sample Multiplier: 0.066667

Integration File: autoint1.e
Quant Time: Sep 04 13:50:14 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ENV3092C.D**		ENV3092C.D
Sample Name	**MS (SED-DA-042 (0-0.5))**		MS (SED-DA-042 (0-0.5))
Misc Info	**0**		30-Aug-2013, 04:27:47
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3092\FID30054**		ALIFRONT.M
Operator	**Meghan Dailey**		
Date Acquired	**30-Aug-2013, 04:27:47**		0.0666667
Instrument Name	**HP5890**		
Acq. Method File	**ALIFRONT.M**	Vial #	7
Vial Number	**7**	IS Area 1	274124
Sample Multiplier	**0.0666667**	IS Area 2	353328

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.07	19776.7	0.24	0.237
3)	n-C9	4.34	44694.8	0.50	0.502
4)	n-C10	5.73	56467.5	0.60	0.603
5)	n-C11	7.08	65977	0.71	0.708
7)	n-C12	8.34	70048	0.73	0.730
8)	i-13	8.53	1027.75	0.01	0.011
9)	i-14	9.22	19771.3	0.20	0.203
10)	n-C13	9.51	66539.2	0.70	0.699
11)	i-15	10.38	3576.14	0.04	0.036
12)	n-C14	10.60	71651.4	0.74	0.735
13)	i-16	11.27	8326.98	0.08	0.085
14)	n-C15	11.63	70471.1	0.72	0.718
15)	n-C16	12.62	72923.1	0.74	0.741
17)	i-18	13.15	2452.42	0.02	0.024
18)	n-C17	13.66	79803.8	0.76	0.764
19)	Pristane	13.77	73055	0.71	0.705
20)	n-C18	14.78	80032	0.78	0.780
21)	Phytane	14.94	83422.2	0.80	0.798
22)	n-C19	15.98	91557.8	0.89	0.894
24)	n-C20	17.22	71093.2	0.69	0.691
25)	n-C21	18.49	128160	1.23	1.231
26)	n-C22	19.78	80313.2	0.77	0.769
27)	n-C23	21.06	147811	1.41	1.409
28)	n-C24	22.30	88211.6	0.84	0.842
29)	n-C25	23.54	137513	1.31	1.310
30)	n-C26	24.74	170843	1.63	1.628
31)	n-C27	25.90	282742	2.76	2.764
32)	n-C28	27.02	109628	1.06	1.058
33)	n-C29	28.14	767213	7.34	7.345
35)	n-C30	29.18	107696	1.04	1.040
36)	n-C31	30.23	885821	8.69	8.690
37)	n-C32	31.20	81736	0.80	0.805
38)	n-C33	32.19	1372610	13.81	13.805
39)	n-C34	33.11	115685	1.14	1.142
40)	n-C35	34.03	1709710	17.10	17.101
41)	n-C36	35.02	102996	0.96	0.955
42)	n-C37	36.17	157931	1.61	1.605
43)	n-C38	37.52	80225.5	0.82	0.822
44)	n-C39	39.08	64130.2	0.68	0.682
45)	n-C40	40.91	59982	0.69	0.685
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	8.13	109256	1.26	94.7
23)	n-eicosane-d42	16.84	98670.7	1.20	90.3
34)	n-triacontane-d62	28.65	90449.9	1.12	83.9
1)	n-hexadecane-d34	12.38	274124	3.33	274124.000
16)	5a-androstane	17.36	353328	3.34	353328.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ENV3092C.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 04:27:47
Operator : Meghan Dailey
Sample : MS (SED-DA-042 (0-0.5))
Misc :
ALS Vial : 7 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Sep 04 16:33:54 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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	12.379	274124	50.000 ug/mlm
16) I	5a-androstane	17.355	353328	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.132	109256	1.263 ug/mlm
23) S	n-eicosane-d42	16.837	98671	1.202 ug/mlm
34) S	n-triacontane-d62	28.649	90450	1.118 ug/mlm
Target Compounds				
2)	n-C8	3.073	19777	0.237 ug/mlm
3)	n-C9	4.342	44695	0.502 ug/mlm
4)	n-C10	5.733	56468	0.603 ug/mlm
5)	n-C11	7.079	65977	0.708 ug/mlm
7)	n-C12	8.337	70048	0.730 ug/mlm
8)	i-13	8.530	1028	0.011 ug/mlm
9)	i-14	9.224	19771	0.203 ug/mlm
10)	n-C13	9.506	66539	0.699 ug/mlm
11)	i-15	10.377	3576	0.036 ug/mlm
12)	n-C14	10.599	71651	0.735 ug/mlm
13)	i-16	11.270	8327	0.085 ug/mlm
14)	n-C15	11.626	70471	0.718 ug/mlm
15)	n-C16	12.616	72923	0.741 ug/mlm
17)	i-18	13.150	2452	0.024 ug/mlm
18)	n-C17	13.662	79804	0.764 ug/mlm
19)	Pristane	13.772	73055	0.705 ug/mlm
20)	n-C18	14.782	80032	0.780 ug/mlm
21)	Phytane	14.942	83422	0.798 ug/mlm
22)	n-C19	15.983	91558	0.894 ug/mlm
24)	n-C20	17.223	71093	0.691 ug/mlm
25)	n-C21	18.494	128160	1.231 ug/mlm
26)	n-C22	19.778	80313	0.769 ug/mlm
27)	n-C23	21.056	147811	1.409 ug/mlm
28)	n-C24	22.303	88212	0.842 ug/mlm
29)	n-C25	23.536	137513	1.310 ug/mlm
30)	n-C26	24.736	170843	1.628 ug/mlm
31)	n-C27	25.896	282742	2.764 ug/mlm
32)	n-C28	27.020	109628	1.058 ug/mlm
33)	n-C29	28.135	767213	7.345 ug/mlm
35)	n-C30	29.183	107696	1.040 ug/mlm
36)	n-C31	30.235	885821	8.690 ug/mlm
37)	n-C32	31.200	81736	0.805 ug/mlm
38)	n-C33	32.186	1372611	13.805 ug/mlm
39)	n-C34	33.108	115685	1.142 ug/mlm
40)	n-C35	34.025	1709708	17.101 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ENV3092C.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 04:27:47
Operator : Meghan Dailey
Sample : MS (SED-DA-042 (0-0.5))
Misc :
ALS Vial : 7 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Sep 04 16:33:54 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.021	102996	0.955	ug/mlm
42)	n-C37	36.174	157931	1.605	ug/mlm
43)	n-C38	37.522	80226	0.822	ug/mlm
44)	n-C39	39.077	64130	0.682	ug/mlm
45)	n-C40	40.911	59982	0.685	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

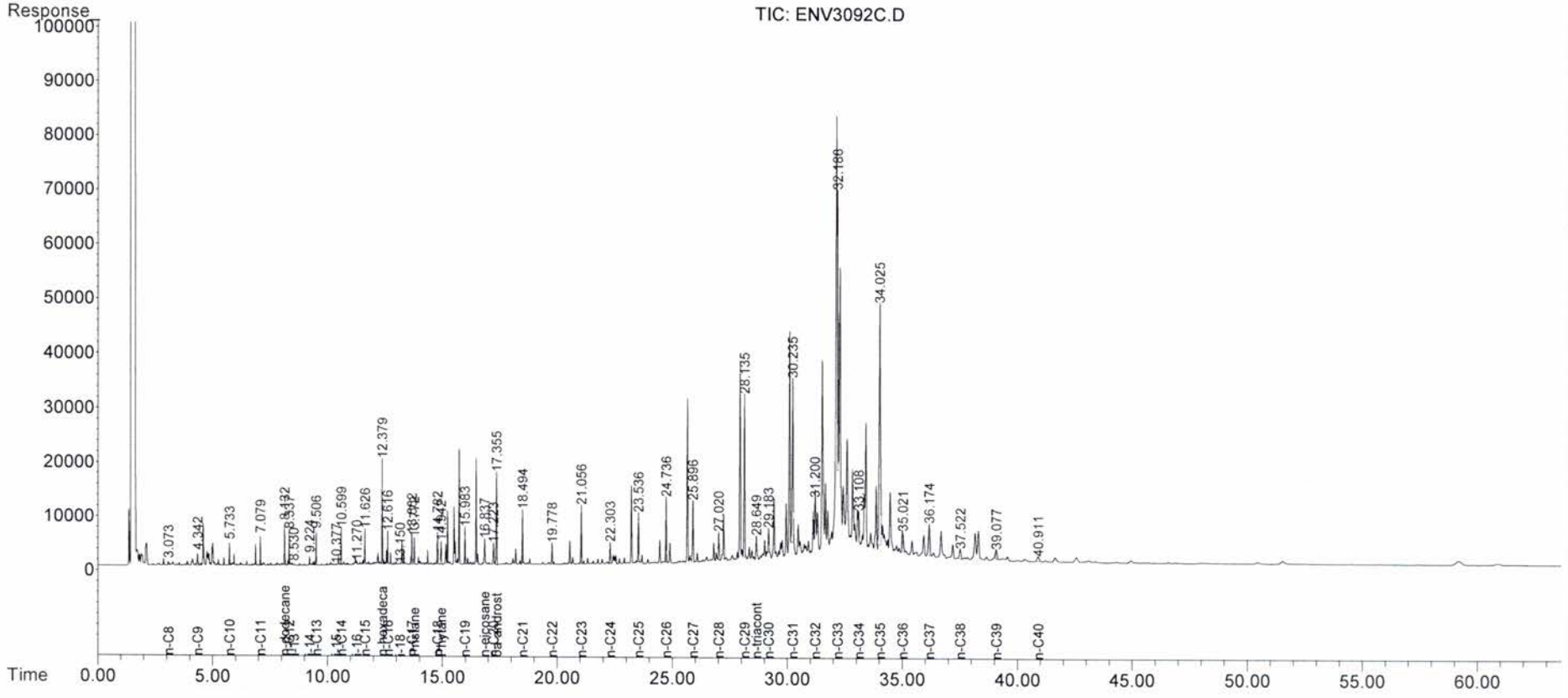
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ENV3092C.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 04:27:47
Operator : Meghan Dailey
Sample : MS (SED-DA-042 (0-0.5))
Misc :
ALS Vial : 7 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Sep 04 16:33:54 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ENV3092D.D**		ENV3092D.D
Sample Name	**MSD (SED-DA-042 (0-0.5))**		MSD (SED-DA-042 (0-0.5)
Misc Info	**0**		30-Aug-2013, 05:38:00
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3092\FID30054**		ALIFRONT.M
Operator	**Meghan Dailey**		
Date Acquired	**30-Aug-2013, 05:38:00**		0.0666667
Instrument Name	**HP5890**		
Acq. Method File	**ALIFRONT.M**	Vial #	8
Vial Number	**8**	IS Area 1	312494
Sample Multiplier	**0.0666667**	IS Area 2	392863

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.07	21204.6	0.22	0.223
3)	n-C9	4.34	50533.4	0.50	0.498
4)	n-C10	5.73	63463.8	0.59	0.595
5)	n-C11	7.08	71469	0.67	0.673
7)	n-C12	8.34	77534.7	0.71	0.708
8)	i-13	0.00	0	0.00	0.000
9)	i-14	0.00	0	0.00	0.000
10)	n-C13	9.51	79221.3	0.73	0.730
11)	i-15	0.00	0	0.00	0.000
12)	n-C14	10.60	83999.9	0.76	0.756
13)	i-16	0.00	0	0.00	0.000
14)	n-C15	11.63	85470.7	0.76	0.764
15)	n-C16	12.62	80149.8	0.71	0.714
17)	i-18	0.00	0	0.00	0.000
18)	n-C17	13.66	87746.9	0.76	0.756
19)	Pristane	13.77	87812.8	0.76	0.762
20)	n-C18	14.78	92860.4	0.81	0.814
21)	Phytane	14.94	90601.3	0.78	0.780
22)	n-C19	15.98	116037	1.02	1.019
24)	n-C20	17.22	84218.6	0.74	0.736
25)	n-C21	18.49	145133	1.25	1.254
26)	n-C22	19.78	93671.1	0.81	0.807
27)	n-C23	21.06	178559	1.53	1.531
28)	n-C24	22.30	95828.5	0.82	0.822
29)	n-C25	23.54	157219	1.35	1.347
30)	n-C26	24.73	188803	1.62	1.618
31)	n-C27	25.90	271030	2.38	2.383
32)	n-C28	27.02	127489	1.11	1.106
33)	n-C29	28.13	758817	6.53	6.533
35)	n-C30	29.18	123337	1.07	1.071
36)	n-C31	30.23	1001450	8.84	8.835
37)	n-C32	31.20	99641.2	0.88	0.882
38)	n-C33	32.18	1672780	15.13	15.131
39)	n-C34	33.11	118752	1.05	1.054
40)	n-C35	34.01	1488380	13.39	13.389
41)	n-C36	35.02	141484	1.18	1.180
42)	n-C37	36.17	175229	1.60	1.602
43)	n-C38	37.52	72415.9	0.67	0.667
44)	n-C39	39.07	88016.5	0.84	0.841
45)	n-C40	40.90	52588.8	0.54	0.540
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	8.13	124977	1.27	95.1
23)	n-eicosane-d42	16.84	111728	1.22	92.0
34)	n-triacontane-d62	28.65	104357	1.16	87.0
1)	n-hexadecane-d34	12.38	312494	3.33	312494.000
16)	5a-androstane	17.36	392863	3.34	392863.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ENV3092D.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 05:38:00
Operator : Meghan Dailey
Sample : MSD (SED-DA-042 (0-0.5))
Misc :
ALS Vial : 8 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Sep 04 16:34:46 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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	12.380	312494	50.000	ug/mlm
16)	I	5a-androstane	17.356	392863	50.072	ug/mlm
System Monitoring Compounds						
6)	S	n-dodecane-d26	8.132	124977	1.268	ug/mlm
23)	S	n-eicosane-d42	16.839	111728	1.224	ug/mlm
34)	S	n-triacontane-d62	28.647	104357	1.160	ug/mlm
Target Compounds						
2)		n-C8	3.075	21205	0.223	ug/mlm
3)		n-C9	4.342	50533	0.498	ug/mlm
4)		n-C10	5.733	63464	0.595	ug/mlm
5)		n-C11	7.079	71469	0.673	ug/mlm
7)		n-C12	8.337	77535	0.708	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	9.506	79221	0.730	ug/mlm
11)		i-15	0.000	0	N.D.	ug/mld
12)		n-C14	10.600	84000	0.756	ug/mlm
13)		i-16	0.000	0	N.D.	ug/mld
14)		n-C15	11.627	85471	0.764	ug/mlm
15)		n-C16	12.616	80150	0.714	ug/mlm
17)		i-18	0.000	0	N.D.	ug/mld
18)		n-C17	13.662	87747	0.756	ug/mlm
19)		Pristane	13.773	87813	0.762	ug/mlm
20)		n-C18	14.783	92860	0.814	ug/mlm
21)		Phytane	14.942	90601	0.780	ug/mlm
22)		n-C19	15.982	116037	1.019	ug/mlm
24)		n-C20	17.224	84219	0.736	ug/mlm
25)		n-C21	18.493	145133	1.254	ug/mlm
26)		n-C22	19.778	93671	0.807	ug/mlm
27)		n-C23	21.056	178559	1.531	ug/mlm
28)		n-C24	22.305	95829	0.822	ug/mlm
29)		n-C25	23.535	157219	1.347	ug/mlm
30)		n-C26	24.732	188803	1.618	ug/mlm
31)		n-C27	25.897	271030	2.383	ug/mlm
32)		n-C28	27.018	127489	1.106	ug/mlm
33)		n-C29	28.132	758817	6.533	ug/mlm
35)		n-C30	29.180	123337	1.071	ug/mlm
36)		n-C31	30.233	1001450	8.835	ug/mlm
37)		n-C32	31.200	99641	0.882	ug/mlm
38)		n-C33	32.177	1672777	15.131	ug/mlm
39)		n-C34	33.106	118752	1.054	ug/mlm
40)		n-C35	34.014	1488379	13.389	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ENV3092D.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 05:38:00
Operator : Meghan Dailey
Sample : MSD (SED-DA-042 (0-0.5))
Misc :
ALS Vial : 8 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Sep 04 16:34:46 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.019	141484	1.180	ug/mlm
42)	n-C37	36.171	175229	1.602	ug/mlm
43)	n-C38	37.517	72416	0.667	ug/mlm
44)	n-C39	39.074	88017	0.841	ug/mlm
45)	n-C40	40.901	52589	0.540	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

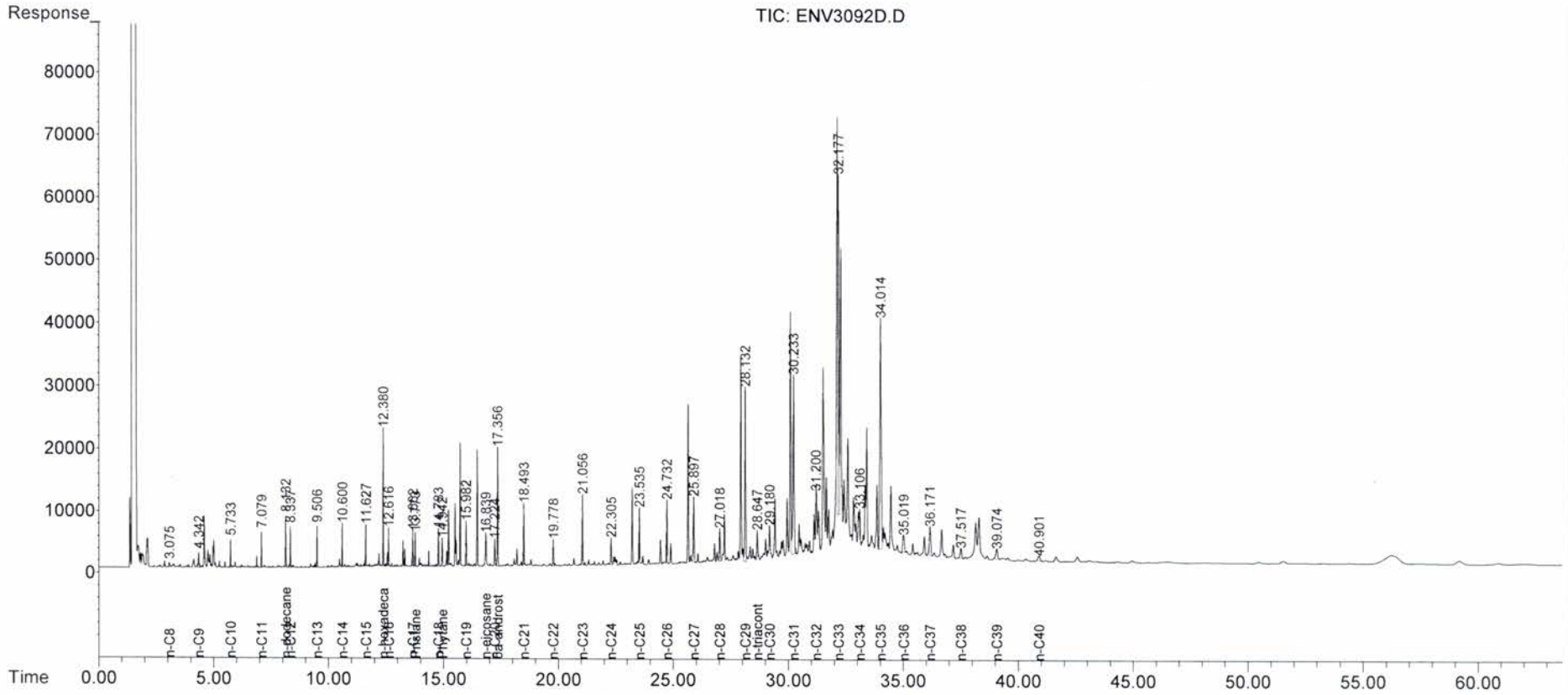
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ENV3092D.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 05:38:00
Operator : Meghan Dailey
Sample : MSD (SED-DA-042 (0-0.5))
Misc :
ALS Vial : 8 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Sep 04 16:34:46 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ENV3092E.D**		ENV3092E.D
Sample Name	**Dupl (SED-DA-043 (0-0.5))**		Dupl (SED-DA-043 (0-0.5)
Misc Info	**0**		30-Aug-2013, 06:48:15
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3092\FID30054**		ALIFRONT.M
Operator	**Meghan Dailey**		
Date Acquired	**30-Aug-2013, 06:48:15**		0.0666223
Instrument Name	**HP5890**		
Acq. Method File	**ALIFRONT.M**	Vial #	9
Vial Number	**9**	IS Area 1	281279
Sample Multiplier	**0.0666223**	IS Area 2	418695

#	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	5.74	1539.63	0.02	0.016
5)	n-C11	7.08	3044.76	0.03	0.032
7)	n-C12	8.34	13339.8	0.14	0.135
8)	i-13	8.52	12356.2	0.13	0.126
9)	i-14	9.22	31937.3	0.32	0.319
10)	n-C13	9.51	32888.1	0.34	0.336
11)	i-15	10.38	81209.9	0.81	0.806
12)	n-C14	10.60	63327.5	0.63	0.633
13)	i-16	11.28	169418	1.68	1.677
14)	n-C15	11.63	103834	1.03	1.031
15)	n-C16	12.63	102492	1.01	1.014
17)	i-18	13.16	187338	1.54	1.540
18)	n-C17	13.68	79905.2	0.65	0.645
19)	Pristane	13.78	260141	2.12	2.118
20)	n-C18	14.80	122525	1.01	1.007
21)	Phytane	14.96	268569	2.17	2.167
22)	n-C19	16.00	133298	1.10	1.098
24)	n-C20	17.25	82877.7	0.68	0.679
25)	n-C21	18.52	160515	1.30	1.300
26)	n-C22	19.82	154345	1.25	1.247
27)	n-C23	21.07	158031	1.27	1.271
28)	n-C24	22.34	67239.5	0.54	0.541
29)	n-C25	23.56	114020	0.92	0.916
30)	n-C26	24.76	65674.2	0.53	0.528
31)	n-C27	25.93	326105	2.69	2.688
32)	n-C28	27.05	134334	1.09	1.093
33)	n-C29	28.16	416739	3.36	3.364
35)	n-C30	29.21	116785	0.95	0.951
36)	n-C31	30.25	708268	5.86	5.859
37)	n-C32	31.24	188291	1.56	1.563
38)	n-C33	32.16	1723430	14.62	14.618
39)	n-C34	33.09	90377	0.75	0.752
40)	n-C35	34.10	639052	5.39	5.390
41)	n-C36	35.04	29111.9	0.23	0.228
42)	n-C37	36.20	137141	1.18	1.175
43)	n-C38	37.51	11385.4	0.10	0.098
44)	n-C39	39.12	25911.1	0.23	0.232
45)	n-C40	40.83	17170.6	0.17	0.165
46)	TPH	32.16	303472000	2543.67	2543.666
47)	TRH1	8.13	347693	2.91	2.914
48)	TRH2	12.39	8610570	72.17	72.173
49)	TRH3	17.38	5887910	49.35	49.352
50)	TRH4	32.16	16817600	140.96	140.963
51)	TRH5	34.04	5785620	48.49	48.494
52)	TRH6	38.38	1031080	8.64	8.642
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	8.13	111641	1.26	94.3
23)	n-eicosane-d42	16.86	122473	1.26	94.6
34)	n-triacontane-d62	28.68	116235	1.21	91.0
1)	n-hexadecane-d34	12.39	281279	3.33	281279.000
16)	5a-androstane	17.38	418695	3.34	418695.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ENV3092E.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 06:48:15
Operator : Meghan Dailey
Sample : Dupl (SED-DA-043 (0-0.5))
Misc :
ALS Vial : 9 Sample Multiplier: 0.0666223

Integration File: autoint1.e
Quant Time: Sep 04 16:43:08 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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	12.389	281279	50.000 ug/mlm
16) I	5a-androstane	17.384	418695	50.072 ug/mlm
	System Monitoring Compounds			
6) S	n-dodecane-d26	8.133	111641	1.257 ug/mlm
23) S	n-eicosane-d42	16.858	122473	1.258 ug/mlm
34) S	n-triacontane-d62	28.677	116235	1.212 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	5.738	1540	0.016 ug/mlm
5)	n-C11	7.079	3045	0.032 ug/mlm
7)	n-C12	8.337	13340	0.135 ug/mlm
8)	i-13	8.524	12356	0.126 ug/mlm
9)	i-14	9.225	31937	0.319 ug/mlm
10)	n-C13	9.508	32888	0.336 ug/mlm
11)	i-15	10.380	81210	0.806 ug/mlm
12)	n-C14	10.603	63328	0.633 ug/mlm
13)	i-16	11.277	169418	1.677 ug/mlm
14)	n-C15	11.634	103834	1.031 ug/mlm
15)	n-C16	12.627	102492	1.014 ug/mlm
17)	i-18	13.165	187338	1.540 ug/mlm
18)	n-C17	13.677	79905	0.645 ug/mlm
19)	Pristane	13.783	260141	2.118 ug/mlm
20)	n-C18	14.804	122525	1.007 ug/mlm
21)	Phytane	14.961	268569	2.167 ug/mlm
22)	n-C19	16.002	133298	1.098 ug/mlm
24)	n-C20	17.250	82878	0.679 ug/mlm
25)	n-C21	18.518	160515	1.300 ug/mlm
26)	n-C22	19.818	154345	1.247 ug/mlm
27)	n-C23	21.067	158031	1.271 ug/mlm
28)	n-C24	22.335	67240	0.541 ug/mlm
29)	n-C25	23.564	114020	0.916 ug/mlm
30)	n-C26	24.764	65674	0.528 ug/mlm
31)	n-C27	25.931	326105	2.688 ug/mlm
32)	n-C28	27.055	134334	1.093 ug/mlm
33)	n-C29	28.157	416739	3.364 ug/mlm
35)	n-C30	29.214	116785	0.951 ug/mlm
36)	n-C31	30.254	708268	5.859 ug/mlm
37)	n-C32	31.237	188291	1.563 ug/mlm
38)	n-C33	32.158	1723427	14.618 ug/mlm
39)	n-C34	33.086	90377	0.752 ug/mlm
40)	n-C35	34.103f	639052	5.390 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ENV3092E.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 06:48:15
Operator : Meghan Dailey
Sample : Dupl (SED-DA-043 (0-0.5))
Misc :
ALS Vial : 9 Sample Multiplier: 0.0666223

Integration File: autoint1.e
Quant Time: Sep 04 16:43:08 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.044	29112	0.228	ug/mlm
42)	n-C37	36.204	137141	1.175	ug/mlm
43)	n-C38	37.513	11385	0.098	ug/mlm
44)	n-C39	39.123	25911	0.232	ug/mlm
45)	n-C40	40.833	17171	0.165	ug/mlm
46)	TPH	32.158	303472237	2543.667	ug/mlm
47)	TRH1	8.133	347693	2.914	ug/mlm
48)	TRH2	12.389f	8610573	72.173	ug/mlm
49)	TRH3	17.384f	5887911	49.352	ug/mlm
50)	TRH4	32.158f	16817598	140.963	ug/mlm
51)	TRH5	34.039f	5785622	48.494	ug/mlm
52)	TRH6	38.379f	1031080	8.642	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

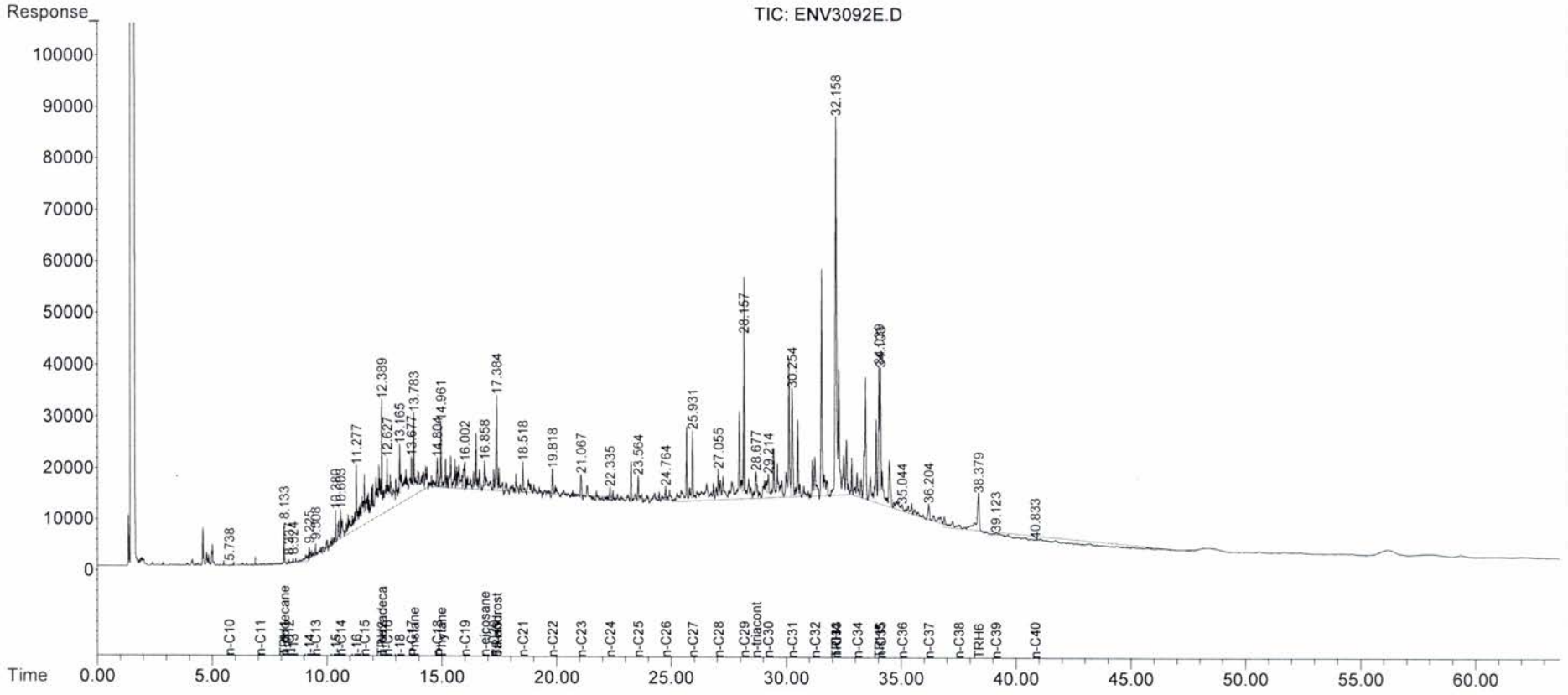
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ENV3092E.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 06:48:15
Operator : Meghan Dailey
Sample : Dupl (SED-DA-043 (0-0.5))
Misc :
ALS Vial : 9 Sample Multiplier: 0.0666223

Integration File: autoint1.e
Quant Time: Sep 04 16:43:08 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC1784.D**		ARC1784.D
Sample Name	**SED-DA-021 (0-0.5)**		SED-DA-021 (0-0.5)
Misc Info	**0**		30-Aug-2013, 09:08:51
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3092\FID30054**		ALIFRONT.M
Operator	**Meghan Dailey**		
Date Acquired	**30-Aug-2013, 09:08:51**		0.0666223
Instrument Name	**HP5890**		
Acq. Method File	**ALIFRONT.M**	Vial #	11
Vial Number	**11**	IS Area 1	276593
Sample Multiplier	**0.0666223**	IS Area 2	365673

#	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	5.74	2712.72	0.03	0.029
5)	n-C11	7.08	9390.69	0.10	0.100
7)	n-C12	8.34	16921.1	0.17	0.175
8)	i-13	8.53	1006.86	0.01	0.010
9)	i-14	9.22	19104.5	0.19	0.194
10)	n-C13	9.51	8286.4	0.09	0.086
11)	i-15	10.38	5865.42	0.06	0.059
12)	n-C14	10.60	23565.6	0.24	0.240
13)	i-16	11.27	19389.5	0.20	0.195
14)	n-C15	11.63	17675	0.18	0.178
15)	n-C16	12.62	17310.8	0.17	0.174
17)	i-18	13.15	3481.56	0.03	0.033
18)	n-C17	13.66	127838	1.18	1.182
19)	Pristane	13.77	30689.7	0.29	0.286
20)	n-C18	14.78	153532	1.44	1.445
21)	Phytane	14.95	72542	0.67	0.670
22)	n-C19	15.98	142244	1.34	1.341
24)	n-C20	17.23	13365	0.13	0.125
25)	n-C21	18.50	532716	4.94	4.940
26)	n-C22	19.78	42570.2	0.39	0.394
27)	n-C23	21.07	434891	4.00	4.004
28)	n-C24	22.31	78305.1	0.72	0.721
29)	n-C25	23.55	405354	3.73	3.729
30)	n-C26	24.74	168005	1.55	1.546
31)	n-C27	25.91	554388	5.23	5.233
32)	n-C28	27.03	124875	1.16	1.163
33)	n-C29	28.15	816627	7.55	7.549
35)	n-C30	29.22	125484	1.17	1.170
36)	n-C31	30.25	1393810	13.20	13.202
37)	n-C32	31.23	80647.5	0.77	0.767
38)	n-C33	32.20	1564470	15.19	15.193
39)	n-C34	33.10	65934.5	0.63	0.628
40)	n-C35	34.06	807837	7.80	7.802
41)	n-C36	35.03	44027.2	0.39	0.394
42)	n-C37	36.20	251571	2.47	2.469
43)	n-C38	37.55	33747	0.33	0.334
44)	n-C39	39.10	97172.6	1.00	0.997
45)	n-C40	40.96	11540.5	0.13	0.127
46)	TPH	32.20	158295000	1519.19	1519.188
47)	TRH1	12.38	2413540	23.16	23.163
48)	TRH2	16.48	8372380	80.35	80.352
49)	TRH3	32.20	63179500	606.35	606.348
50)	TRH4	38.26	3497790	33.57	33.569
51)	TRH5	41.69	792442	7.61	7.605
52)	TRH6	42.63	1535120	14.73	14.733
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	8.13	111497	1.28	95.8
23)	n-eicosane-d42	16.84	99880.1	1.17	88.3
34)	n-triacontane-d62	28.67	108889	1.30	97.6
1)	n-hexadecane-d34	12.38	276593	3.33	276593.000
16)	5a-androstane	17.36	365673	3.34	365673.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ARC1784.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 09:08:51
Operator : Meghan Dailey
Sample : SED-DA-021 (0-0.5)
Misc :
ALS Vial : 11 Sample Multiplier: 0.0666223

Integration File: autoint1.e
Quant Time: Sep 04 14:27:44 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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	12.380	276593	50.000	ug/mlm
16) I	5a-androstane	17.359	365673	50.072	ug/mlm
	System Monitoring Compounds				
6) S	n-dodecane-d26	8.132	111497	1.277	ug/mlm
23) S	n-eicosane-d42	16.842	99880	1.175	ug/mlm
34) S	n-triacontane-d62	28.666	108889	1.300	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	5.735	2713	0.029	ug/mlm
5)	n-C11	7.079	9391	0.100	ug/mlm
7)	n-C12	8.339	16921	0.175	ug/mlm
8)	i-13	8.526	1007	0.010	ug/mlm
9)	i-14	9.222	19105	0.194	ug/mlm
10)	n-C13	9.506	8286	0.086	ug/mlm
11)	i-15	10.377	5865	0.059	ug/mlm
12)	n-C14	10.600	23566	0.240	ug/mlm
13)	i-16	11.271	19390	0.195	ug/mlm
14)	n-C15	11.626	17675	0.178	ug/mlm
15)	n-C16	12.617	17311	0.174	ug/mlm
17)	i-18	13.150	3482	0.033	ug/mlm
18)	n-C17	13.664	127838	1.182	ug/mlm
19)	Pristane	13.771	30690	0.286	ug/mlm
20)	n-C18	14.775	153532	1.445	ug/mlm
21)	Phytane	14.947	72542	0.670	ug/mlm
22)	n-C19	15.985	142244	1.341	ug/mlm
24)	n-C20	17.226	13365	0.125	ug/mlm
25)	n-C21	18.502	532716	4.940	ug/mlm
26)	n-C22	19.782	42570	0.394	ug/mlm
27)	n-C23	21.065	434891	4.004	ug/mlm
28)	n-C24	22.310	78305	0.721	ug/mlm
29)	n-C25	23.547	405354	3.729	ug/mlm
30)	n-C26	24.738	168005	1.546	ug/mlm
31)	n-C27	25.912	554388	5.233	ug/mlm
32)	n-C28	27.027	124875	1.163	ug/mlm
33)	n-C29	28.150	816627	7.549	ug/mlm
35)	n-C30	29.216	125484	1.170	ug/mlm
36)	n-C31	30.253	1393806	13.202	ug/mlm
37)	n-C32	31.233	80647	0.767	ug/mlm
38)	n-C33	32.197	1564472	15.193	ug/mlm
39)	n-C34	33.100	65934	0.628	ug/mlm
40)	n-C35	34.062	807837	7.802	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ARC1784.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 09:08:51
Operator : Meghan Dailey
Sample : SED-DA-021 (0-0.5)
Misc :
ALS Vial : 11 Sample Multiplier: 0.0666223

Integration File: autoint1.e
Quant Time: Sep 04 14:27:44 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.027	44027	0.394	ug/mlm
42)	n-C37	36.197	251571	2.469	ug/mlm
43)	n-C38	37.550	33747	0.334	ug/mlm
44)	n-C39	39.101	97173	0.997	ug/mlm
45)	n-C40	40.965	11541	0.127	ug/mlm
46)	TPH	32.197	158294528	1519.191	ug/mlm
47)	TRH1	12.380f	2413537	23.163	ug/mlm
48)	TRH2	16.482	8372380	80.352	ug/mlm
49)	TRH3	32.197f	63179458	606.348	ug/mlm
50)	TRH4	38.263f	3497785	33.569	ug/mlm
51)	TRH5	41.694f	792442	7.605	ug/mlm
52)	TRH6	42.630	1535119	14.733	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

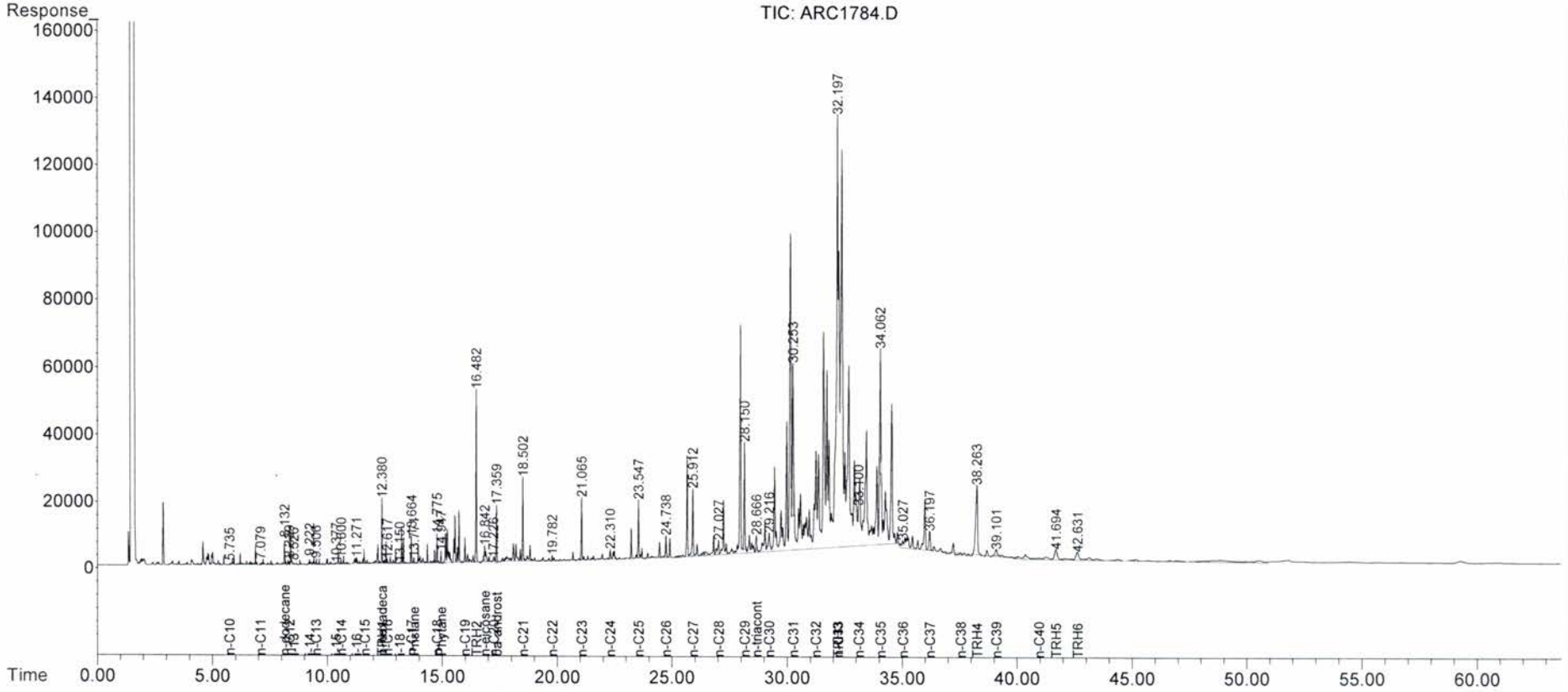
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ARC1784.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 09:08:51
Operator : Meghan Dailey
Sample : SED-DA-021 (0-0.5)
Misc :
ALS Vial : 11 Sample Multiplier: 0.0666223

Integration File: autoint1.e
Quant Time: Sep 04 14:27:44 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	ARC1790.D		ARC1790.D
Sample Name	SED-DA-042 (0-0.5)		SED-DA-042 (0-0.5)
Misc Info	0		30-Aug-2013, 10:19:15
Data File Path	P:\2013\J13034\Aliphatics\ENV 3092\FID30054\		ALIFRONT.M
Operator	Meghan Dailey		
Date Acquired	30-Aug-2013, 10:19:15		0.0661376
Instrument Name	HP5890		
Acq. Method File	ALIFRONT.M	Vial #	12
Vial Number	12	IS Area 1	286991
Sample Multiplier	0.0661376	IS Area 2	360135

#	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	5.74	1093.63	0.01	0.011
5)	n-C11	7.08	2274.07	0.02	0.023
7)	n-C12	8.34	6035.17	0.06	0.060
8)	i-13	8.53	619.033	0.01	0.006
9)	i-14	9.23	5499.57	0.05	0.053
10)	n-C13	9.51	4509.89	0.04	0.045
11)	i-15	10.38	2303.59	0.02	0.022
12)	n-C14	10.60	10449.1	0.10	0.102
13)	i-16	11.27	4172.36	0.04	0.040
14)	n-C15	11.63	6064.03	0.06	0.059
15)	n-C16	12.62	7098.96	0.07	0.068
17)	i-18	13.15	1571.29	0.01	0.015
18)	n-C17	13.66	9456.53	0.09	0.088
19)	Pristane	13.77	8486.24	0.08	0.080
20)	n-C18	14.78	32395.2	0.31	0.307
21)	Phytane	14.95	10921.7	0.10	0.102
22)	n-C19	15.99	40644.5	0.39	0.386
24)	n-C20	17.23	5632.74	0.05	0.053
25)	n-C21	18.49	61990	0.58	0.579
26)	n-C22	19.78	10717.9	0.10	0.100
27)	n-C23	21.05	102489	0.95	0.951
28)	n-C24	22.31	17608.5	0.16	0.164
29)	n-C25	23.53	83480.4	0.77	0.774
30)	n-C26	24.74	120495	1.12	1.117
31)	n-C27	25.89	137192	1.31	1.305
32)	n-C28	27.02	42035.8	0.39	0.395
33)	n-C29	28.13	463997	4.32	4.323
35)	n-C30	29.18	39735	0.37	0.373
36)	n-C31	30.23	508919	4.86	4.859
37)	n-C32	31.21	43106.6	0.41	0.413
38)	n-C33	32.16	684000	6.70	6.696
39)	n-C34	33.08	59760.9	0.57	0.574
40)	n-C35	34.03	225221	2.19	2.193
41)	n-C36	35.00	59509	0.54	0.537
42)	n-C37	36.16	101719	1.01	1.006
43)	n-C38	37.52	15934	0.16	0.159
44)	n-C39	39.07	22247.3	0.23	0.230
45)	n-C40	40.90	3474.61	0.04	0.039
46)	TPH	32.12	58039200	561.47	561.467
47)	TRH1	8.13	348926	3.38	3.375
48)	TRH2	12.38	2309830	22.35	22.345
49)	TRH3	25.65	1585480	15.34	15.338
50)	TRH4	32.12	10508900	101.66	101.662
51)	TRH5	34.01	4022460	38.91	38.913
52)	TRH6	39.07	457496	4.43	4.426
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	8.13	117905	1.29	97.7
23)	n-eicosane-d42	16.84	108159	1.28	97.1
34)	n-triacontane-d62	28.65	105559	1.27	96.1
1)	n-hexadecane-d34	12.38	286991	3.31	286991.000
16)	5a-androstane	17.36	360135	3.31	360135.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ARC1790.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 10:19:15
Operator : Meghan Dailey
Sample : SED-DA-042 (0-0.5)
Misc :
ALS Vial : 12 Sample Multiplier: 0.0661376

Integration File: autoint1.e
Quant Time: Sep 04 14:29:28 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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	12.381	286991	50.000	ug/mlm
16) I	5a-androstane	17.359	360135	50.072	ug/mlm
	System Monitoring Compounds				
6) S	n-dodecane-d26	8.133	117905	1.292	ug/mlm
23) S	n-eicosane-d42	16.841	108159	1.282	ug/mlm
34) S	n-triacontane-d62	28.646	105559	1.270	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	5.736	1094	0.011	ug/mlm
5)	n-C11	7.081	2274	0.023	ug/mlm
7)	n-C12	8.338	6035	0.060	ug/mlm
8)	i-13	8.530	619	0.006	ug/mlm
9)	i-14	9.225	5500	0.053	ug/mlm
10)	n-C13	9.507	4510	0.045	ug/mlm
11)	i-15	10.379	2304	0.022	ug/mlm
12)	n-C14	10.601	10449	0.102	ug/mlm
13)	i-16	11.271	4172	0.040	ug/mlm
14)	n-C15	11.627	6064	0.059	ug/mlm
15)	n-C16	12.618	7099	0.068	ug/mlm
17)	i-18	13.151	1571	0.015	ug/mlm
18)	n-C17	13.664	9457	0.088	ug/mlm
19)	Pristane	13.768	8486	0.080	ug/mlm
20)	n-C18	14.775	32395	0.307	ug/mlm
21)	Phytane	14.946	10922	0.102	ug/mlm
22)	n-C19	15.986	40645	0.386	ug/mlm
24)	n-C20	17.228	5633	0.053	ug/mlm
25)	n-C21	18.492	61990	0.579	ug/mlm
26)	n-C22	19.778	10718	0.100	ug/mlm
27)	n-C23	21.054	102489	0.951	ug/mlm
28)	n-C24	22.307	17608	0.164	ug/mlm
29)	n-C25	23.534	83480	0.774	ug/mlm
30)	n-C26	24.736	120495	1.117	ug/mlm
31)	n-C27	25.894	137192	1.305	ug/mlm
32)	n-C28	27.018	42036	0.395	ug/mlm
33)	n-C29	28.128	463997	4.323	ug/mlm
35)	n-C30	29.183	39735	0.373	ug/mlm
36)	n-C31	30.228	508919	4.859	ug/mlm
37)	n-C32	31.213	43107	0.413	ug/mlm
38)	n-C33	32.156	684000	6.696	ug/mlm
39)	n-C34	33.078	59761	0.574	ug/mlm
40)	n-C35	34.029	225221	2.193	ug/mlm

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ARC1790.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 10:19:15
Operator : Meghan Dailey
Sample : SED-DA-042 (0-0.5)
Misc :
ALS Vial : 12 Sample Multiplier: 0.0661376

Integration File: autoint1.e
Quant Time: Sep 04 14:29:28 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.002	59509	0.537	ug/mlm
42)	n-C37	36.163	101719	1.006	ug/mlm
43)	n-C38	37.522	15934	0.159	ug/mlm
44)	n-C39	39.069	22247	0.230	ug/mlm
45)	n-C40	40.904	3475	0.039	ug/mlm
46)	TPH	32.119	58039166	561.467	ug/mlm
47)	TRH1	8.133	348926	3.375	ug/mlm
48)	TRH2	12.381f	2309830	22.345	ug/mlm
49)	TRH3	25.654f	1585481	15.338	ug/mlm
50)	TRH4	32.119f	10508884	101.662	ug/mlm
51)	TRH5	34.008f	4022459	38.913	ug/mlm
52)	TRH6	39.069	457496	4.426	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

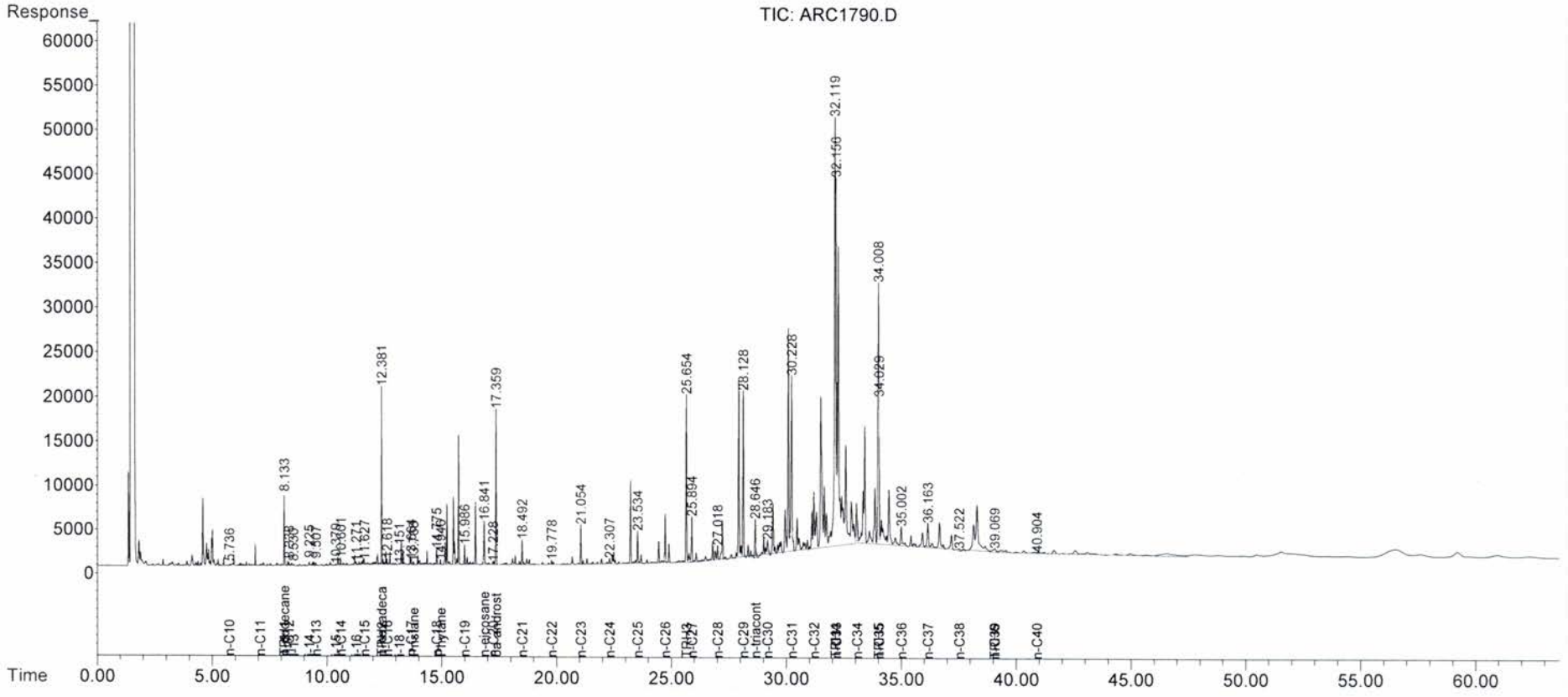
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ARC1790.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 10:19:15
Operator : Meghan Dailey
Sample : SED-DA-042 (0-0.5)
Misc :
ALS Vial : 12 Sample Multiplier: 0.0661376

Integration File: autoint1.e
Quant Time: Sep 04 14:29:28 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC1795.D**		ARC1795.D
Sample Name	**SED-DA-046 (0-0.5)**		SED-DA-046 (0-0.5)
Misc Info	**0**		30-Aug-2013, 11:29:21
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3092\FID30054**		ALIFRONT.M
Operator	**Meghan Dailey**		
Date Acquired	**30-Aug-2013, 11:29:21**		0.066313
Instrument Name	**HP5890**		
Acq. Method File	**ALIFRONT.M**	Vial #	13
Vial Number	**13**	IS Area 1	283967
Sample Multiplier	**0.066313**	IS Area 2	425177

#	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	5.74	2035.58	0.02	0.021
5)	n-C11	7.08	2672.85	0.03	0.028
7)	n-C12	8.34	3964.75	0.04	0.040
8)	i-13	8.52	11609.7	0.12	0.117
9)	i-14	9.23	25430.1	0.25	0.251
10)	n-C13	9.51	13874.1	0.14	0.140
11)	i-15	10.38	112947	1.11	1.105
12)	n-C14	10.60	36420.1	0.36	0.359
13)	i-16	11.28	176939	1.73	1.726
14)	n-C15	11.63	69366.4	0.68	0.679
15)	n-C16	12.63	79070.3	0.77	0.772
17)	i-18	13.16	203704	1.64	1.641
18)	n-C17	13.68	62420.6	0.49	0.494
19)	Pristane	13.78	253963	2.03	2.026
20)	n-C18	14.80	101643	0.82	0.819
21)	Phytane	14.96	261828	2.07	2.070
22)	n-C19	15.99	117995	0.95	0.953
24)	n-C20	17.25	73989.9	0.59	0.594
25)	n-C21	18.52	131978	1.05	1.048
26)	n-C22	19.81	147577	1.17	1.169
27)	n-C23	21.07	155750	1.23	1.228
28)	n-C24	22.34	58110.7	0.46	0.458
29)	n-C25	23.56	118514	0.93	0.933
30)	n-C26	24.76	59133.6	0.47	0.466
31)	n-C27	25.93	298063	2.41	2.408
32)	n-C28	27.05	93589.6	0.75	0.746
33)	n-C29	28.16	360923	2.86	2.856
35)	n-C30	29.21	108440	0.87	0.865
36)	n-C31	30.25	619835	5.03	5.026
37)	n-C32	31.24	220517	1.79	1.794
38)	n-C33	32.17	742396	6.17	6.172
39)	n-C34	33.08	129958	1.06	1.060
40)	n-C35	34.10	570520	4.72	4.717
41)	n-C36	35.05	72898.4	0.56	0.559
42)	n-C37	36.21	129827	1.09	1.091
43)	n-C38	37.58	60132.1	0.51	0.509
44)	n-C39	39.14	29391	0.26	0.258
45)	n-C40	40.98	15107	0.14	0.143
46)	TPH	32.15	285089000	2342.23	2342.228
47)	TRH1	8.13	267064	2.19	2.194
48)	TRH2	12.39	4863620	39.96	39.958
49)	TRH3	17.38	6165410	50.65	50.654
50)	TRH4	32.15	18074500	148.50	148.496
51)	TRH5	34.04	4042160	33.21	33.209
52)	TRH6	48.86	888189	7.30	7.297
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	8.13	115108	1.28	96.4
23)	n-eicosane-d42	16.86	120209	1.21	91.4
34)	n-triacontane-d62	28.68	125503	1.28	96.7
1)	n-hexadecane-d34	12.39	283967	3.32	283967.000
16)	5a-androstane	17.38	425177	3.32	425177.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ARC1795.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 11:29:21
Operator : Meghan Dailey
Sample : SED-DA-046 (0-0.5)
Misc :
ALS Vial : 13 Sample Multiplier: 0.066313

Integration File: autoint1.e
Quant Time: Sep 02 15:32:58 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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	12.389	283967	50.000	ug/mlm
16) I	5a-androstane	17.382	425177	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.133	115108	1.278	ug/mlm
23) S	n-eicosane-d42	16.860	120209	1.210	ug/mlm
34) S	n-triacontane-d62	28.679	125503	1.282	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	5.736	2036	0.021	ug/mlm
5)	n-C11	7.080	2673	0.028	ug/mlm
7)	n-C12	8.337	3965	0.040	ug/mlm
8)	i-13	8.524	11610	0.117	ug/mlm
9)	i-14	9.225	25430	0.251	ug/mlm
10)	n-C13	9.508	13874	0.140	ug/mlm
11)	i-15	10.379	112947	1.105	ug/mlm
12)	n-C14	10.603	36420	0.359	ug/mlm
13)	i-16	11.277	176939	1.726	ug/mlm
14)	n-C15	11.633	69366	0.679	ug/mlm
15)	n-C16	12.625	79070	0.772	ug/mlm
17)	i-18	13.163	203704	1.641	ug/mlm
18)	n-C17	13.678	62421	0.494	ug/mlm
19)	Pristane	13.785	253963	2.026	ug/mlm
20)	n-C18	14.800	101643	0.819	ug/mlm
21)	Phytane	14.960	261828	2.070	ug/mlm
22)	n-C19	15.993	117995	0.953	ug/mlm
24)	n-C20	17.253	73990	0.594	ug/mlm
25)	n-C21	18.518	131978	1.048	ug/mlm
26)	n-C22	19.814	147577	1.169	ug/mlm
27)	n-C23	21.074	155750	1.228	ug/mlm
28)	n-C24	22.336	58111	0.458	ug/mlm
29)	n-C25	23.564	118514	0.933	ug/mlm
30)	n-C26	24.758	59134	0.466	ug/mlm
31)	n-C27	25.931	298063	2.408	ug/mlm
32)	n-C28	27.053	93590	0.746	ug/mlm
33)	n-C29	28.157	360923	2.856	ug/mlm
35)	n-C30	29.214	108440	0.865	ug/mlm
36)	n-C31	30.253	619835	5.026	ug/mlm
37)	n-C32	31.244	220517	1.794	ug/mlm
38)	n-C33	32.169	742396	6.172	ug/mlm
39)	n-C34	33.083	129958	1.060	ug/mlm
40)	n-C35	34.099f	570520	4.717	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ARC1795.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 11:29:21
Operator : Meghan Dailey
Sample : SED-DA-046 (0-0.5)
Misc :
ALS Vial : 13 Sample Multiplier: 0.066313

Integration File: autoint1.e
Quant Time: Sep 02 15:32:58 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.047	72898	0.559	ug/mlm
42)	n-C37	36.213	129827	1.091	ug/mlm
43)	n-C38	37.580	60132	0.509	ug/mlm
44)	n-C39	39.139	29391	0.258	ug/mlm
45)	n-C40	40.983	15107	0.143	ug/mlm
46)	TPH	32.155	285089025	2342.225	ug/mlm
47)	TRH1	8.133	267064	2.194	ug/mlm
48)	TRH2	12.389f	4863619	39.958	ug/mlm
49)	TRH3	17.382f	6165412	50.654	ug/mlm
50)	TRH4	32.155f	18074538	148.496	ug/mlm
51)	TRH5	34.039f	4042157	33.209	ug/mlm
52)	TRH6	48.860f	888189	7.297	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

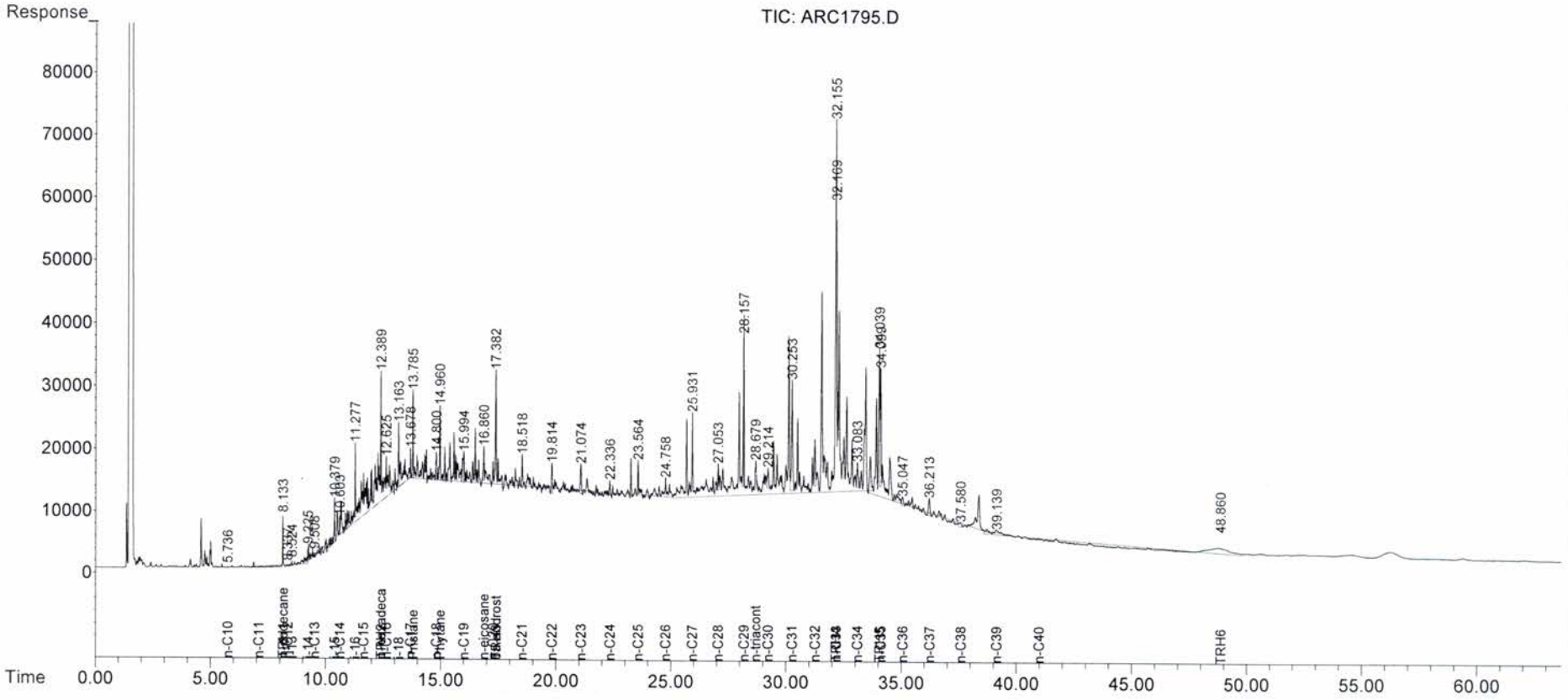
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ARC1795.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 11:29:21
Operator : Meghan Dailey
Sample : SED-DA-046 (0-0.5)
Misc :
ALS Vial : 13 Sample Multiplier: 0.066313

Integration File: autoint1.e
Quant Time: Sep 02 15:32:58 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC1798.D**		ARC1798.D
Sample Name	**SED-DA-049 (0-0.5)**		SED-DA-049 (0-0.5)
Misc Info	**0**		30-Aug-2013, 12:39:33
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3092\FID30054**		ALIFRONT.M
Operator	**Meghan Dailey**		
Date Acquired	**30-Aug-2013, 12:39:33**		0.066357
Instrument Name	**HP5890**		
Acq. Method File	**ALIFRONT.M**	Vial #	14
Vial Number	**14**	IS Area 1	267206
Sample Multiplier	**0.066357**	IS Area 2	374170

#	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	5.73	2282.21	0.02	0.025
5)	n-C11	7.08	4159.54	0.05	0.046
7)	n-C12	8.34	6303.7	0.07	0.067
8)	i-13	8.52	6757.51	0.07	0.072
9)	i-14	9.22	16419.2	0.17	0.172
10)	n-C13	9.51	7881.27	0.08	0.085
11)	i-15	10.38	42078.2	0.44	0.438
12)	n-C14	10.60	18029.6	0.19	0.189
13)	i-16	11.27	61076.5	0.63	0.634
14)	n-C15	11.63	26312.2	0.27	0.274
15)	n-C16	12.62	25454.2	0.26	0.264
17)	i-18	13.16	79894	0.73	0.732
18)	n-C17	13.67	33923.6	0.31	0.305
19)	Pristane	13.78	103314	0.94	0.937
20)	n-C18	14.78	99019.2	0.91	0.907
21)	Phytane	14.95	125393	1.13	1.127
22)	n-C19	15.99	68807.6	0.63	0.632
24)	n-C20	17.24	35550.5	0.32	0.325
25)	n-C21	18.51	243399	2.20	2.197
26)	n-C22	19.80	68556.7	0.62	0.617
27)	n-C23	21.07	162662	1.46	1.458
28)	n-C24	22.32	46075.2	0.41	0.413
29)	n-C25	23.56	228567	2.05	2.047
30)	n-C26	24.75	62016.8	0.56	0.555
31)	n-C27	25.91	195338	1.79	1.795
32)	n-C28	27.04	76077.6	0.69	0.690
33)	n-C29	28.15	562206	5.06	5.059
35)	n-C30	29.21	78726.1	0.71	0.714
36)	n-C31	30.25	820262	7.56	7.563
37)	n-C32	31.22	68171	0.63	0.631
38)	n-C33	32.16	1784600	16.87	16.870
39)	n-C34	33.08	180191	1.67	1.672
40)	n-C35	34.04	1006130	9.46	9.459
41)	n-C36	35.02	40604.7	0.35	0.354
42)	n-C37	36.21	102547	0.98	0.980
43)	n-C38	37.57	30204.9	0.29	0.291
44)	n-C39	39.11	32052.2	0.32	0.320
45)	n-C40	40.98	10777.3	0.12	0.116
46)	TPH	32.23	160402000	1498.47	1498.467
47)	TRH1	8.13	335843	3.14	3.137
48)	TRH2	12.38	4559080	42.59	42.591
49)	TRH3	27.27	8879280	82.95	82.950
50)	TRH4	32.23	29558800	276.14	276.137
51)	TRH5	38.42	2115700	19.76	19.765
52)	TRH6	41.71	665689	6.22	6.219
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	8.13	110023	1.30	97.9
23)	n-eicosane-d42	16.85	105351	1.21	91.1
34)	n-triacontane-d62	28.67	104957	1.22	91.9
1)	n-hexadecane-d34	12.38	267206	3.32	267206.000
16)	5a-androstane	17.37	374170	3.32	374170.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ARC1798.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 12:39:33
Operator : Meghan Dailey
Sample : SED-DA-049 (0-0.5)
Misc :
ALS Vial : 14 Sample Multiplier: 0.066357

Integration File: autoint1.e
Quant Time: Sep 04 14:33:02 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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	12.384	267206	50.000	ug/mlm
16)	I 5a-androstane	17.371	374170	50.072	ug/mlm
	System Monitoring Compounds				
6)	S n-dodecane-d26	8.133	110023	1.299	ug/mlm
23)	S n-eicosane-d42	16.852	105351	1.206	ug/mlm
34)	S n-triacontane-d62	28.674	104957	1.219	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	5.733	2282	0.025	ug/mlm
5)	n-C11	7.080	4160	0.046	ug/mlm
7)	n-C12	8.338	6304	0.067	ug/mlm
8)	i-13	8.524	6758	0.072	ug/mlm
9)	i-14	9.225	16419	0.172	ug/mlm
10)	n-C13	9.507	7881	0.085	ug/mlm
11)	i-15	10.378	42078	0.438	ug/mlm
12)	n-C14	10.602	18030	0.189	ug/mlm
13)	i-16	11.274	61077	0.634	ug/mlm
14)	n-C15	11.629	26312	0.274	ug/mlm
15)	n-C16	12.621	25454	0.264	ug/mlm
17)	i-18	13.156	79894	0.732	ug/mlm
18)	n-C17	13.670	33924	0.305	ug/mlm
19)	Pristane	13.775	103314	0.937	ug/mlm
20)	n-C18	14.785	99019	0.907	ug/mlm
21)	Phytane	14.950	125393	1.127	ug/mlm
22)	n-C19	15.993	68808	0.632	ug/mlm
24)	n-C20	17.240	35550	0.325	ug/mlm
25)	n-C21	18.508	243399	2.197	ug/mlm
26)	n-C22	19.800	68557	0.617	ug/mlm
27)	n-C23	21.069	162662	1.458	ug/mlm
28)	n-C24	22.320	46075	0.413	ug/mlm
29)	n-C25	23.557	228567	2.047	ug/mlm
30)	n-C26	24.751	62017	0.555	ug/mlm
31)	n-C27	25.914	195338	1.795	ug/mlm
32)	n-C28	27.042	76078	0.690	ug/mlm
33)	n-C29	28.148	562206	5.059	ug/mlm
35)	n-C30	29.206	78726	0.714	ug/mlm
36)	n-C31	30.249	820262	7.563	ug/mlm
37)	n-C32	31.217	68171	0.631	ug/mlm
38)	n-C33	32.163	1784601	16.870	ug/mlm
39)	n-C34	33.083	180191	1.672	ug/mlm
40)	n-C35	34.041	1006128	9.459	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ARC1798.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 12:39:33
Operator : Meghan Dailey
Sample : SED-DA-049 (0-0.5)
Misc :
ALS Vial : 14 Sample Multiplier: 0.066357

Integration File: autoint1.e
Quant Time: Sep 04 14:33:02 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.024	40605	0.354	ug/mlm
42)	n-C37	36.207	102547	0.980	ug/mlm
43)	n-C38	37.567	30205	0.291	ug/mlm
44)	n-C39	39.114	32052	0.320	ug/mlm
45)	n-C40	40.983	10777	0.116	ug/mlm
46)	TPH	32.233	160401812	1498.467	ug/mlm
47)	TRH1	8.133	335843	3.137	ug/mlm
48)	TRH2	12.384f	4559078	42.591	ug/mlm
49)	TRH3	27.271f	8879282	82.950	ug/mlm
50)	TRH4	32.233f	29558809	276.137	ug/mlm
51)	TRH5	38.420f	2115695	19.765	ug/mlm
52)	TRH6	41.711	665689	6.219	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

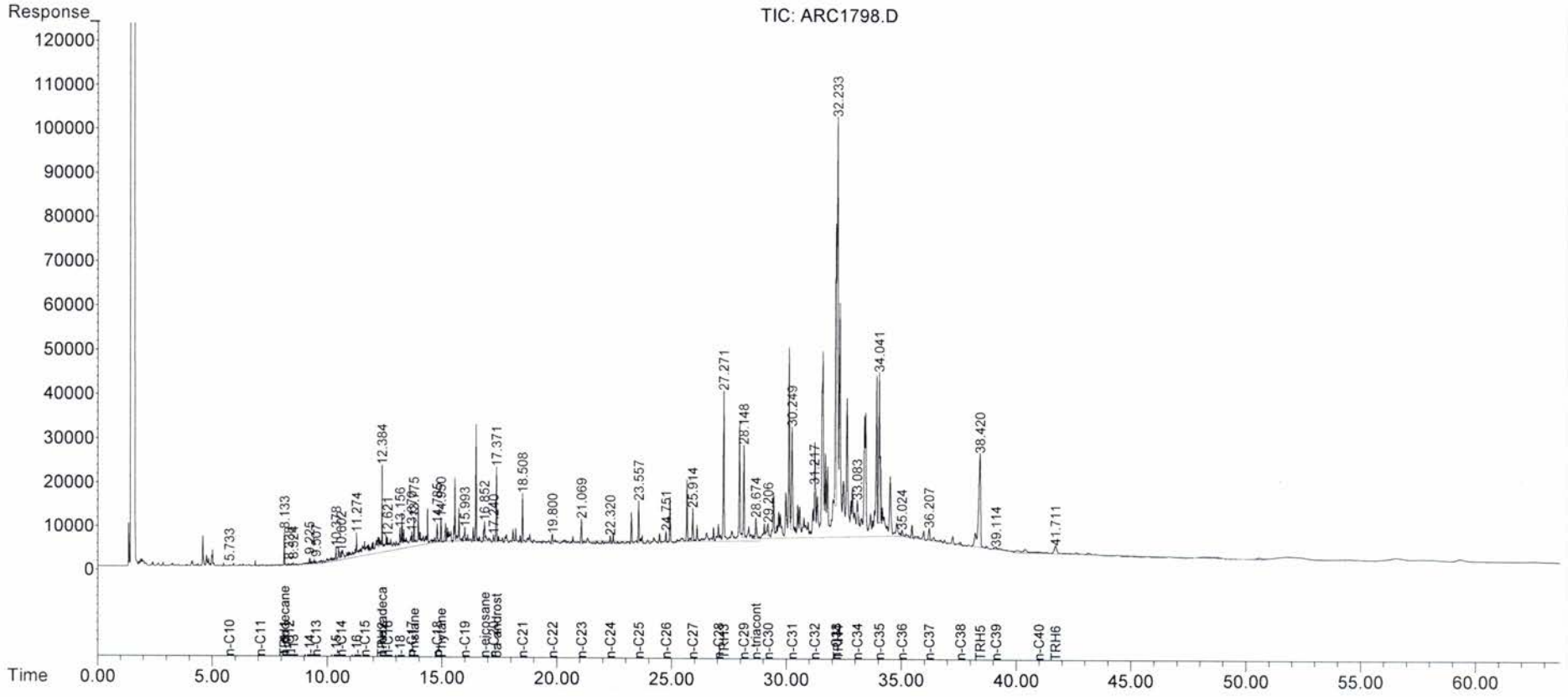
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ARC1798.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 12:39:33
Operator : Meghan Dailey
Sample : SED-DA-049 (0-0.5)
Misc :
ALS Vial : 14 Sample Multiplier: 0.066357

Integration File: autoint1.e
Quant Time: Sep 04 14:33:02 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC1801.D**		ARC1801.D
Sample Name	**SED-DA-043 (0-0.5)**		SED-DA-043 (0-0.5)
Misc Info	**0**		30-Aug-2013, 13:49:55
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3092\FID30054**		ALIFRONT.M
Operator	**Meghan Dailey**		
Date Acquired	**30-Aug-2013, 13:49:55**		0.0666223
Instrument Name	**HP5890**		
Acq. Method File	**ALIFRONT.M**	Vial #	15
Vial Number	**15**	IS Area 1	283141
Sample Multiplier	**0.0666223**	IS Area 2	436022

#	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	5.74	1795.56	0.02	0.019
5)	n-C11	7.08	2951.63	0.03	0.031
7)	n-C12	8.34	11776.8	0.12	0.119
8)	i-13	8.53	13960.5	0.14	0.142
9)	i-14	9.23	30136.4	0.30	0.299
10)	n-C13	9.51	29411.3	0.30	0.299
11)	i-15	10.38	89400.8	0.88	0.882
12)	n-C14	10.61	63578.6	0.63	0.631
13)	i-16	11.28	165994	1.63	1.632
14)	n-C15	11.64	96100.7	0.95	0.948
15)	n-C16	12.63	98702.5	0.97	0.970
17)	i-18	13.17	192349	1.52	1.518
18)	n-C17	13.68	83966.6	0.65	0.651
19)	Pristane	13.79	262350	2.05	2.051
20)	n-C18	14.81	146911	1.16	1.159
21)	Phytane	14.97	273166	2.12	2.116
22)	n-C19	16.01	148024	1.17	1.171
24)	n-C20	17.26	78413.1	0.62	0.617
25)	n-C21	18.53	154601	1.20	1.202
26)	n-C22	19.82	153992	1.19	1.195
27)	n-C23	21.08	163542	1.26	1.263
28)	n-C24	22.34	76122.2	0.59	0.588
29)	n-C25	23.58	125264	0.97	0.966
30)	n-C26	24.77	73513.1	0.57	0.567
31)	n-C27	25.94	343761	2.72	2.721
32)	n-C28	27.07	134897	1.05	1.054
33)	n-C29	28.17	458685	3.56	3.556
35)	n-C30	29.23	136977	1.07	1.071
36)	n-C31	30.27	794964	6.32	6.315
37)	n-C32	31.26	203364	1.62	1.621
38)	n-C33	32.17	1811290	14.75	14.752
39)	n-C34	33.10	89636.6	0.72	0.716
40)	n-C35	34.05	680074	5.51	5.508
41)	n-C36	35.04	30901.3	0.23	0.232
42)	n-C37	36.23	136711	1.13	1.125
43)	n-C38	37.52	13048	0.11	0.108
44)	n-C39	39.15	30541.4	0.26	0.263
45)	n-C40	40.88	17593.2	0.16	0.163
46)	TPH	32.17	324968000	2615.60	2615.605
47)	TRH1	8.13	444863	3.58	3.581
48)	TRH2	12.39	7544170	60.72	60.721
49)	TRH3	17.39	6560610	52.80	52.805
50)	TRH4	32.17	26875900	216.32	216.319
51)	TRH5	34.51	1635880	13.17	13.167
52)	TRH6	39.15	283507	2.28	2.282
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	8.13	113989	1.28	95.7
23)	n-eicosane-d42	16.87	128021	1.26	95.0
34)	n-triacontane-d62	28.69	114888	1.15	86.3
1)	n-hexadecane-d34	12.39	283141	3.33	283141.000
16)	5a-androstane	17.39	436022	3.34	436022.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ARC1801.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 13:49:55
Operator : Meghan Dailey
Sample : SED-DA-043 (0-0.5)
Misc :
ALS Vial : 15 Sample Multiplier: 0.0666223

Integration File: autoint1.e
Quant Time: Sep 04 16:44:40 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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	12.392	283141	50.000	ug/mlm
16) I	5a-androstane	17.391	436022	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.134	113989	1.275	ug/mlm
23) S	n-eicosane-d42	16.866	128021	1.263	ug/mlm
34) S	n-triacontane-d62	28.693	114888	1.150	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	5.737	1796	0.019	ug/mlm
5)	n-C11	7.080	2952	0.031	ug/mlm
7)	n-C12	8.339	11777	0.119	ug/mlm
8)	i-13	8.526	13961	0.142	ug/mlm
9)	i-14	9.227	30136	0.299	ug/mlm
10)	n-C13	9.509	29411	0.299	ug/mlm
11)	i-15	10.382	89401	0.882	ug/mlm
12)	n-C14	10.606	63579	0.631	ug/mlm
13)	i-16	11.280	165994	1.632	ug/mlm
14)	n-C15	11.637	96101	0.948	ug/mlm
15)	n-C16	12.630	98703	0.970	ug/mlm
17)	i-18	13.169	192349	1.518	ug/mlm
18)	n-C17	13.682	83967	0.651	ug/mlm
19)	Pristane	13.789	262350	2.051	ug/mlm
20)	n-C18	14.807	146911	1.159	ug/mlm
21)	Phytane	14.966	273166	2.116	ug/mlm
22)	n-C19	16.006	148024	1.171	ug/mlm
24)	n-C20	17.260	78413	0.617	ug/mlm
25)	n-C21	18.528	154601	1.202	ug/mlm
26)	n-C22	19.822	153992	1.195	ug/mlm
27)	n-C23	21.081	163542	1.263	ug/mlm
28)	n-C24	22.340	76122	0.588	ug/mlm
29)	n-C25	23.577	125264	0.966	ug/mlm
30)	n-C26	24.771	73513	0.567	ug/mlm
31)	n-C27	25.943	343761	2.721	ug/mlm
32)	n-C28	27.067	134897	1.054	ug/mlm
33)	n-C29	28.170f	458685	3.556	ug/mlm
35)	n-C30	29.231	136977	1.071	ug/mlm
36)	n-C31	30.269f	794964	6.315	ug/mlm
37)	n-C32	31.259	203364	1.621	ug/mlm
38)	n-C33	32.170	1811293	14.752	ug/mlm
39)	n-C34	33.097	89637	0.716	ug/mlm
40)	n-C35	34.050	680074	5.508	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ARC1801.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 13:49:55
Operator : Meghan Dailey
Sample : SED-DA-043 (0-0.5)
Misc :
ALS Vial : 15 Sample Multiplier: 0.0666223

Integration File: autoint1.e
Quant Time: Sep 04 16:44:40 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.044	30901	0.232	ug/mlm
42)	n-C37	36.225	136711	1.125	ug/mlm
43)	n-C38	37.523	13048	0.108	ug/mlm
44)	n-C39	39.149	30541	0.263	ug/mlm
45)	n-C40	40.879	17593	0.163	ug/mlm
46)	TPH	32.170	324968418	2615.602	ug/mlm
47)	TRH1	8.134	444863	3.581	ug/mlm
48)	TRH2	12.392f	7544171	60.721	ug/mlm
49)	TRH3	17.391f	6560612	52.805	ug/mlm
50)	TRH4	32.170f	26875898	216.318	ug/mlm
51)	TRH5	34.508f	1635883	13.167	ug/mlm
52)	TRH6	39.149	283507	2.282	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

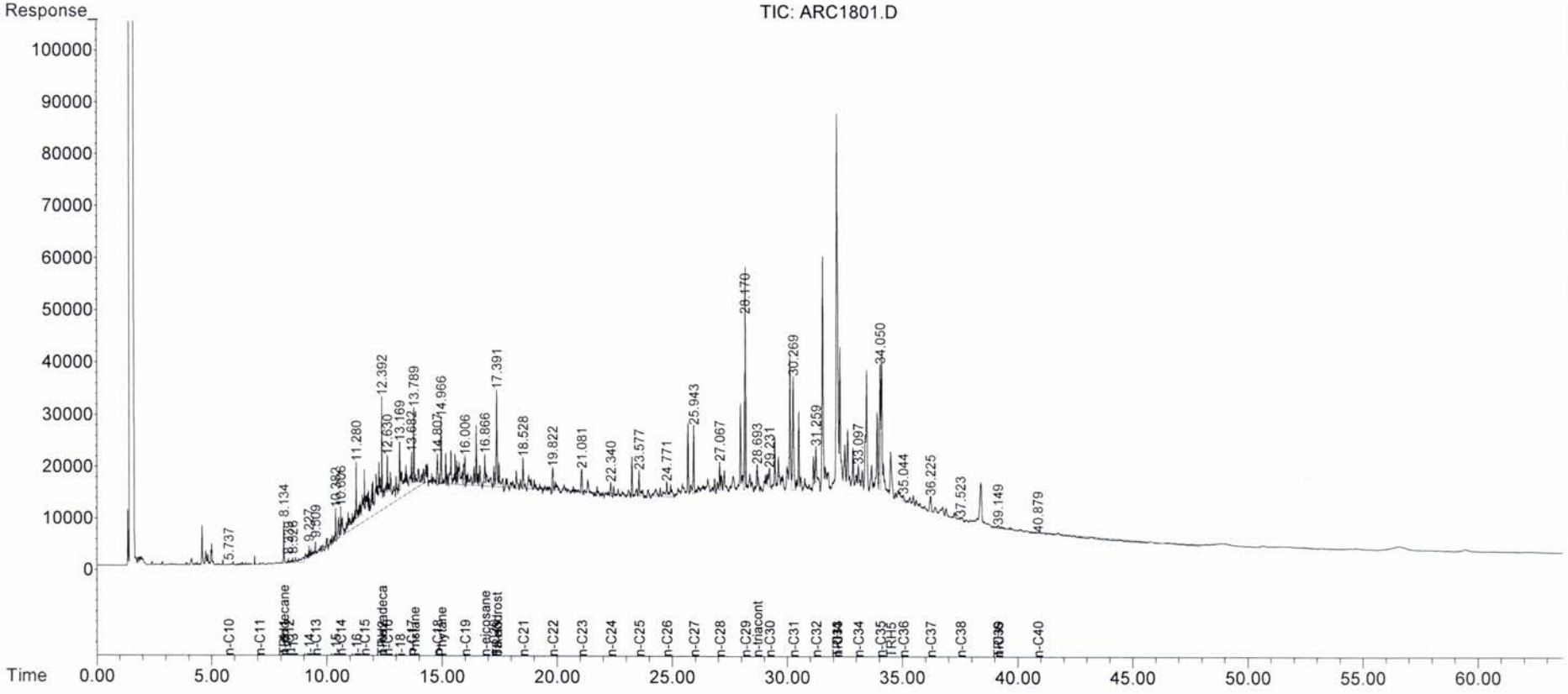
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ARC1801.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 13:49:55
Operator : Meghan Dailey
Sample : SED-DA-043 (0-0.5)
Misc :
ALS Vial : 15 Sample Multiplier: 0.0666223

Integration File: autoint1.e
Quant Time: Sep 04 16:44:40 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC1804.D**		ARC1804.D
Sample Name	**SED-DA-044 (0-0.5)**		SED-DA-044 (0-0.5)
Misc Info	**0**		30-Aug-2013, 15:00:06
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3092\FID30054**		ALIFRONT.M
Operator	**Meghan Dailey**		
Date Acquired	**30-Aug-2013, 15:00:06**		0.0662691
Instrument Name	**HP5890**		
Acq. Method File	**ALIFRONT.M**	Vial #	16
Vial Number	**16**	IS Area 1	294670
Sample Multiplier	**0.0662691**	IS Area 2	440379

#	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	5.74	1958.26	0.02	0.019
5)	n-C11	7.08	3859.65	0.04	0.038
7)	n-C12	8.34	8661.92	0.08	0.083
8)	i-13	8.53	5880.02	0.06	0.057
9)	i-14	9.23	15130.5	0.14	0.144
10)	n-C13	9.51	15622.6	0.15	0.152
11)	i-15	10.38	43339.1	0.41	0.408
12)	n-C14	10.60	31311	0.30	0.297
13)	i-16	11.28	76978.9	0.72	0.723
14)	n-C15	11.62	114244	1.08	1.077
15)	n-C16	12.63	44427.5	0.42	0.417
17)	i-18	13.16	98812.2	0.77	0.768
18)	n-C17	13.68	40913.5	0.31	0.313
19)	Pristane	13.78	153707	1.18	1.183
20)	n-C18	14.80	94824.1	0.74	0.737
21)	Phytane	14.96	174759	1.33	1.333
22)	n-C19	16.00	74000.2	0.58	0.576
24)	n-C20	17.26	37734.8	0.29	0.292
25)	n-C21	18.52	193078	1.48	1.479
26)	n-C22	19.82	121330	0.93	0.927
27)	n-C23	21.08	142277	1.08	1.082
28)	n-C24	22.34	58302.7	0.44	0.444
29)	n-C25	23.57	198407	1.51	1.507
30)	n-C26	24.77	74808.7	0.57	0.568
31)	n-C27	25.94	580387	4.52	4.525
32)	n-C28	27.06	135499	1.04	1.043
33)	n-C29	28.18	1085150	8.29	8.285
35)	n-C30	29.23	163002	1.26	1.255
36)	n-C31	30.28	1125980	8.81	8.809
37)	n-C32	31.26	448203	3.52	3.519
38)	n-C33	32.19	2544620	20.41	20.411
39)	n-C34	33.11	323625	2.55	2.548
40)	n-C35	34.07	1126450	8.99	8.986
41)	n-C36	35.07	101084	0.75	0.748
42)	n-C37	36.23	682661	5.53	5.533
43)	n-C38	37.59	65465.5	0.53	0.535
44)	n-C39	39.16	28969.8	0.25	0.246
45)	n-C40	40.94	14286.9	0.13	0.130
46)	TPH	32.19	289113000	2291.78	2291.778
47)	TRH1	8.13	257389	2.04	2.040
48)	TRH2	12.39	4980140	39.48	39.477
49)	TRH3	28.18	12190900	96.64	96.636
50)	TRH4	32.19	29619900	234.79	234.795
51)	TRH5	36.23	1662370	13.18	13.177
52)	TRH6	41.77	552141	4.38	4.377
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	8.13	117838	1.26	95.1
23)	n-eicosane-d42	16.86	114099	1.11	83.8
34)	n-triacontane-d62	28.69	108647	1.07	80.8
1)	n-hexadecane-d34	12.39	294670	3.31	294670.000
16)	5a-androstane	17.39	440379	3.32	440379.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ARC1804.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 15:00:06
Operator : Meghan Dailey
Sample : SED-DA-044 (0-0.5)
Misc :
ALS Vial : 16 Sample Multiplier: 0.0662691

Integration File: autoint1.e
Quant Time: Sep 02 15:56:06 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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	12.390	294670	50.000	ug/mlm
16) I	5a-androstane	17.387	440379	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.135	117838	1.260	ug/mlm
23) S	n-eicosane-d42	16.862	114099	1.108	ug/mlm
34) S	n-triacontane-d62	28.692	108647	1.071	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	5.737	1958	0.019	ug/mlm
5)	n-C11	7.081	3860	0.038	ug/mlm
7)	n-C12	8.340	8662	0.083	ug/mlm
8)	i-13	8.527	5880	0.057	ug/mlm
9)	i-14	9.227	15130	0.144	ug/mlm
10)	n-C13	9.509	15623	0.152	ug/mlm
11)	i-15	10.381	43339	0.408	ug/mlm
12)	n-C14	10.605	31311	0.297	ug/mlm
13)	i-16	11.277	76979	0.723	ug/mlm
14)	n-C15	11.620	114244	1.077	ug/mlm
15)	n-C16	12.626	44428	0.417	ug/mlm
17)	i-18	13.164	98812	0.768	ug/mlm
18)	n-C17	13.678	40913	0.313	ug/mlm
19)	Pristane	13.784	153707	1.183	ug/mlm
20)	n-C18	14.796	94824	0.737	ug/mlm
21)	Phytane	14.961	174759	1.333	ug/mlm
22)	n-C19	16.000	74000	0.576	ug/mlm
24)	n-C20	17.257	37735	0.292	ug/mlm
25)	n-C21	18.522	193078	1.479	ug/mlm
26)	n-C22	19.821	121330	0.927	ug/mlm
27)	n-C23	21.081	142277	1.082	ug/mlm
28)	n-C24	22.337	58303	0.444	ug/mlm
29)	n-C25	23.571	198407	1.507	ug/mlm
30)	n-C26	24.769	74809	0.568	ug/mlm
31)	n-C27	25.944	580387	4.525	ug/mlm
32)	n-C28	27.061	135499	1.043	ug/mlm
33)	n-C29	28.182f	1085151	8.285	ug/mlm
35)	n-C30	29.226	163002	1.255	ug/mlm
36)	n-C31	30.281f	1125985	8.809	ug/mlm
37)	n-C32	31.264f	448203	3.519	ug/mlm
38)	n-C33	32.187	2544624	20.411	ug/mlm
39)	n-C34	33.108	323625	2.548	ug/mlm
40)	n-C35	34.068	1126451	8.986	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ARC1804.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 15:00:06
Operator : Meghan Dailey
Sample : SED-DA-044 (0-0.5)
Misc :
ALS Vial : 16 Sample Multiplier: 0.0662691

Integration File: autoint1.e
Quant Time: Sep 02 15:56:06 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.069	101084	0.748	ug/mlm
42)	n-C37	36.228	682661	5.533	ug/mlm
43)	n-C38	37.586	65466	0.535	ug/mlm
44)	n-C39	39.164	28970	0.246	ug/mlm
45)	n-C40	40.937	14287	0.130	ug/mlm
46)	TPH	32.187	289113364	2291.776	ug/mlm
47)	TRH1	8.135	257389	2.040	ug/mlm
48)	TRH2	12.390f	4980141	39.477	ug/mlm
49)	TRH3	28.182f	12190916	96.636	ug/mlm
50)	TRH4	32.187f	29619914	234.794	ug/mlm
51)	TRH5	36.228f	1662372	13.177	ug/mlm
52)	TRH6	41.767	552141	4.377	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

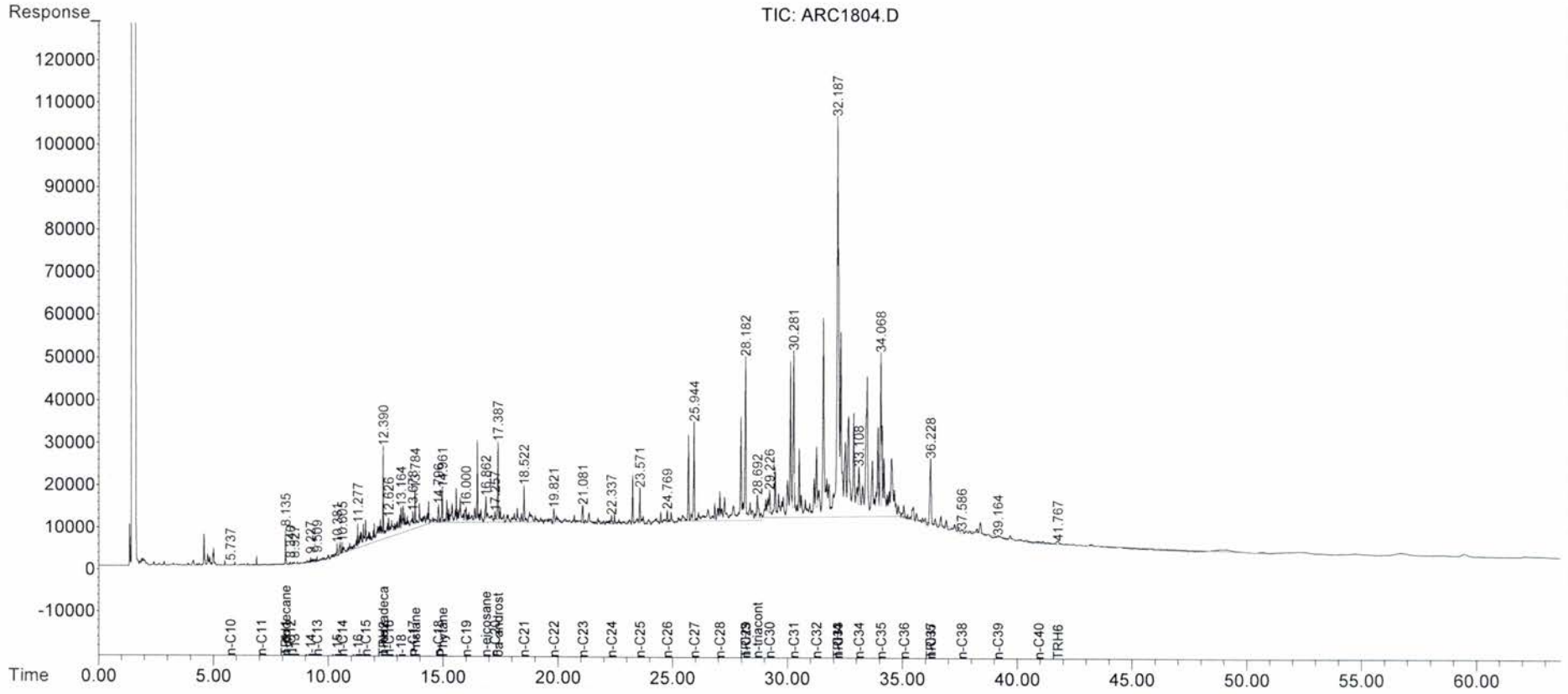
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3092\FID30054\
Data File : ARC1804.D
Signal(s) : FID1A.CH
Acq On : 30-Aug-2013, 15:00:06
Operator : Meghan Dailey
Sample : SED-DA-044 (0-0.5)
Misc :
ALS Vial : 16 Sample Multiplier: 0.0662691

Integration File: autoint1.e
Quant Time: Sep 02 15:56:06 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3092\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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 3092	Analyst: Y. Miao
Client: Arcadis Mayflower Project	Date: September 23, 2013
Job: #: J13034	Project Quality Manager: W Trump
SDG #: 13081301	Date: 09/24/13

Initial Calibration: No failures	ICV No failures

Surrogate Recoveries:	Four client samples and one internal QC sample required dilution prior to anlaysis on the GC/MS due to high native PAH concentrations. "D" qualifer is applied to the surrogate recoveries. d12-Perylene was outside of the laboratory %recovery limits in 1 client submitted sample Recovery is qualifed with an "L"
Procedural Blank:	No failures
Blank Spike:	NA
Blank Spike Duplicate:	NA
Laboratory Duplicate:	No failures
Matrix Spike: cis/trans decalin 09/24/13 W	Phenanthrene and Perylene were detected outside of the laboratory QC recovery limtis of 40-120% due to high native PAH concentrations in the sample. "Y" qualifer is applied. Fourteen peaks were detcted outside of the laboratory QC recovery limits laboratory %recovery limits of 40-120%. It is assumed that these failures is due inhomogentiety with the original sample and MS sample collected in the field.
Matirx Spike Duplicate: cis/trans decalin 09/24/13 W	Phenanthrene and Perylene were detected outside of the laboratory QC recovery limtis of 40-120% due to high native PAH concentrations in the sample. "Y" qualifer is applied. Five peaks were detcted outside of the laboratory QC recovery limits laboratory %recovery limits of 40-120%. It is assumed that these failures is due inhomogentiety with the original sample and MSD sample collected in the field.
SRM/LCS (Solution, Tissue, Sediment):	Solution no failures Sediment (1941b) no failures
CCC (from a second source):	No failures
SRM-2279 Reference Oil	2-MP was outside of the QC %recovery limits in MS70062K (AR-SRM2779-WK4.0-002)
Mass Discrimination Check (benzo(ghi)perylene/phenanthrene >0.7)	No failures

Sequence Name: C:\msdchem\1\data\MS70061\MS70062.s
Comment: Arcadis-Mayflower AR-Sediments-PAH (09/02/13)
Operator: YM
Data Path: C:\MSDCHEM\1\DATA\MS70062\
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	MS70062A	PAH-2012	Solvent rinse
2)	Sample 2	MS70062B	PAH-2012	AR-WKC1-020-030
3)	Sample 3	MS70062C	PAH-2012	AR-WKC2-100-030
4)	Sample 4	MS70062D	PAH-2012	AR-WKC3-250-030
5)	Sample 5	MS70062E	PAH-2012	AR-WKC4-500-030
6)	Sample 6	MS70062F	PAH-2012	AR-WKC5-1000-030
7)	Sample 7	MS70062G	PAH-2012	AR-WKC6-5000-030
8)	Sample 8	MS70062H	PAH-2012	AR-WKISSU-250-002
9)	Sample 9	MS70062I	PAH-2012	AR-WKICV-250-004
10)	Sample 10	MS70062J	PAH-2012	AR-WKCC-250-038
11)	Sample 11	MS70062K	PAH-2012	AR-SRM2779-WK4.0-002
12)	Sample 12	ENV3092A	PAH-2012	
13)	Sample 13	ENV3092B	PAH-2012	
14)	Sample 14	ENV3092C	PAH-2012	
15)	Sample 15	ENV3092D	PAH-2012	
16)	Sample 16	ENV3092E	PAH-2012	5x
17)	Sample 17	ARC1784	PAH-2012	5x
18)	Sample 18	ARC1785	PAH-2012	
19)	Sample 19	ARC1786	PAH-2012	
20)	Sample 20	MS70062L	PAH-2012	AR-WKCC-250-038
21)	Sample 21	ARC1790	PAH-2012	
22)	Sample 22	ARC1793	PAH-2012	
23)	Sample 23	ARC1794	PAH-2012	
24)	Sample 24	ARC1795	PAH-2012	5x
25)	Sample 25	ARC1796	PAH-2012	
26)	Sample 26	ARC1797	PAH-2012	
27)	Sample 27	ARC1798	PAH-2012	
28)	Sample 28	~~ARC1699~~	PAH-2012	—ARC1799 YM 9/23/13
29)	Sample 29	MS70062M	PAH-2012	AR-WKCC-250-038
30)	Sample 30	ARC1800	PAH-2012	
31)	Sample 31	ARC1801	PAH-2012	5x
32)	Sample 32	ARC1802	PAH-2012	
33)	Sample 33	ARC1803	PAH-2012	
34)	Sample 34	ARC1804	PAH-2012	5x
35)	Sample 35	ARC1805	PAH-2012	
36)	Sample 36	ARC1806	PAH-2012	
37)	Sample 37	ARC1808	PAH-2012	
38)	Sample 38	MS70062N	PAH-2012	AR-WKCC-250-038

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70062\
Data File : MS70062J.D
Acq On : 3 Sep 2013 2:41 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 08 19:20:58 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 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	82	0.00
2	S	Naphthalene-d8	1.655	1.546	6.6	83	0.00
3	T	cis/trans Decalin	0.281	0.268	4.6	86	0.00
4	un	C1-Decalins	0.281	0.000	100.0#	0#	-12.26#
5	un	C2-Decalins	0.281	0.000	100.0#	0#	-13.60#
6	un	C3-Decalins	0.281	0.000	100.0#	0#	-15.83#
7	un	C4-Decalins	0.281	0.000	100.0#	0#	-18.47#
8	T	Naphthalene	1.775	1.672	5.8	84	0.03
9	T	2-Methylnaphthalene	1.183	1.099	7.1	83	0.00
10	T	1-Methylnaphthalene	1.103	1.021	7.4	82	0.00
11	T	2,6-Dimethylnaphthalene	1.034	0.958	7.4	82	0.00
12	T	1,6,7-Trimethylnaphthalene	0.958	0.863	9.9	81	0.00
13	un	C2-Naphthalenes	1.775	0.000	100.0#	0#	-18.84#
14	un	C3-Naphthalenes	1.775	0.000	100.0#	0#	-20.28#
15	un	C4-Naphthalenes	1.775	0.000	100.0#	0#	-22.07#
16	T	Benzothiophene	1.424	1.329	6.7	83	0.03
17	un	C1-Benzothiophenes	1.424	0.000	100.0#	0#	-15.41#
18	un	C2-Benzothiophenes	1.424	0.000	100.0#	0#	-17.86#
19	un	C3-Benzothiophenes	1.424	0.000	100.0#	0#	-20.26#
20	un	C4-Benzothiophenes	1.424	0.000	100.0#	0#	-22.01#
21	S	Acenaphthene-d10	0.969	0.889	8.3	82	0.00
22	T	Biphenyl	1.505	1.395	7.3	83	0.00
23	T	Acenaphthylene	1.770	1.560	11.9	80	0.00
24	T	Acenaphthene	1.047	0.954	8.9	81	0.00
25	T	Dibenzofuran	1.696	1.559	8.1	82	0.00
26	T	Fluorene	1.316	1.193	9.3	81	0.00
27	T	1-Methylfluorene	0.823	0.719	12.6	79	0.00
28	un	C1-Fluorenes	1.316	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.316	0.000	100.0#	0#	-24.82#
30	un	C3-Fluorenes	1.316	0.000	100.0#	0#	-27.21#
31	I	Pyrene-d10	1.000	1.000	0.0	79	0.00
32	S	Phenanthrene-d10	0.804	0.746	7.2	81	0.00
33	T	Carbazole	0.815	0.710	12.9	77	0.00
34	T	Dibenzothiophene	0.926	0.876	5.4	82	0.00
35	T	4-Methyldibenzothiophene	0.777	0.706	9.1	79	0.00
36	un	2/3-Methyldibenzothiophene	0.777	0.000	100.0#	0#	-26.14#
37	un	1-Methyldibenzothiophene	0.777	0.000	100.0#	0#	-26.45#
38	un	C2-Dibenzothiophenes	0.926	0.000	100.0#	0#	-27.97#
39	un	C3-Dibenzothiophenes	0.926	0.000	100.0#	0#	-29.22#
40	un	C4-Dibenzothiophenes	0.926	0.000	100.0#	0#	-30.81#
41	T	Phenanthrene	1.071	0.966	9.8	79	0.00
42	T	Anthracene	1.014	0.882	13.0	75	0.00
43	un	3-Methylphenanthrene	0.820	0.000	100.0#	0#	-26.86#
44	un	2-Methylphenanthrene	0.820	0.000	100.0#	0#	-26.86#
45	un	2-Methylanthracene	0.820	0.000	100.0#	0#	-26.86#
46	un	4/9-Methylphenanthrene	0.820	0.000	100.0#	0#	-26.86#

Data Path : C:\GCMS7\MS70062\
Data File : MS70062J.D
Acq On : 3 Sep 2013 2:41 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 08 19:20:58 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 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	0.820	0.750	8.5	80	0.00
48	T	3,6-Dimethylphenanthrene	0.666	0.612	8.1	82	0.00
49	T	Retene	0.274	0.239	12.8	79	-0.03
50	un	C2-Phenanthrenes/Anthracene	1.071	0.000	100.0#	0#	-28.49#
51	un	C3-Phenanthrenes/Anthracene	1.071	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.071	0.000	100.0#	0#	-31.89#
53	T	Naphthobenzothiophene	1.176	1.072	8.8	80	0.00
54	un	C1-Naphthobenzothiophenes	1.176	0.000	100.0#	0#	-34.16#
55	un	C2-Naphthobenzothiophenes	1.176	0.000	100.0#	0#	-35.94#
56	un	C3-Naphthobenzothiophenes	1.176	0.000	100.0#	0#	-37.84#
57	un	C4-Naphthobenzothiophenes	1.176	0.000	100.0#	0#	-37.73#
58	T	Fluoranthene	1.144	1.062	7.2	81	0.00
59	T	Pyrene	1.222	1.103	9.7	79	0.00
60	T	2-Methylfluoranthene	0.693	0.597	13.9	78	0.00
61	T	Benzo(b)fluorene	0.698	0.603	13.6	77	0.00
62	un	C1-Fluoranthenes/Pyrenes	1.144	0.000	100.0#	0#	-30.60#
63	un	C2-Fluoranthenes/Pyrenes	1.144	0.000	100.0#	0#	-32.10#
64	un	C3-Fluoranthenes/Pyrenes	1.144	0.000	100.0#	0#	-33.89#
65	un	C4-Fluoranthenes/Pyrenes	1.144	0.000	100.0#	0#	-35.24#
66	S	Chrysene-d12	0.969	0.940	3.0	82	0.00
67	T	Benz(a)anthracene	1.179	1.012	14.2	74	0.00
68	T	Chrysene/Triphenylene	1.017	0.940	7.6	79	-0.04
69	un	C1-Chrysenes	1.017	0.000	100.0#	0#	-35.21#
70	un	C2-Chrysenes	1.017	0.000	100.0#	0#	-37.18#
71	un	C3-Chrysenes	1.017	0.000	100.0#	0#	-38.04#
72	un	C4-Chrysenes	1.017	0.000	100.0#	0#	-39.90#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	74	0.00
74	un	C29-Hopane	0.439	0.000	100.0#	0#	-40.64#
75	un	18a-Oleanane	0.439	0.000	100.0#	0#	-42.45#
76	T	C30-Hopane	0.439	0.415	5.5	77	0.00
77	T	Benzo(b)fluoranthene	1.512	1.450	4.1	77	0.00
78	T	Benzo(k,j)fluoranthene	1.412	1.357	3.9	80	-0.04
79	un	Benzo(a)fluoranthene	1.412	0.000	100.0#	0#	-37.22#
80	T	Benzo(e)pyrene	1.524	1.456	4.5	77	0.00
81	T	Benzo(a)pyrene	1.456	1.313	9.8	75	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.637	1.467	10.4	75	0.00
83	T	Dibenzo(a,h)anthracene	1.288	1.152	10.6	75	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.288	0.000	100.0#	0#	-48.68#
85	un	C2-Dibenzo(a,h)anthracenes	1.288	0.000	100.0#	0#	-50.27#
86	un	C3-Dibenzo(a,h)anthracenes	1.288	0.000	100.0#	0#	-50.82#
87	T	Benzo(g,h,i)perylene	1.429	1.318	7.8	76	-0.04
88	S	Perylene-d12	1.187	1.109	6.6	78	-0.04
89	T	Perylene	1.455	1.322	9.1	76	0.00
90	S	5(b)H-Cholane	0.204	0.185	9.3	76	-0.04
91	un	C20-TAS	1.682	0.000	100.0#	0#	-33.73#
92	un	C21-TAS	1.682	0.000	100.0#	0#	-34.16#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70062\
Data File : MS70062J.D
Acq On : 3 Sep 2013 2:41 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 08 19:20:58 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 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	1.682	0.000	100.0#	0#	-38.58#
94 T	C26(20R)/C27(20S)-TAS	1.682	1.491	11.4	74	0.00
95 un	C28(20S)-TAS	1.682	0.000	100.0#	0#	-39.74#
96 un	C27(20R)-TAS	1.682	0.000	100.0#	0#	-40.94#
97 un	C28(20R)-TAS	1.682	0.000	100.0#	0#	-40.94#

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70062\
Data File : MS70062J.D
Acq On : 3 Sep 2013 2:41 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 08 19:20:58 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorene-d10	21.371	176	362927	251.05			0.00
31) Pyrene-d10	29.566	212	694571	250.63			0.00
73) Benzo(a)pyrene-d12	38.309	264	533985	250.32			0.00
System Monitoring Compounds							
2) Naphthalene-d8	13.739	136	558979	233.66			0.00
21) Acenaphthene-d10	19.589	164	321431	229.45			0.00
32) Phenanthrene-d10	24.683	188	517545	232.25			0.00
66) Chrysene-d12	33.731	240	651055	242.54			0.00
88) Perylene-d12	38.581	264	591242	233.51			-0.04
90) 5(b)H-Cholane	34.119	217	98520	226.63			-0.04
Target Compounds							Qvalue
3) cis/trans Decalin	11.092	138	95714m	235.83			
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	604163	235.44			96
9) 2-Methylnaphthalene	16.051	142	397762	232.66			95
10) 1-Methylnaphthalene	16.385	142	368486	231.08			95
11) 2,6-Dimethylnaphthalene	18.140	156	346312	231.74		#	24
12) 1,6,7-Trimethylnaphtha...	21.009	170	311788	225.15		#	24
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	477408	231.87			100
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	499731	229.63			96
23) Acenaphthylene	19.087	152	559260	218.51			99
24) Acenaphthene	19.700	154	345347	228.13			93
25) Dibenzofuran	20.285	168	560794	228.75			100
26) Fluorene	21.455	166	432128	227.23			88
27) 1-Methylfluorene	23.436	180	261743	220.12		#	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	25.514	167	487242	215.75			100
34) Dibenzothiophene	24.302	184	598501	233.33		#	79
35) 4-Methyldibenzothiophene	25.826	198	493369	229.23			100
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	663582	223.56			99
42) Anthracene	24.925	178	612760	217.95			96

Data Path : C:\GCMS7\MS70062\
Data File : MS70062J.D
Acq On : 3 Sep 2013 2:41 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 08 19:20:58 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 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	513682	226.02		94
48)	3,6-Dimethylphenanthrene	27.938	206	424339	229.92		81
49)	Retene	30.604	234	148119	195.23		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	747157	229.18		100
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	736548	232.24		100
59)	Pyrene	29.635	202	764249	225.59		100
60)	2-Methylfluoranthene	30.397	216	416422	216.88		100
61)	Benzo(b)fluorene	30.985	216	421596	217.90		100
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	699421	214.01		95
68)	Chrysene/Triphenylene	33.809	228	647360	229.76		96
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	221238	236.44		100
77)	Benzo(b)fluoranthene	37.223	252	774855m	240.25		
78)	Benzo(k,j)fluoranthene	37.300	252	720713m	239.20		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.193	252	773128	237.89		100
81)	Benzo(a)pyrene	38.387	252	698551	224.90		100
82)	Indeno(1,2,3-c,d)pyrene	43.041	276	769044	220.17		89
83)	Dibenzo(a,h)anthracene	43.115	278	609001	221.72		83
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	696553	228.57		92
89)	Perylene	38.697	252	705549	227.39		100
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	795030	221.62		100
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\MS70062\
Data File : MS70062J.D
Acq On : 3 Sep 2013 2:41 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 08 19:20:58 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

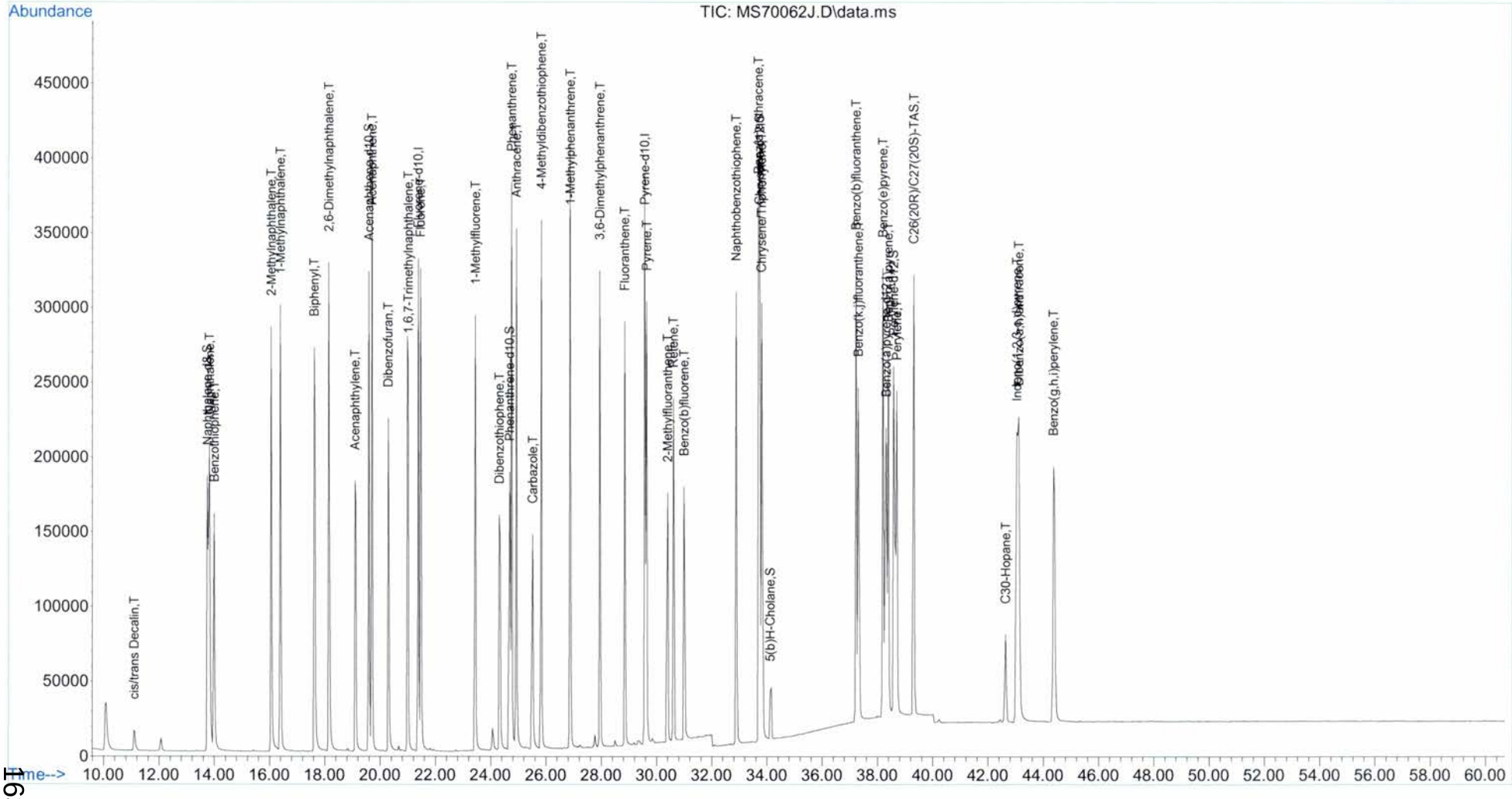
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70062\
Data File : MS70062J.D
Acq On : 3 Sep 2013 2:41 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 08 19:20:58 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70062\
Data File : MS70062L.D
Acq On : 3 Sep 2013 2:07 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 08 19:26:09 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 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	78	0.00
2	S	Naphthalene-d8	1.655	1.478	10.7	75	0.00
3	T	cis/trans Decalin	0.281	0.265	5.7	81	0.03
4	un	C1-Decalins	0.281	0.000	100.0#	0#	-12.26#
5	un	C2-Decalins	0.281	0.000	100.0#	0#	-13.60#
6	un	C3-Decalins	0.281	0.000	100.0#	0#	-15.83#
7	un	C4-Decalins	0.281	0.000	100.0#	0#	-18.47#
8	T	Naphthalene	1.775	1.603	9.7	76	0.03
9	T	2-Methylnaphthalene	1.183	1.074	9.2	77	0.00
10	T	1-Methylnaphthalene	1.103	1.001	9.2	77	0.00
11	T	2,6-Dimethylnaphthalene	1.034	0.933	9.8	76	0.00
12	T	1,6,7-Trimethylnaphthalene	0.958	0.877	8.5	78	0.00
13	un	C2-Naphthalenes	1.775	0.000	100.0#	0#	-18.84#
14	un	C3-Naphthalenes	1.775	0.000	100.0#	0#	-20.28#
15	un	C4-Naphthalenes	1.775	0.000	100.0#	0#	-22.07#
16	T	Benzothiophene	1.424	1.286	9.7	76	0.03
17	un	C1-Benzothiophenes	1.424	0.000	100.0#	0#	-15.41#
18	un	C2-Benzothiophenes	1.424	0.000	100.0#	0#	-17.86#
19	un	C3-Benzothiophenes	1.424	0.000	100.0#	0#	-20.26#
20	un	C4-Benzothiophenes	1.424	0.000	100.0#	0#	-22.01#
21	S	Acenaphthene-d10	0.969	0.872	10.0	77	0.00
22	T	Biphenyl	1.505	1.339	11.0	76	0.03
23	T	Acenaphthylene	1.770	1.598	9.7	78	0.03
24	T	Acenaphthene	1.047	0.955	8.8	77	0.00
25	T	Dibenzofuran	1.696	1.511	10.9	75	0.00
26	T	Fluorene	1.316	1.182	10.2	77	0.00
27	T	1-Methylfluorene	0.823	0.782	5.0	81	0.00
28	un	C1-Fluorenes	1.316	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.316	0.000	100.0#	0#	-24.82#
30	un	C3-Fluorenes	1.316	0.000	100.0#	0#	-27.21#
31	I	Pyrene-d10	1.000	1.000	0.0	78	0.00
32	S	Phenanthrene-d10	0.804	0.744	7.5	79	0.00
33	T	Carbazole	0.815	0.764	6.3	82	0.00
34	T	Dibenzothiophene	0.926	0.817	11.8	76	0.03
35	T	4-Methyldibenzothiophene	0.777	0.722	7.1	79	0.00
36	un	2/3-Methyldibenzothiophene	0.777	0.000	100.0#	0#	-26.14#
37	un	1-Methyldibenzothiophene	0.777	0.000	100.0#	0#	-26.45#
38	un	C2-Dibenzothiophenes	0.926	0.000	100.0#	0#	-27.97#
39	un	C3-Dibenzothiophenes	0.926	0.000	100.0#	0#	-29.22#
40	un	C4-Dibenzothiophenes	0.926	0.000	100.0#	0#	-30.81#
41	T	Phenanthrene	1.071	0.977	8.8	79	0.00
42	T	Anthracene	1.014	0.949	6.4	79	0.00
43	un	3-Methylphenanthrene	0.820	0.000	100.0#	0#	-26.86#
44	un	2-Methylphenanthrene	0.820	0.000	100.0#	0#	-26.86#
45	un	2-Methylanthracene	0.820	0.000	100.0#	0#	-26.86#
46	un	4/9-Methylphenanthrene	0.820	0.000	100.0#	0#	-26.86#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70062\
Data File : MS70062L.D
Acq On : 3 Sep 2013 2:07 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 08 19:26:09 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 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	0.820	0.732	10.7	77	0.00
48	T	3,6-Dimethylphenanthrene	0.666	0.581	12.8	76	0.00
49	T	Retene	0.274	0.254	7.3	83	0.00
50	un	C2-Phenanthrenes/Anthracene	1.071	0.000	100.0#	0#	-28.49#
51	un	C3-Phenanthrenes/Anthracene	1.071	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.071	0.000	100.0#	0#	-31.89#
53	T	Naphthobenzothiophene	1.176	1.000	15.0	73	0.00
54	un	C1-Naphthobenzothiophenes	1.176	0.000	100.0#	0#	-34.16#
55	un	C2-Naphthobenzothiophenes	1.176	0.000	100.0#	0#	-35.94#
56	un	C3-Naphthobenzothiophenes	1.176	0.000	100.0#	0#	-37.84#
57	un	C4-Naphthobenzothiophenes	1.176	0.000	100.0#	0#	-37.73#
58	T	Fluoranthene	1.144	0.997	12.8	75	0.00
59	T	Pyrene	1.222	1.167	4.5	82	0.00
60	T	2-Methylfluoranthene	0.693	0.672	3.0	86	0.00
61	T	Benzo(b)fluorene	0.698	0.625	10.5	79	0.00
62	un	C1-Fluoranthenes/Pyrenes	1.144	0.000	100.0#	0#	-30.60#
63	un	C2-Fluoranthenes/Pyrenes	1.144	0.000	100.0#	0#	-32.10#
64	un	C3-Fluoranthenes/Pyrenes	1.144	0.000	100.0#	0#	-33.89#
65	un	C4-Fluoranthenes/Pyrenes	1.144	0.000	100.0#	0#	-35.24#
66	S	Chrysene-d12	0.969	0.821	15.3	70	0.00
67	T	Benz(a)anthracene	1.179	1.014	14.0	73	0.00
68	T	Chrysene/Triphenylene	1.017	0.846	16.8	70	-0.04
69	un	C1-Chrysenes	1.017	0.000	100.0#	0#	-35.21#
70	un	C2-Chrysenes	1.017	0.000	100.0#	0#	-37.18#
71	un	C3-Chrysenes	1.017	0.000	100.0#	0#	-38.04#
72	un	C4-Chrysenes	1.017	0.000	100.0#	0#	-39.90#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	82	0.00
74	un	C29-Hopane	0.439	0.000	100.0#	0#	-40.64#
75	un	18a-Oleanane	0.439	0.000	100.0#	0#	-42.45#
76	T	C30-Hopane	0.439	0.000	100.0#	0#	-42.64#
77	T	Benzo(b)fluoranthene	1.512	1.257	16.9	74	0.00
78	T	Benzo(k,j)fluoranthene	1.412	1.216	13.9	79	0.00
79	un	Benzo(a)fluoranthene	1.412	0.000	100.0#	0#	-37.22#
80	T	Benzo(e)pyrene	1.524	1.256	17.6	73	0.00
81	T	Benzo(a)pyrene	1.456	1.292	11.3	82	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.637	1.351	17.5	77	0.00
83	T	Dibenzo(a,h)anthracene	1.288	1.084	15.8	78	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.288	0.000	100.0#	0#	-48.68#
85	un	C2-Dibenzo(a,h)anthracenes	1.288	0.000	100.0#	0#	-50.27#
86	un	C3-Dibenzo(a,h)anthracenes	1.288	0.000	100.0#	0#	-50.82#
87	T	Benzo(g,h,i)perylene	1.429	1.145	19.9	73	0.00
88	S	Perylene-d12	1.187	0.999	15.8	78	0.00
89	T	Perylene	1.455	1.273	12.5	81	0.00
90	S	5(b)H-Cholane	0.204	0.183	10.3	83	0.00
91	un	C20-TAS	1.682	0.000	100.0#	0#	-33.73#
92	un	C21-TAS	1.682	0.000	100.0#	0#	-34.16#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70062\
Data File : MS70062L.D
Acq On : 3 Sep 2013 2:07 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 08 19:26:09 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 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	1.682	0.000	100.0#	0#	-38.58#
94 T	C26(20R)/C27(20S)-TAS	1.682	1.517	9.8	83	0.00
95 un	C28(20S)-TAS	1.682	0.000	100.0#	0#	-39.74#
96 un	C27(20R)-TAS	1.682	0.000	100.0#	0#	-40.94#
97 un	C28(20R)-TAS	1.682	0.000	100.0#	0#	-40.94#

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70062\
Data File : MS70062L.D
Acq On : 3 Sep 2013 2:07 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 08 19:26:09 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorene-d10	21.371	176	345391	251.05			0.00
31) Pyrene-d10	29.565	212	683762	250.63			0.00
73) Benzo(a)pyrene-d12	38.309	264	590903	250.32			0.00
System Monitoring Compounds							
2) Naphthalene-d8	13.738	136	508613	223.40			0.00
21) Acenaphthene-d10	19.588	164	300214	225.19			0.00
32) Phenanthrene-d10	24.683	188	507678	231.42			0.00
66) Chrysene-d12	33.731	240	559959	211.90			0.00
88) Perylene-d12	38.619	264	589561	210.42			0.00
90) 5(b)H-Cholane	34.158	217	107867	224.23			0.00
Target Compounds							Qvalue
3) cis/trans Decalin	11.120	138	90273m	233.72			
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	551217	225.71			96
9) 2-Methylnaphthalene	16.051	142	369867	227.33			96
10) 1-Methylnaphthalene	16.385	142	343890	226.60			97
11) 2,6-Dimethylnaphthalene	18.140	156	320846	225.60		#	8
12) 1,6,7-Trimethylnaphtha...	21.009	170	301707	228.93		#	28
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	439770	224.43			100
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	456313	220.33			89
23) Acenaphthylene	19.115	152	545357	223.90			99
24) Acenaphthene	19.700	154	329229	228.52			94
25) Dibenzofuran	20.285	168	517170	221.67			100
26) Fluorene	21.455	166	407363	225.08			88
27) 1-Methylfluorene	23.436	180	270824	239.32		#	51
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	516257	232.21			100
34) Dibenzothiophene	24.337	184	549237	217.51		#	93
35) 4-Methyldibenzothiophene	25.826	198	496369	234.27			100
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	660283	225.97			100
42) Anthracene	24.925	178	649156	234.55			96

Data Path : C:\GCMS7\MS70062\
Data File : MS70062L.D
Acq On : 3 Sep 2013 2:07 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 08 19:26:09 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 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	26.864	192	493737	220.68			97
48)	3,6-Dimethylphenanthrene	27.938	206	396386	218.17			94
49)	Retene	30.639	234	154896	207.39		#	17
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	686591	213.94			100
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	680705	218.03			100
59)	Pyrene	29.635	202	796021	238.69			100
60)	2-Methylfluoranthene	30.397	216	461846	244.35			100
61)	Benzo(b)fluorene	30.985	216	430018	225.76			100
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.			
65)	C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d		
67)	Benz(a)anthracene	33.692	228	690109	214.50			93
68)	Chrysene/Triphenylene	33.809	228	573299	206.69			93
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	743098m	208.21			
78)	Benzo(k,j)fluoranthene	37.339	252	714541m	214.31			
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d		
80)	Benzo(e)pyrene	38.192	252	738282	205.29			100
81)	Benzo(a)pyrene	38.386	252	760961	221.39			100
82)	Indeno(1,2,3-c,d)pyrene	43.041	276	783566	202.72			87
83)	Dibenzo(a,h)anthracene	43.115	278	634093	208.62		#	82
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	669729	198.60			95
89)	Perylene	38.697	252	752279	219.09			100
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	895280	225.53			100
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\MS70062\
Data File : MS70062L.D
Acq On : 3 Sep 2013 2:07 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 08 19:26:09 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

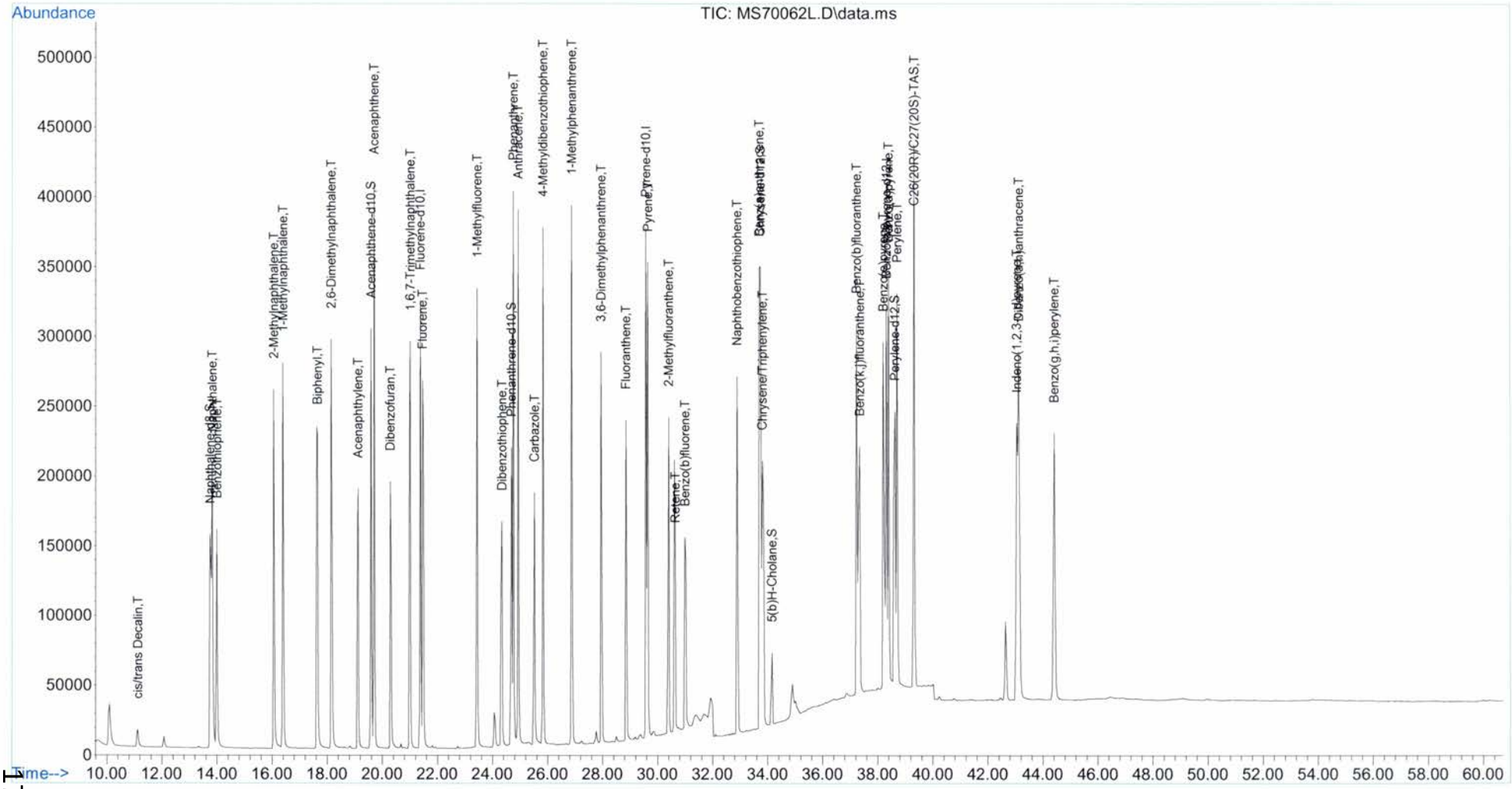
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70062\
Data File : MS70062L.D
Acq On : 3 Sep 2013 2:07 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 08 19:26:09 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70062\
Data File : MS70062M.D
Acq On : 4 Sep 2013 12:25 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Sep 08 19:34:36 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 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	69	0.00
2	S	Naphthalene-d8	1.655	1.466	11.4	66	0.03
3	T	cis/trans Decalin	0.281	0.255	9.3	69	0.03
4	un	C1-Decalins	0.281	0.000	100.0#	0#	-12.26#
5	un	C2-Decalins	0.281	0.000	100.0#	0#	-13.60#
6	un	C3-Decalins	0.281	0.000	100.0#	0#	-15.83#
7	un	C4-Decalins	0.281	0.000	100.0#	0#	-18.47#
8	T	Naphthalene	1.775	1.609	9.4	68	0.03
9	T	2-Methylnaphthalene	1.183	1.062	10.2	67	0.00
10	T	1-Methylnaphthalene	1.103	0.993	10.0	67	0.00
11	T	2,6-Dimethylnaphthalene	1.034	0.917	11.3	66	0.03
12	T	1,6,7-Trimethylnaphthalene	0.958	0.905	5.5	71	0.00
13	un	C2-Naphthalenes	1.775	0.000	100.0#	0#	-18.84#
14	un	C3-Naphthalenes	1.775	0.000	100.0#	0#	-20.28#
15	un	C4-Naphthalenes	1.775	0.000	100.0#	0#	-22.07#
16	T	Benzothiophene	1.424	1.281	10.0	67	0.03
17	un	C1-Benzothiophenes	1.424	0.000	100.0#	0#	-15.41#
18	un	C2-Benzothiophenes	1.424	0.000	100.0#	0#	-17.86#
19	un	C3-Benzothiophenes	1.424	0.000	100.0#	0#	-20.26#
20	un	C4-Benzothiophenes	1.424	0.000	100.0#	0#	-22.01#
21	S	Acenaphthene-d10	0.969	0.866	10.6	67	0.00
22	T	Biphenyl	1.505	1.308	13.1	65	0.03
23	T	Acenaphthylene	1.770	1.619	8.5	70	0.03
24	T	Acenaphthene	1.047	0.977	6.7	70	0.00
25	T	Dibenzofuran	1.696	1.461	13.9	64	0.03
26	T	Fluorene	1.316	1.166	11.4	67	0.03
27	T	1-Methylfluorene	0.823	0.839	-1.9	77	0.00
28	un	C1-Fluorenes	1.316	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.316	0.000	100.0#	0#	-24.82#
30	un	C3-Fluorenes	1.316	0.000	100.0#	0#	-27.21#
31	I	Pyrene-d10	1.000	1.000	0.0	64	0.00
32	S	Phenanthrene-d10	0.804	0.877	-9.1	77	0.00
33	T	Carbazole	0.815	0.938	-15.1	82	0.00
34	T	Dibenzothiophene	0.926	0.913	1.4	69	0.03
35	T	4-Methyldibenzothiophene	0.777	0.786	-1.2	71	0.00
36	un	2/3-Methyldibenzothiophene	0.777	0.000	100.0#	0#	-26.14#
37	un	1-Methyldibenzothiophene	0.777	0.000	100.0#	0#	-26.45#
38	un	C2-Dibenzothiophenes	0.926	0.000	100.0#	0#	-27.97#
39	un	C3-Dibenzothiophenes	0.926	0.000	100.0#	0#	-29.22#
40	un	C4-Dibenzothiophenes	0.926	0.000	100.0#	0#	-30.81#
41	T	Phenanthrene	1.071	1.046	2.3	69	0.00
42	T	Anthracene	1.014	1.084	-6.9	74	0.00
43	un	3-Methylphenanthrene	0.820	0.000	100.0#	0#	-26.86#
44	un	2-Methylphenanthrene	0.820	0.000	100.0#	0#	-26.86#
45	un	2-Methylanthracene	0.820	0.000	100.0#	0#	-26.86#
46	un	4/9-Methylphenanthrene	0.820	0.000	100.0#	0#	-26.86#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70062\
Data File : MS70062M.D
Acq On : 4 Sep 2013 12:25 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Sep 08 19:34:36 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 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	0.820	0.764	6.8	66	0.00
48	T	3,6-Dimethylphenanthrene	0.666	0.630	5.4	68	0.03
49	T	Retene	0.274	0.315	-15.0	84	0.00
50	un	C2-Phenanthrenes/Anthracene	1.071	0.000	100.0#	0#	-28.49#
51	un	C3-Phenanthrenes/Anthracene	1.071	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.071	0.000	100.0#	0#	-31.89#
53	T	Naphthobenzothiophene	1.176	0.971	17.4	58	0.00
54	un	C1-Naphthobenzothiophenes	1.176	0.000	100.0#	0#	-34.16#
55	un	C2-Naphthobenzothiophenes	1.176	0.000	100.0#	0#	-35.94#
56	un	C3-Naphthobenzothiophenes	1.176	0.000	100.0#	0#	-37.84#
57	un	C4-Naphthobenzothiophenes	1.176	0.000	100.0#	0#	-37.73#
58	T	Fluoranthene	1.144	1.053	8.0	65	0.03
59	T	Pyrene	1.222	1.341	-9.7	78	0.00
60	T	2-Methylfluoranthene	0.693	0.847	-22.2	89	0.00
61	T	Benzo(b)fluorene	0.698	0.733	-5.0	76	0.03
62	un	C1-Fluoranthenes/Pyrenes	1.144	0.000	100.0#	0#	-30.60#
63	un	C2-Fluoranthenes/Pyrenes	1.144	0.000	100.0#	0#	-32.10#
64	un	C3-Fluoranthenes/Pyrenes	1.144	0.000	100.0#	0#	-33.89#
65	un	C4-Fluoranthenes/Pyrenes	1.144	0.000	100.0#	0#	-35.24#
66	S	Chrysene-d12	0.969	0.820	15.4	57	0.04
67	T	Benz(a)anthracene	1.179	0.957	18.8	57	0.00
68	T	Chrysene/Triphenylene	1.017	0.952	6.4	65	0.00
69	un	C1-Chrysenes	1.017	0.000	100.0#	0#	-35.21#
70	un	C2-Chrysenes	1.017	0.000	100.0#	0#	-37.18#
71	un	C3-Chrysenes	1.017	0.000	100.0#	0#	-38.04#
72	un	C4-Chrysenes	1.017	0.000	100.0#	0#	-39.90#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	66	0.00
74	un	C29-Hopane	0.439	0.000	100.0#	0#	-40.64#
75	un	18a-Oleanane	0.439	0.000	100.0#	0#	-42.45#
76	T	C30-Hopane	0.439	0.429	2.3	71	0.00
77	T	Benzo(b)fluoranthene	1.512	1.495	1.1	71	0.00
78	T	Benzo(k,j)fluoranthene	1.412	1.165	17.5	61	0.00
79	un	Benzo(a)fluoranthene	1.412	0.000	100.0#	0#	-37.22#
80	T	Benzo(e)pyrene	1.524	1.292	15.2	61	0.04
81	T	Benzo(a)pyrene	1.456	1.378	5.4	70	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.637	1.260	23.0	58	0.04
83	T	Dibenzo(a,h)anthracene	1.288	1.057	17.9	62	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.288	0.000	100.0#	0#	0.11
85	un	C2-Dibenzo(a,h)anthracenes	1.288	0.001	99.9#	0#	0.00
86	un	C3-Dibenzo(a,h)anthracenes	1.288	0.000	100.0#	0#	-0.07
87	T	Benzo(g,h,i)perylene	1.429	1.011	29.3#	52	0.00
88	S	Perylene-d12	1.187	1.114	6.1	70	0.00
89	T	Perylene	1.455	1.384	4.9	71	0.00
90	S	5(b)H-Cholane	0.204	0.238	-16.7	87	0.00
91	un	C20-TAS	1.682	0.000	100.0#	0#	-33.73#
92	un	C21-TAS	1.682	0.000	100.0#	0#	-34.16#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70062\
Data File : MS70062M.D
Acq On : 4 Sep 2013 12:25 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Sep 08 19:34:36 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 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	1.682	0.000	100.0#	0#	-38.58#
94 T	C26(20R)/C27(20S)-TAS	1.682	1.727	-2.7	76	0.00
95 un	C28(20S)-TAS	1.682	0.000	100.0#	0#	-39.74#
96 un	C27(20R)-TAS	1.682	0.000	100.0#	0#	-40.94#
97 un	C28(20R)-TAS	1.682	0.000	100.0#	0#	-40.94#

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70062\
Data File : MS70062M.D
Acq On : 4 Sep 2013 12:25 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Sep 08 19:34:36 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorene-d10	21.371	176	304992	251.05			0.00
31) Pyrene-d10	29.566	212	560126	250.63			0.00
73) Benzo(a)pyrene-d12	38.309	264	476406m	250.32			0.00
System Monitoring Compounds							
2) Naphthalene-d8	13.766	136	445495	221.60			0.03
21) Acenaphthene-d10	19.589	164	263121	223.50			0.00
32) Phenanthrene-d10	24.683	188	490506	272.95			0.00
66) Chrysene-d12	33.770	240	457951	211.55			0.04
88) Perylene-d12	38.619	264	530140	234.68			0.00
90) 5(b)H-Cholane	34.158	217	113125	291.68			0.00
Target Compounds							Qvalue
3) cis/trans Decalin	11.120	138	76692m	224.86			
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	488583	226.57			96
9) 2-Methylnaphthalene	16.051	142	322991	224.81			99
10) 1-Methylnaphthalene	16.385	142	301353	224.87			98
11) 2,6-Dimethylnaphthalene	18.168	156	278652	221.89			100
12) 1,6,7-Trimethylnaphtha...	21.009	170	274972	236.28		#	37
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	386684	223.48			100
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	393769	215.31			90
23) Acenaphthylene	19.115	152	487754	226.77			100
24) Acenaphthene	19.700	154	297354	233.74			96
25) Dibenzofuran	20.313	168	441622	214.36			100
26) Fluorene	21.483	166	354972	222.11			99
27) 1-Methylfluorene	23.436	180	256595	256.78		#	62
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	519219	285.10			100
34) Dibenzothiophene	24.337	184	503225	243.28			94
35) 4-Methyldibenzothiophene	25.826	198	442734	255.08			100
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	579355m	242.04			
42) Anthracene	24.925	178	607637	268.01			97

Data Path : C:\GCMS7\MS70062\
Data File : MS70062M.D
Acq On : 4 Sep 2013 12:25 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Sep 08 19:34:36 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 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	422041	230.27			98
48)	3,6-Dimethylphenanthrene	27.973	206	352258	236.68		#	48
49)	Retene	30.639	234	157078	256.74		#	24
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	545635	207.54			100
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	588700	230.18			100
59)	Pyrene	29.635	202	749272	274.26			100
60)	2-Methylfluoranthene	30.397	216	476466	307.72			100
61)	Benzo(b)fluorene	31.020	216	413471	264.99			100
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	533758	202.52			91
68)	Chrysene/Triphenylene	33.848	228	528504	232.60			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	203927	244.28			100
77)	Benzo(b)fluoranthene	37.223	252	712899m	247.75			
78)	Benzo(k,j)fluoranthene	37.339	252	552191m	205.42			
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d		
80)	Benzo(e)pyrene	38.231	252	612217m	211.15			
81)	Benzo(a)pyrene	38.386	252	654465m	236.17			
82)	Indeno(1,2,3-c,d)pyrene	43.078	276	589364	189.12			91
83)	Dibenzo(a,h)anthracene	43.115	278	498165	203.29		#	79
84)	C1-Dibenzo(a,h)anthrac...	48.793	292	180	0.07			100
85)	C2-Dibenzo(a,h)anthrac...	50.268	306	492	0.20			100
86)	C3-Dibenzo(a,h)anthrac...	50.747	320	44	0.02			100
87)	Benzo(g,h,i)perylene	44.405	276	476530m	175.27			
89)	Perylene	38.697	252	659159	238.11			100
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	821496	256.68			100
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\MS70062\
Data File : MS70062M.D
Acq On : 4 Sep 2013 12:25 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Sep 08 19:34:36 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

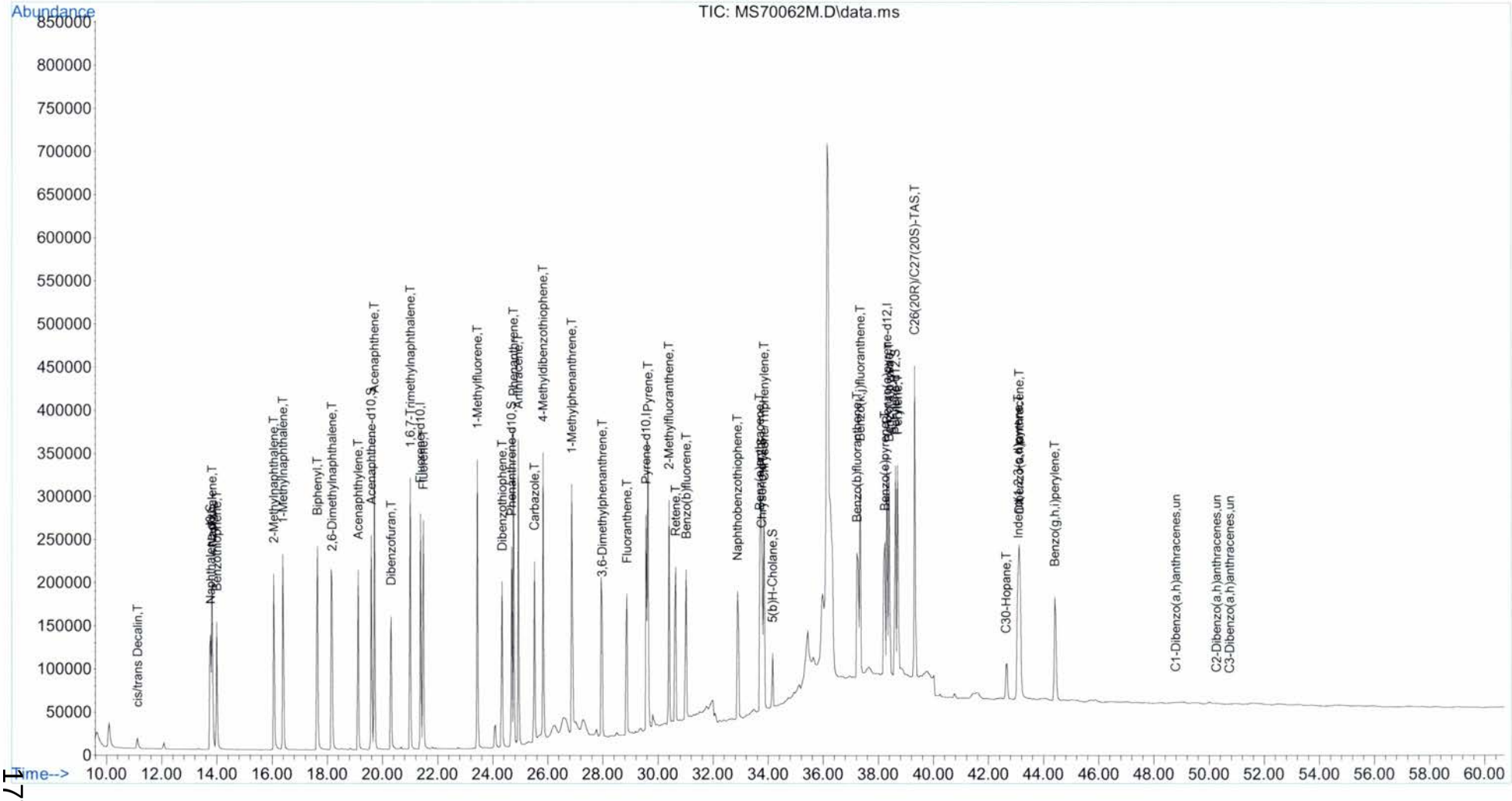
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70062\
Data File : MS70062M.D
Acq On : 4 Sep 2013 12:25 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Sep 08 19:34:36 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70062\
Data File : MS70062N.D
Acq On : 4 Sep 2013 10:43 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Sep 08 19:39:31 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 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	71	0.00
2	S	Naphthalene-d8	1.655	1.476	10.8	68	0.03
3	T	cis/trans Decalin	0.281	0.259	7.8	72	0.03
4	un	C1-Decalins	0.281	0.000	100.0#	0#	-12.26#
5	un	C2-Decalins	0.281	0.000	100.0#	0#	-13.60#
6	un	C3-Decalins	0.281	0.000	100.0#	0#	-15.83#
7	un	C4-Decalins	0.281	0.000	100.0#	0#	-18.47#
8	T	Naphthalene	1.775	1.624	8.5	70	0.03
9	T	2-Methylnaphthalene	1.183	1.082	8.5	71	0.00
10	T	1-Methylnaphthalene	1.103	1.011	8.3	71	0.00
11	T	2,6-Dimethylnaphthalene	1.034	0.933	9.8	69	0.03
12	T	1,6,7-Trimethylnaphthalene	0.958	0.908	5.2	74	0.00
13	un	C2-Naphthalenes	1.775	0.000	100.0#	0#	-18.84#
14	un	C3-Naphthalenes	1.775	0.000	100.0#	0#	-20.28#
15	un	C4-Naphthalenes	1.775	0.000	100.0#	0#	-22.07#
16	T	Benzothiophene	1.424	1.293	9.2	70	0.03
17	un	C1-Benzothiophenes	1.424	0.000	100.0#	0#	-15.41#
18	un	C2-Benzothiophenes	1.424	0.000	100.0#	0#	-17.86#
19	un	C3-Benzothiophenes	1.424	0.000	100.0#	0#	-20.26#
20	un	C4-Benzothiophenes	1.424	0.000	100.0#	0#	-22.01#
21	S	Acenaphthene-d10	0.969	0.885	8.7	71	0.00
22	T	Biphenyl	1.505	1.340	11.0	69	0.03
23	T	Acenaphthylene	1.770	1.614	8.8	72	0.03
24	T	Acenaphthene	1.047	0.977	6.7	72	0.00
25	T	Dibenzofuran	1.696	1.511	10.9	69	0.00
26	T	Fluorene	1.316	1.178	10.5	70	0.03
27	T	1-Methylfluorene	0.823	0.821	0.2	78	0.00
28	un	C1-Fluorenes	1.316	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.316	0.000	100.0#	0#	-24.82#
30	un	C3-Fluorenes	1.316	0.000	100.0#	0#	-27.21#
31	I	Pyrene-d10	1.000	1.000	0.0	68	0.00
32	S	Phenanthrene-d10	0.804	0.822	-2.2	76	0.00
33	T	Carbazole	0.815	0.862	-5.8	80	0.00
34	T	Dibenzothiophene	0.926	0.885	4.4	71	0.03
35	T	4-Methyldibenzothiophene	0.777	0.769	1.0	73	0.00
36	un	2/3-Methyldibenzothiophene	0.777	0.000	100.0#	0#	-26.14#
37	un	1-Methyldibenzothiophene	0.777	0.000	100.0#	0#	-26.45#
38	un	C2-Dibenzothiophenes	0.926	0.000	100.0#	0#	-27.97#
39	un	C3-Dibenzothiophenes	0.926	0.000	100.0#	0#	-29.22#
40	un	C4-Dibenzothiophenes	0.926	0.000	100.0#	0#	-30.81#
41	T	Phenanthrene	1.071	1.069	0.2	75	0.00
42	T	Anthracene	1.014	1.030	-1.6	75	0.00
43	un	3-Methylphenanthrene	0.820	0.000	100.0#	0#	-26.86#
44	un	2-Methylphenanthrene	0.820	0.000	100.0#	0#	-26.86#
45	un	2-Methylanthracene	0.820	0.000	100.0#	0#	-26.86#
46	un	4/9-Methylphenanthrene	0.820	0.000	100.0#	0#	-26.86#

Data Path : C:\GCMS7\MS70062\
Data File : MS70062N.D
Acq On : 4 Sep 2013 10:43 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Sep 08 19:39:31 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 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	0.820	0.743	9.4	68	0.00
48	T	3,6-Dimethylphenanthrene	0.666	0.596	10.5	68	0.00
49	T	Retene	0.274	0.281	-2.6	79	0.00
50	un	C2-Phenanthrenes/Anthracene	1.071	0.000	100.0#	0#	-28.49#
51	un	C3-Phenanthrenes/Anthracene	1.071	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.071	0.000	100.0#	0#	-31.89#
53	T	Naphthobenzothiophene	1.176	0.963	18.1	61	0.00
54	un	C1-Naphthobenzothiophenes	1.176	0.000	100.0#	0#	-34.16#
55	un	C2-Naphthobenzothiophenes	1.176	0.000	100.0#	0#	-35.94#
56	un	C3-Naphthobenzothiophenes	1.176	0.000	100.0#	0#	-37.84#
57	un	C4-Naphthobenzothiophenes	1.176	0.000	100.0#	0#	-37.73#
58	T	Fluoranthene	1.144	1.011	11.6	66	0.00
59	T	Pyrene	1.222	1.301	-6.5	80	0.00
60	T	2-Methylfluoranthene	0.693	0.777	-12.1	87	0.00
61	T	Benzo(b)fluorene	0.698	0.669	4.2	73	0.03
62	un	C1-Fluoranthenes/Pyrenes	1.144	0.000	100.0#	0#	-30.60#
63	un	C2-Fluoranthenes/Pyrenes	1.144	0.000	100.0#	0#	-32.10#
64	un	C3-Fluoranthenes/Pyrenes	1.144	0.000	100.0#	0#	-33.89#
65	un	C4-Fluoranthenes/Pyrenes	1.144	0.000	100.0#	0#	-35.24#
66	S	Chrysene-d12	0.969	0.794	18.1	59	0.00
67	T	Benz(a)anthracene	1.179	0.957	18.8	60	0.00
68	T	Chrysene/Triphenylene	1.017	0.881	13.4	63	0.00
69	un	C1-Chrysenes	1.017	0.000	100.0#	0#	-35.21#
70	un	C2-Chrysenes	1.017	0.000	100.0#	0#	-37.18#
71	un	C3-Chrysenes	1.017	0.000	100.0#	0#	-38.04#
72	un	C4-Chrysenes	1.017	0.000	100.0#	0#	-39.90#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	59	0.00
74	un	C29-Hopane	0.439	0.000	100.0#	0#	-40.64#
75	un	18a-Oleanane	0.439	0.000	100.0#	0#	-42.45#
76	T	C30-Hopane	0.439	0.454	-3.4	67	0.00
77	T	Benzo(b)fluoranthene	1.512	1.791	-18.5	76	0.00
78	T	Benzo(k,j)fluoranthene	1.412	1.122	20.5	53	0.00
79	un	Benzo(a)fluoranthene	1.412	0.000	100.0#	0#	-37.22#
80	T	Benzo(e)pyrene	1.524	1.415	7.2	60	0.00
81	T	Benzo(a)pyrene	1.456	1.486	-2.1	68	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.637	1.277	22.0	53	0.00
83	T	Dibenzo(a,h)anthracene	1.288	1.049	18.6	55	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.288	0.000	100.0#	0#	-48.68#
85	un	C2-Dibenzo(a,h)anthracenes	1.288	0.000	100.0#	0#	-50.27#
86	un	C3-Dibenzo(a,h)anthracenes	1.288	0.000	100.0#	0#	-50.82#
87	T	Benzo(g,h,i)perylene	1.429	1.000	30.0#	47#	0.00
88	S	Perylene-d12	1.187	1.167	1.7	66	0.00
89	T	Perylene	1.455	1.496	-2.8	69	0.00
90	S	5(b)H-Cholane	0.204	0.243	-19.1	80	0.00
91	un	C20-TAS	1.682	0.000	100.0#	0#	-33.73#
92	un	C21-TAS	1.682	0.000	100.0#	0#	-34.16#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70062\
Data File : MS70062N.D
Acq On : 4 Sep 2013 10:43 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Sep 08 19:39:31 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 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	1.682	0.000	100.0#	0#	-38.58#
94 T	C26(20R)/C27(20S)-TAS	1.682	1.864	-10.8	74	0.00
95 un	C28(20S)-TAS	1.682	0.000	100.0#	0#	-39.74#
96 un	C27(20R)-TAS	1.682	0.000	100.0#	0#	-40.94#
97 un	C28(20R)-TAS	1.682	0.000	100.0#	0#	-40.94#

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

Data Path : C:\GCMS7\MS70062\
Data File : MS70062N.D
Acq On : 4 Sep 2013 10:43 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Sep 08 19:39:31 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorene-d10	21.371	176	315000	251.05			0.00
31) Pyrene-d10	29.566	212	592181	250.63			0.00
73) Benzo(a)pyrene-d12	38.309	264	428971m	250.32			0.00
System Monitoring Compounds							
2) Naphthalene-d8	13.766	136	463132	223.05			0.03
21) Acenaphthene-d10	19.589	164	277760	228.44			0.00
32) Phenanthrene-d10	24.683	188	486131	255.87			0.00
66) Chrysene-d12	33.731	240	469029	204.94			0.00
88) Perylene-d12	38.619	264	499956	245.80			0.00
90) 5(b)H-Cholane	34.158	217	104311	298.70			0.00
Target Compounds							Qvalue
3) cis/trans Decalin	11.120	138	80242m	227.79			
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	13.822	128	509401	228.72			96
9) 2-Methylnaphthalene	16.051	142	339894	229.06			98
10) 1-Methylnaphthalene	16.385	142	316909	228.97			98
11) 2,6-Dimethylnaphthalene	18.168	156	292748	225.71			99
12) 1,6,7-Trimethylnaphtha...	21.009	170	284673	236.84		#	32
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	403199	225.62			100
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	416644	220.58			91
23) Acenaphthylene	19.115	152	502163	226.05			100
24) Acenaphthene	19.700	154	307029	233.68			95
25) Dibenzofuran	20.285	168	471612	221.64			100
26) Fluorene	21.483	166	370205	224.28			98
27) 1-Methylfluorene	23.436	180	259611	251.55		#	58
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	504432	261.98			100
34) Dibenzothiophene	24.337	184	515582	235.76		#	93
35) 4-Methyldibenzothiophene	25.826	198	458199	249.70			100
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	625765	247.28			99
42) Anthracene	24.925	178	610287	254.60			97

Data Path : C:\GCMS7\MS70062\
Data File : MS70062N.D
Acq On : 4 Sep 2013 10:43 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Sep 08 19:39:31 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 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	433775	223.86			99
48) 3,6-Dimethylphenanthrene	27.938	206	352458	224.00			94
49) Retene	30.639	234	148216	229.14		#	21
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	572150	205.85			100
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	598014	221.17			100
59) Pyrene	29.635	202	768750	266.16			100
60) 2-Methylfluoranthene	30.397	216	461982	282.22			100
61) Benzo(b)fluorene	31.020	216	398596	241.63			100
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	564197	202.48			91
68) Chrysene/Triphenylene	33.847	228	517336	215.36			96
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	194622	258.91			100
77) Benzo(b)fluoranthene	37.223	252	768842m	296.74			
78) Benzo(k,j)fluoranthene	37.339	252	478585m	197.72			
79) Benzo(a)fluoranthene	0.000		0	N.D.	d		
80) Benzo(e)pyrene	38.193	252	603878	231.30			100
81) Benzo(a)pyrene	38.386	252	635313	254.61			100
82) Indeno(1,2,3-c,d)pyrene	43.041	276	537904	191.70			86
83) Dibenzo(a,h)anthracene	43.115	278	445322	201.82		#	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	44.405	276	424569	173.43			94
89) Perylene	38.697	252	641565	257.38			100
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	798580	277.11			100
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\MS70062\
Data File : MS70062N.D
Acq On : 4 Sep 2013 10:43 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Sep 08 19:39:31 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

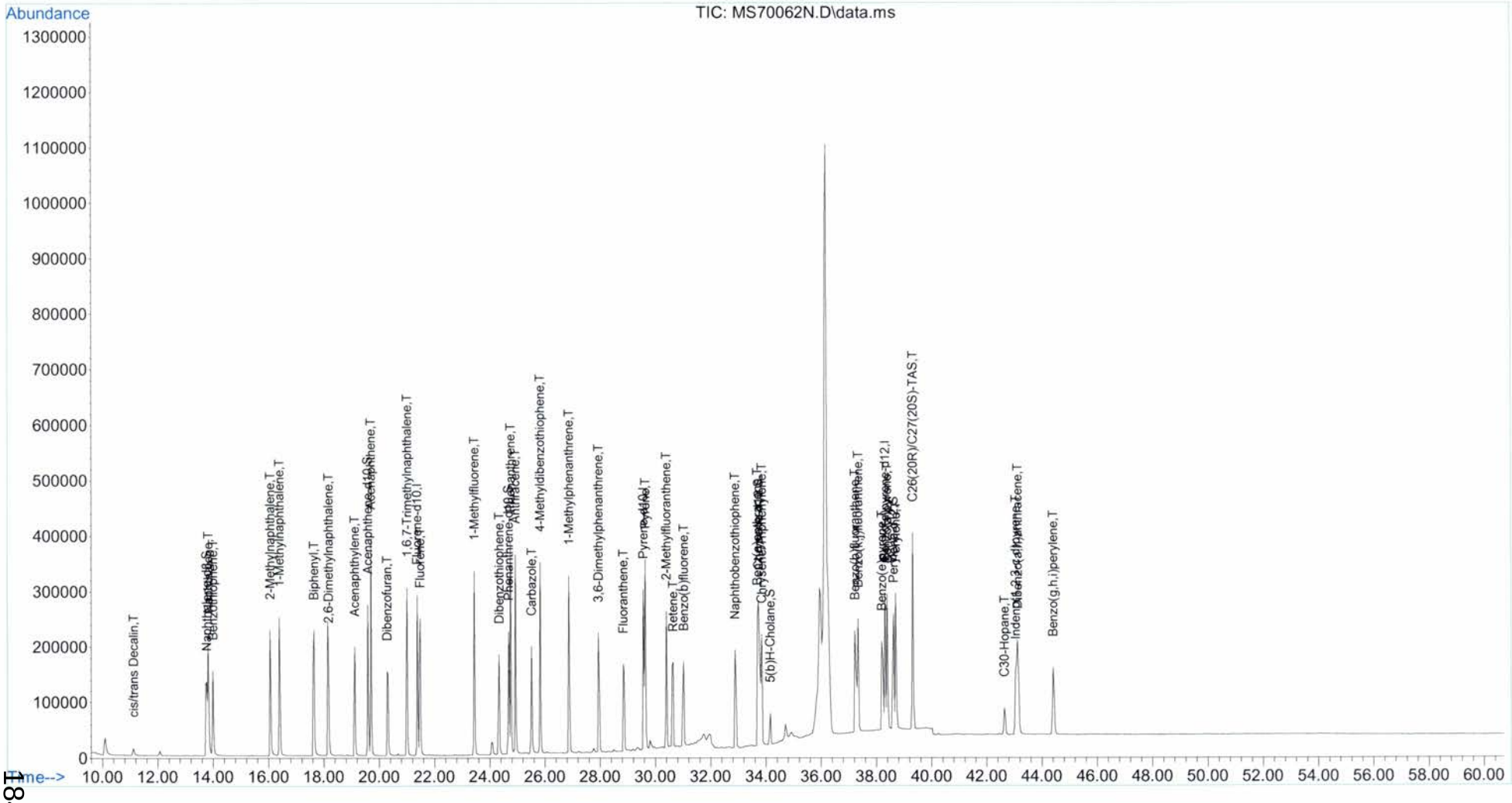
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70062\
Data File : MS70062N.D
Acq On : 4 Sep 2013 10:43 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Sep 08 19:39:31 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	MS70062H.D	**Surrogate/Internal Multiplier Factor:**	1.00		
Data File Path	P:\2013\J13034\PAH\MSDChemstation\MS70062\	**AR-WKSU-2500-001:**	**(ng/mL)**		
Operator	YM	Naphthalene-d8	250.125		
Date Acquired	9/3/2013 0:24	Acenaphthene-d10	250.163	***Copy data below***	
Acq. Method File	PAH-2012.M	Phenanthrene-d10	250.194	***to Spread Sheet***	
Sample Name	AR-WKISSU-250-002	Chrysene-d12	250.038		
Misc Info	0	Perylene-d12	250.031	MS70062H.D	
Instrument Name	GCMSD	5(b)H-Cholane	250.000	AR-WKISSU-250-002	
Vial Number	8			9/3/2013	
Sample Multiplier	1			PAH-2012.M	
Sample Amount	0			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	608347	234.01	93.56
21)	Acenaphthene-d10	19.59	343061	225.36	90.08
32)	Phenanthrene-d10	24.68	556298	235.98	94.32
66)	Chrysene-d12	33.73	658778	231.98	92.78
88)	Perylene-d12	38.58	625401	232.56	93.01
90)	5(b)H-Cholane	34.12	115563	250.30	100.12
	Internal Standards				
1)	Fluorene-d10	21.37	394385	251.05	
31)	Pyrene-d10	29.57	734786	250.63	
73)	Benzo(a)pyrene-d12	38.31	567142	250.33	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : MS70062H.D
Acq On : 3 Sep 2013 12:24 am
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 08 19:10:00 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.371	176	394385	251.05		0.00
31) Pyrene-d10	29.566	212	734786m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	567142	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.739	136	608347	234.01		0.00
21) Acenaphthene-d10	19.589	164	343061	225.36		0.00
32) Phenanthrene-d10	24.683	188	556298	235.98		0.00
66) Chrysene-d12	33.731	240	658778	231.98		0.00
88) Perylene-d12	38.581	264	625401	232.56		-0.04
90) 5(b)H-Cholane	34.119	217	115563	250.30		-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	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.	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	

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : MS70062H.D
Acq On : 3 Sep 2013 12:24 am
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 08 19:10:00 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 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 : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : MS70062H.D
Acq On : 3 Sep 2013 12:24 am
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 08 19:10:00 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

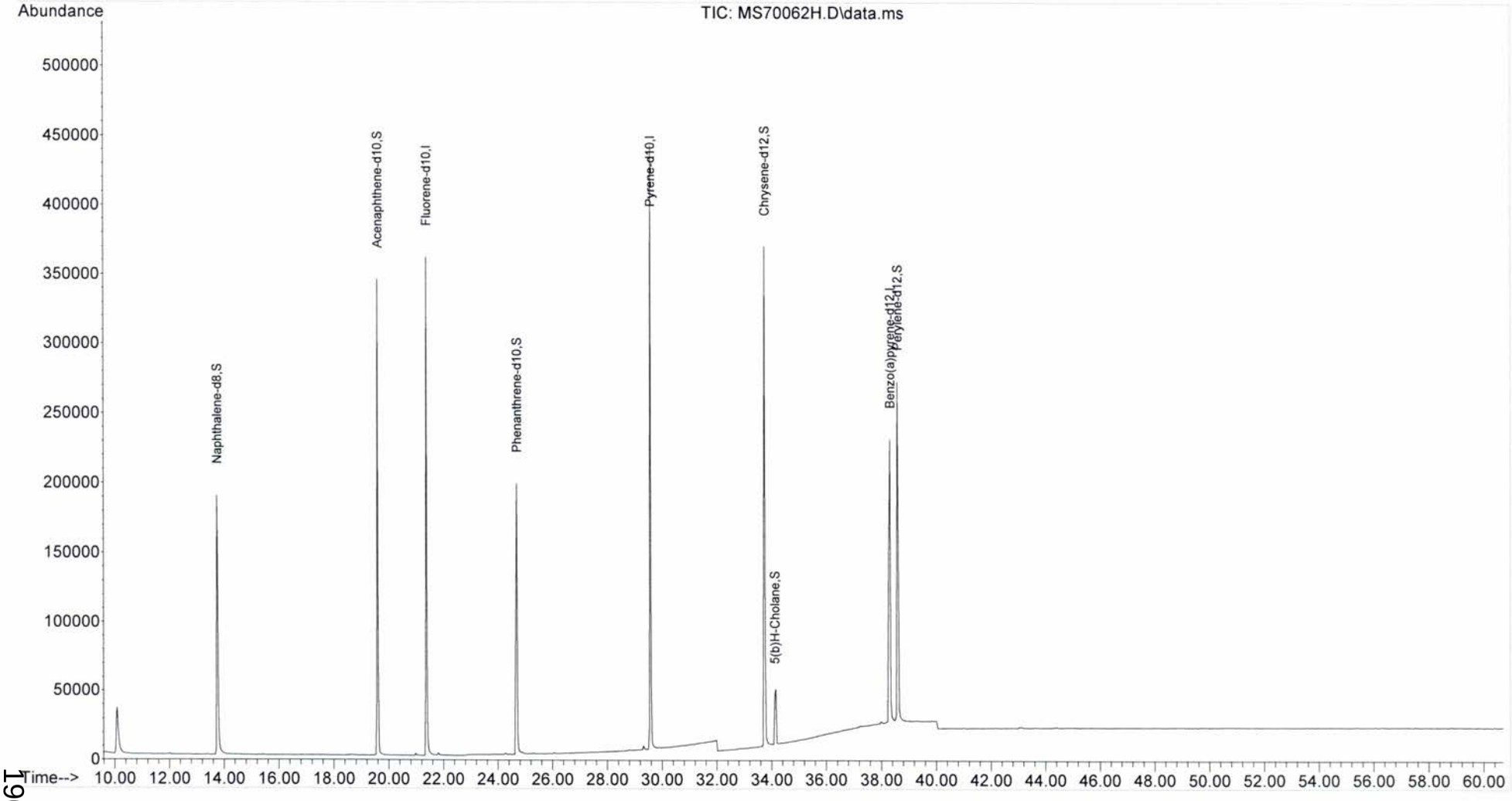
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : MS70062H.D
Acq On : 3 Sep 2013 12:24 am
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 08 19:10:00 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	MS70062K.D
Data File Path	P:\2013\J13034\PAH\MSDChemstation\MS70062\
Operator	YM
Date Acquired	9/3/2013 3:50
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

MS70062K.D
\R-SRM2779-WK4.0-002
9/3/2013
PAH-2012.M
4.088140305

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.12	1616030	627.0406	680.5118
4)	C1-Decalins	12.26	2267370	879.7692	954.7920
5)	C2-Decalins	13.74	1874350	727.2745	789.2932
6)	C3-Decalins	16.61	2009230	779.6063	846.0877
7)	C4-Decalins	17.64	1034270	401.3121	435.5342
8)	Naphthalene	13.82	10785900	661.9244	718.3704
9)+10)	C1-Naphthalenes	16.22	23281810	1428.7912	1550.6322
13)	C2-Naphthalenes	18.42	26959500	1654.4882	1795.5756
14)	C3-Naphthalenes	20.42	18940300	1162.3525	1261.4727
15)	C4-Naphthalenes	22.74	9793450	601.0190	652.2712
16)	Benzothiophene	14.02	93826	7.1762	7.7882
17)	C1-Benzothiophenes	15.58	339824	25.9913	28.2077
18)	C2-Benzothiophenes	18.56	342677	26.2095	28.4445
19)	C3-Benzothiophenes	20.26	366811	28.0553	30.4477
20)	C4-Benzothiophenes	21.71	299489	22.9062	24.8596
22)	Biphenyl	17.61	1986580	143.7575	156.0165
23)	Acenaphthylene	19.11	135789	8.3550	9.0675
24)	Acenaphthene	19.70	155753	16.2026	17.5843
25)	Dibenzofuran	20.28	387753	24.9079	27.0319
26)	Fluorene	21.45	1303600	107.9483	117.1537
28)	C1-Fluorenes	23.44	3026600	250.6274	271.9998
29)	C2-Fluorenes	25.17	4182870	346.3751	375.9124
30)	C3-Fluorenes	26.76	3310500	274.1369	297.5140
33)	Carbazole	25.51	53402	3.3445	3.6297
42)	Anthracene	24.93	67572	3.3994	3.6893
41)	Phenanthrene	24.75	4355830	207.5579	225.2576
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.65	9262758	441.3760	479.0146
50)	C2-Phenanthrenes/Anthracenes	28.32	9898370	471.6643	511.8858
51)	C3-Phenanthrenes/Anthracenes	29.88	7283390	347.0576	376.6531
52)	C4-Phenanthrenes/Anthracenes	31.71	3987060	189.9857	206.1868
34)	Dibenzothiophene	24.34	734715	40.5123	43.9670
35)+36)+37)	C1-Dibenzothiophenes	26.13	2040927	112.5371	122.1337
38)	C2-Dibenzothiophenes	27.90	2463580	135.8417	147.4257
39)	C3-Dibenzothiophenes	29.43	1701080	93.7974	101.7960
40)	C4-Dibenzothiophenes	30.15	1004930	55.4120	60.1373
58)	Fluoranthene	28.87	95220	4.2465	4.6086
59)	Pyrene	29.63	286824	11.9748	12.9959
62)	C1-Fluoranthenes/Pyrenes	30.78	1467270	65.4354	71.0154
63)	C2-Fluoranthenes/Pyrenes	32.26	3131430	139.6518	151.5606
64)	C3-Fluoranthenes/Pyrenes	33.92	2081740	92.8388	100.7557
65)	C4-Fluoranthenes/Pyrenes	35.09	2006450	89.4810	97.1116
53)	Naphthobenzothiophene	32.88	439325	19.0599	20.6852
54)	C1-Naphthobenzothiophenes	34.04	923977	40.0862	43.5046
55)	C2-Naphthobenzothiophenes	35.75	1194650	51.8292	56.2490
56)	C3-Naphthobenzothiophenes	37.11	764450	33.1652	35.9934
57)	C4-Naphthobenzothiophenes	38.08	386828	16.7823	18.2134
67)	Benz(a)anthracene	33.69	114820	4.9690	5.3927
68)	Chrysene/Triphenylene	33.81	742385	37.2663	40.4442
69)	C1-Chrysenes	35.05	1912500	96.0043	104.1911
70)	C2-Chrysenes	36.52	2165860	108.7225	117.9939
71)	C3-Chrysenes	37.92	1542540	77.4328	84.0359
72)	C4-Chrysenes	39.32	925535	46.4602	50.4222
77)	Benzo(b)fluoranthene	37.22	121082	4.5550	4.9434
78)	Benzo(k,j)fluoranthene	37.34	14496	0.5837	0.6335
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.19	222388	8.3024	9.0104
81)	Benzo(a)pyrene	38.39	42530	1.6613	1.8030
89)	Perylene	38.70	12650	0.4946	0.5368
82)	Indeno(1,2,3-c,d)pyrene	43.08	19363	0.6726	0.7300
83)	Dibenzo(a,h)anthracene	43.08	15378	0.6793	0.7372
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	36346	1.4471	1.5705

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	14292900	1316.5571	1428.8272
10)	1-Methylnaphthalene	16.38	8988910	887.6921	963.3906
11)	2,6-Dimethylnaphthalene	18.20	7551620	795.7971	863.6591
12)	1,6,7-Trimethylnaphthalene	21.01	2360220	268.4008	291.2888
27)	1-Methylfluorene	23.44	1480630	196.0896	212.8113
35)	4-Methyldibenzothiophene	25.83	1166800	76.6750	83.2135
36)	2/3-Methyldibenzothiophene	26.10	520429	34.1994	37.1158
37)	1-Methyldibenzothiophene	26.45	353698	23.2429	25.2250
43)	3-Methylphenanthrene	26.41	2254160	140.2804	152.2429
44)	2-Methylphenanthrene	26.52	2206920	137.3407	149.0525
45)	2-Methylanthracene	26.66	157138	9.7790	10.6129
46)	4/9-Methylphenanthrene	26.80	2620980	163.1084	177.0176
47)	1-Methylphenanthrene	26.86	2023560	125.9301	136.6689
48)	3,6-Dimethylphenanthrene	27.94	472759	36.2302	39.3197
49)	Retene	30.60	96462	17.9828	19.5163
60)	2-Methylfluoranthene	30.40	70292	5.1780	5.6196
61)	Benzo(b)fluorene	31.02	174052	12.7232	13.8082
74)	C29-Hopane	40.64	172914	22.4214	24.3334
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	41.93	279451	36.2358	39.3258
91)	C20-TAS	33.27	187651	6.3467	6.8879
92)	C21-TAS	34.35	174041	5.8864	6.3883
93)	C26(20S)-TAS	38.46	91992	3.1113	3.3766
94)	C26(20R)/C27(20S)-TAS	39.36	271790	9.1924	9.9763
95)	C28(20S)-TAS	40.13	211712	7.1605	7.7711
96)	C27(20R)-TAS	40.57	175374	5.9315	6.4373
97)	C28(20R)-TAS	41.71	132771	4.4906	4.8735
	Surrogate Standards				
2)	Naphthalene-d8	13.74	905932	59.64	97.47
21)	Acenaphthene-d10	19.59	508137	57.12	93.35
32)	Phenanthrene-d10	24.68	888473	56.39	92.14
66)	Chrysene-d12	33.73	993971	52.37	85.63
88)	Perylene-d12	38.62	1096780	52.56	85.93
90)	5(b)H-Cholane	34.16	253632	70.79	115.76
	Internal Standards				
1)	Fluorene-d10	21.37	563728	61.41	
31)	Pyrene-d10	29.57	1201240	61.31	
73)	Benzo(a)pyrene-d12	38.31	1076550	61.23	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : MS70062K.D
Acq On : 3 Sep 2013 3:50 am
Operator : YM
Sample : AR-SRM2779-WK4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Sep 09 21:10:48 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.371	176	563728m	251.05		0.00
31) Pyrene-d10	29.565	212	1201242m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	1076549m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.738	136	905932m	59.64		0.00
21) Acenaphthene-d10	19.588	164	508137m	57.12		0.00
32) Phenanthrene-d10	24.683	188	888473m	56.39		0.00
66) Chrysene-d12	33.731	240	993971m	52.37		0.00
88) Perylene-d12	38.619	264	1096783m	52.56		0.00
90) 5(b)H-Cholane	34.158	217	253632m	70.79		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.120	138	1616031m	627.04		
4) C1-Decalins	12.262	152	2267371m	879.77		
5) C2-Decalins	13.738	166	1874354m	727.27		
6) C3-Decalins	16.608	180	2009227m	779.61		
7) C4-Decalins	17.638	194	1034274m	401.31		
8) Naphthalene	13.822	128	10785876m	661.92		
9) 2-Methylnaphthalene	16.051	142	14292865m	1316.56		
10) 1-Methylnaphthalene	16.385	142	8988910m	887.69		
11) 2,6-Dimethylnaphthalene	18.195	156	7551616m	795.80		
12) 1,6,7-Trimethylnaphtha...	21.009	170	2360218m	268.40		
13) C2-Naphthalenes	18.418	156	26959482m	1654.49		
14) C3-Naphthalenes	20.424	170	18940262m	1162.35		
15) C4-Naphthalenes	22.736	184	9793448m	601.02		
16) Benzothiophene	14.017	134	93826m	7.18		
17) C1-Benzothiophenes	15.577	148	339824m	25.99		
18) C2-Benzothiophenes	18.558	162	342677m	26.21		
19) C3-Benzothiophenes	20.257	176	366811m	28.06		
20) C4-Benzothiophenes	21.705	190	299489m	22.91		
22) Biphenyl	17.610	154	1986578m	143.76		
23) Acenaphthylene	19.115	152	135789m	8.36		
24) Acenaphthene	19.700	154	155753m	16.20		
25) Dibenzofuran	20.285	168	387753m	24.91		
26) Fluorene	21.455	166	1303596m	107.95		
27) 1-Methylfluorene	23.436	180	1480626m	196.09		
28) C1-Fluorenes	23.436	180	3026604m	250.63		
29) C2-Fluorenes	25.168	194	4182867m	346.38		
30) C3-Fluorenes	26.761	208	3310498m	274.14		
33) Carbazole	25.514	167	53402m	3.34		
34) Dibenzothiophene	24.337	184	734715m	40.51		
35) 4-Methyldibenzothiophene	25.826	198	1166796m	76.67		
36) 2/3-Methyldibenzothiop...	26.103	198	520429m	34.20		
37) 1-Methyldibenzothiophene	26.449	198	353698m	23.24		
38) C2-Dibenzothiophenes	27.903	212	2463578m	135.84		
39) C3-Dibenzothiophenes	29.427	226	1701076m	93.80		
40) C4-Dibenzothiophenes	30.154	240	1004932m	55.41		
41) Phenanthrene	24.752	178	4355828m	207.56		
42) Anthracene	24.925	178	67572m	3.40		
43) 3-Methylphenanthrene	26.414	192	2254158m	140.28		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : MS70062K.D
Acq On : 3 Sep 2013 3:50 am
Operator : YM
Sample : AR-SRM2779-WK4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Sep 09 21:10:48 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.518	192	2206919m	137.34		
45) 2-Methylanthracene	26.657	192	157138m	9.78		
46) 4/9-Methylphenanthrene	26.795	192	2620982m	163.11		
47) 1-Methylphenanthrene	26.864	192	2023564m	125.93		
48) 3,6-Dimethylphenanthrene	27.938	206	472759m	36.23		
49) Retene	30.604	234	96462m	17.98		
50) C2-Phenanthrenes/Anthr...	28.319	206	9898370m	471.66		
51) C3-Phenanthrenes/Anthr...	29.877	220	7283385m	347.06		
52) C4-Phenanthrenes/Anthr...	31.712	234	3987055m	189.99		
53) Naphthobenzothiophene	32.877	234	439325m	19.06		
54) C1-Naphthobenzothiophenes	34.041	248	923977m	40.09		
55) C2-Naphthobenzothiophenes	35.748	262	1194651m	51.83		
56) C3-Naphthobenzothiophenes	37.106	276	764450m	33.17		
57) C4-Naphthobenzothiophenes	38.076	290	386828m	16.78		
58) Fluoranthene	28.873	202	95220m	4.25		
59) Pyrene	29.635	202	286824m	11.97		
60) 2-Methylfluoranthene	30.396	216	70292m	5.18		
61) Benzo(b)fluorene	31.020	216	174052m	12.72		
62) C1-Fluoranthenes/Pyrenes	30.777	216	1467267m	65.44		
63) C2-Fluoranthenes/Pyrenes	32.257	230	3131434m	139.65		
64) C3-Fluoranthenes/Pyrenes	33.925	244	2081739m	92.84		
65) C4-Fluoranthenes/Pyrenes	35.089	258	2006446m	89.48		
67) Benz(a)anthracene	33.692	228	114820m	4.97		
68) Chrysene/Triphenylene	33.809	228	742385m	37.27		
69) C1-Chrysenes	35.050	242	1912502m	96.00		
70) C2-Chrysenes	36.524	256	2165861m	108.72		
71) C3-Chrysenes	37.921	270	1542540m	77.43		
72) C4-Chrysenes	39.317	284	925535m	46.46		
74) C29-Hopane	40.644	191	172914m	22.42		
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	41.935	191	279451m	36.24		
77) Benzo(b)fluoranthene	37.222	252	121082m	4.55		
78) Benzo(k,j)fluoranthene	37.339	252	14496m	0.58		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.192	252	222388m	8.30		
81) Benzo(a)pyrene	38.386	252	42530m	1.66		
82) Indeno(1,2,3-c,d)pyrene	43.078	276	19363m	0.67		
83) Dibenzo(a,h)anthracene	43.078	278	15378m	0.68		
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	36346m	1.45		
89) Perylene	38.697	252	12650m	0.49		
91) C20-TAS	33.265	231	187651m	6.35		
92) C21-TAS	34.352	231	174041m	5.89		
93) C26(20S)-TAS	38.464	231	91992m	3.11		
94) C26(20R)/C27(20S)-TAS	39.356	231	271790m	9.19		
95) C28(20S)-TAS	40.128	231	211712m	7.16		
96) C27(20R)-TAS	40.571	231	175374m	5.93		
97) C28(20R)-TAS	41.714	231	132771m	4.49		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : MS70062K.D
Acq On : 3 Sep 2013 3:50 am
Operator : YM
Sample : AR-SRM2779-WK4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Sep 09 21:10:48 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

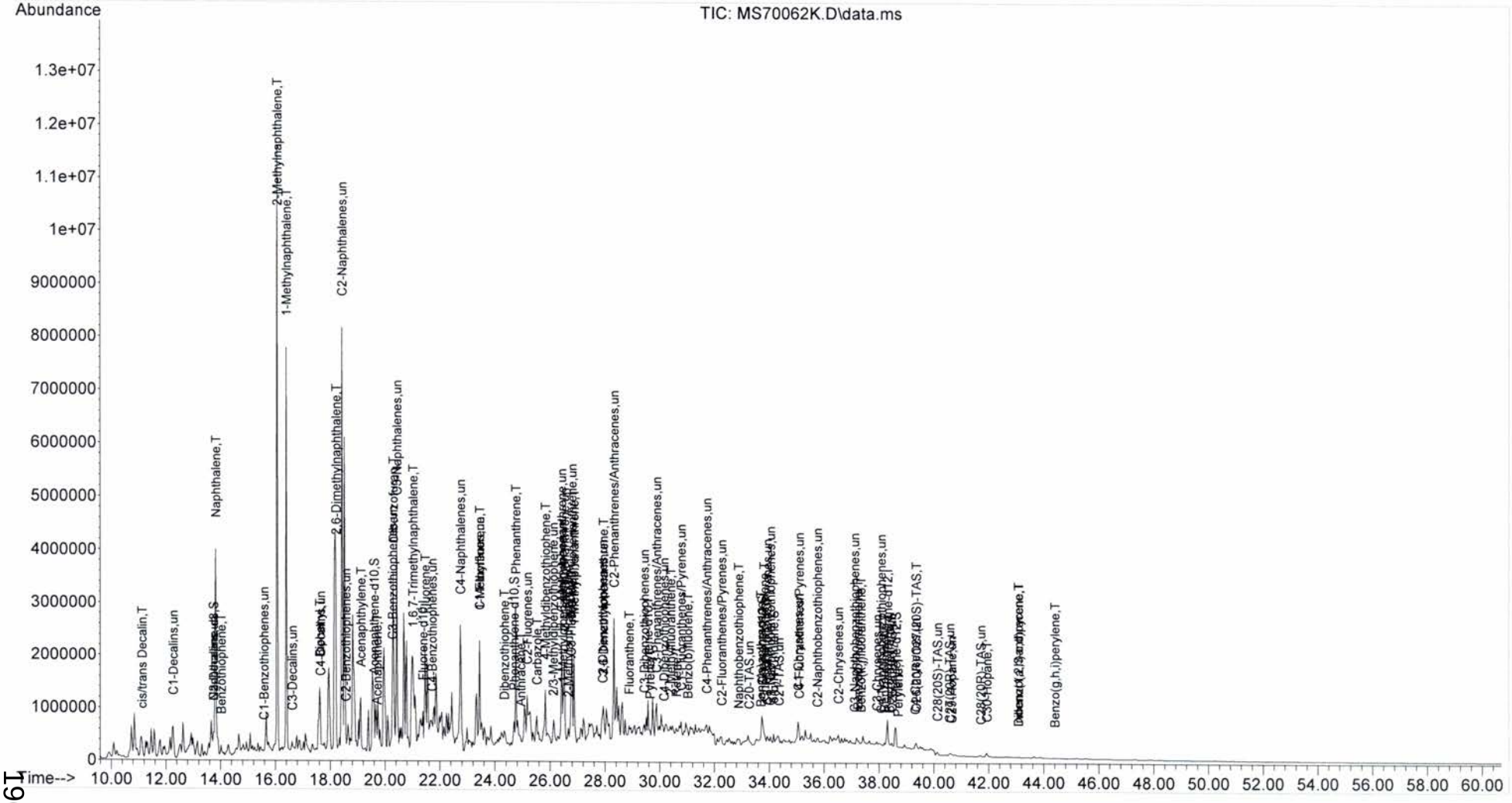
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : MS70062K.D
Acq On : 3 Sep 2013 3:50 am
Operator : YM
Sample : AR-SRM2779-WK4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Sep 09 21:10:48 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	ENV3092A.D
Data File Path	C:\GCMS7\MS70062\
Operator	YM
Date Acquired	9/3/2013 4:58
Acq. Method File	PAH-2012.M
Sample Name	Procedural Blank
Misc Info	0
Instrument Name	GCMSD
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

ENV3092A.D
Procedural Blank
9/3/2013
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	4881	0.1312	0.1509
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	24.75	3578	0.0782	0.0899
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	29.63	1082	0.0207	0.0238
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	481667	13.89	83.31
21) Acenaphthene-d10	19.59	297312	14.64	87.80
32) Phenanthrene-d10	24.68	498501	14.51	86.96
66) Chrysene-d12	33.73	654719	15.82	94.87
88) Perylene-d12	38.58	626737	15.88	95.27
90) 5(b)H-Cholane	34.12	122580	18.09	108.54
Internal Standards				
1) Fluorene-d10	21.37	350665	16.74	
31) Pyrene-d10	29.57	714129	16.71	
73) Benzo(a)pyrene-d12	38.31	554881	16.69	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ENV3092A.D
Acq On : 3 Sep 2013 4:58 am
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 0.06667

Quant Time: Sep 09 07:56:16 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	350665m	251.05	0.00
31) Pyrene-d10	29.565	212	714129m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	554881m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.738	136	481667m	13.89	0.00
21) Acenaphthene-d10	19.588	164	297312m	14.64	0.00
32) Phenanthrene-d10	24.683	188	498501m	14.51	0.00
66) Chrysene-d12	33.731	240	654719m	15.82	0.00
88) Perylene-d12	38.580	264	626737m	15.88	-0.04
90) 5(b)H-Cholane	34.119	217	122580m	18.09	-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	4881m	0.13	
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	24.752	178	3578m	0.08	
42) Anthracene	0.000		0	N.D. d	
43) 3-Methylphenanthrene	0.000		0	N.D. d	

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ENV3092A.D
Acq On : 3 Sep 2013 4:58 am
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 0.06667

Quant Time: Sep 09 07:56:16 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 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	29.635	202	1082m	0.02		
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.		
97) C28(20R)-TAS	0.000		0	N.D.		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ENV3092A.D
Acq On : 3 Sep 2013 4:58 am
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 0.06667

Quant Time: Sep 09 07:56:16 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

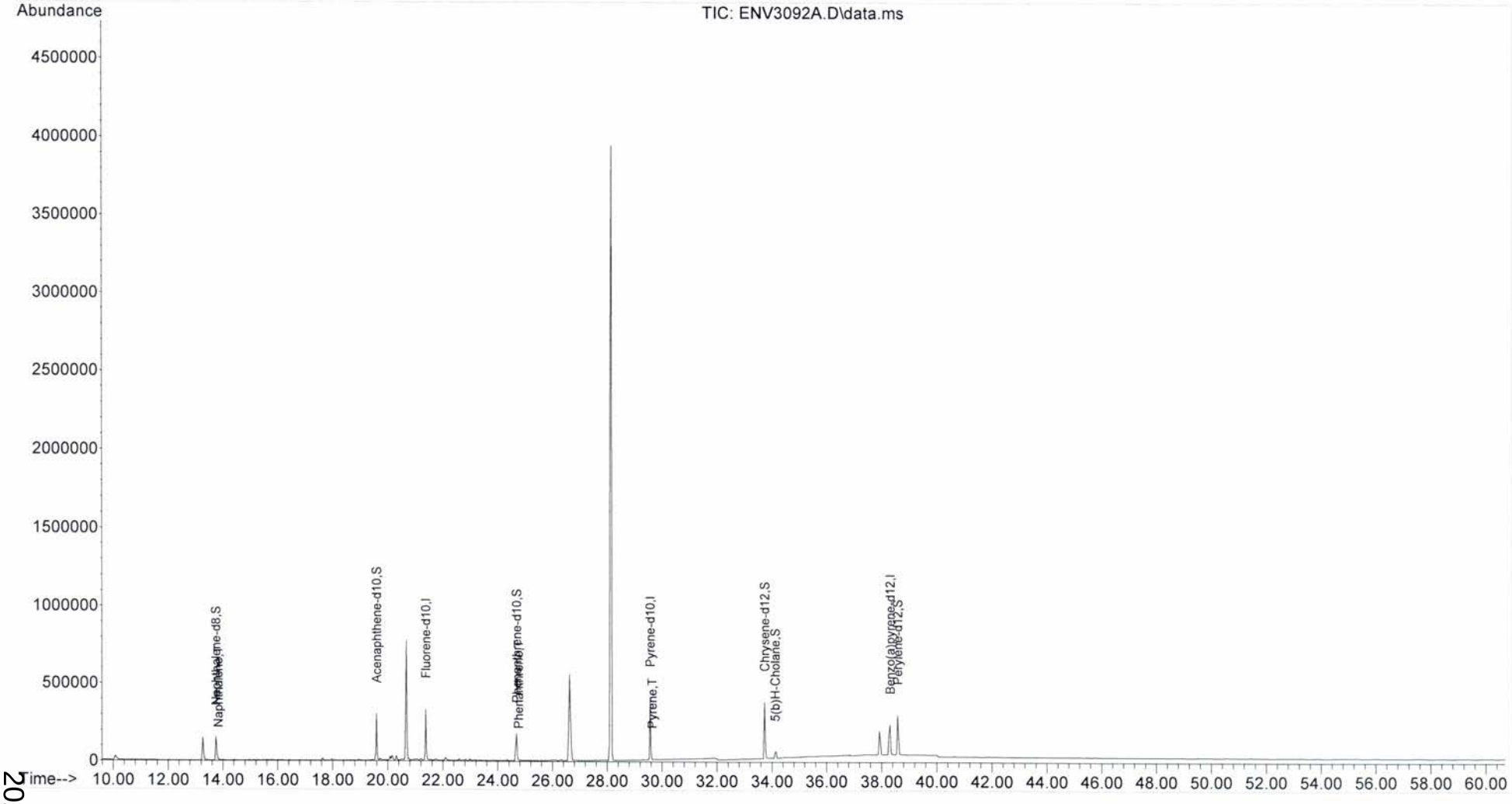
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ENV3092A.D
Acq On : 3 Sep 2013 4:58 am
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 0.06667

Quant Time: Sep 09 07:56:16 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	ENV3092B.D
Data File Path	P:\2013\J13034\PAH\MSDChemstation\MS70062\
Operator	YM
Date Acquired	9/3/2013 6:07
Acq. Method File	PAH-2012.M
Sample Name	SRM 1941b
Misc Info	0
Instrument Name	GCMSD
Vial Number	13
Sample Multiplier	0.24876
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

ENV3092B.D
SRM 1941b
9/3/2013
PAH-2012.M
4.019938897

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.34	41530	26.5492	29.9049
4)	C1-Decalins	12.65	14274	9.1250	10.2784
5)	C2-Decalins	13.40	16918	10.8153	12.1823
6)	C3-Decalins	16.13	26069	16.6653	18.7718
7)	C4-Decalins	17.53	48976	31.3092	35.2665
8)	Naphthalene	13.82	6457710	652.9403	735.4694
9)+10)	C1-Naphthalenes	16.22	2033797	205.6376	231.6294
13)	C2-Naphthalenes	18.42	1811260	183.1366	206.2844
14)	C3-Naphthalenes	20.42	1236610	125.0335	140.8373
15)	C4-Naphthalenes	22.74	911565	92.1686	103.8183
16)	Benzothiophene	13.99	204753	25.8016	29.0629
17)	C1-Benzothiophenes	16.25	110066	13.8698	15.6228
18)	C2-Benzothiophenes	18.17	144781	18.2443	20.5503
19)	C3-Benzothiophenes	20.54	127094	16.0155	18.0398
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.61	505824	60.3069	67.9294
23)	Acenaphthylene	19.09	614105	62.2539	70.1226
24)	Acenaphthene	19.70	161752	27.7231	31.2271
25)	Dibenzofuran	20.28	729976	77.2559	87.0208
26)	Fluorene	21.45	327640	44.7004	50.3504
28)	C1-Fluorenes	23.44	379241	51.7406	58.2804
29)	C2-Fluorenes	25.31	862231	117.6356	132.5043
30)	C3-Fluorenes	27.52	1143520	156.0121	175.7314
33)	Carbazole	25.51	161418	18.4228	20.7514
42)	Anthracene	24.93	1829420	167.7172	188.9160
41)	Phenanthrene	24.75	4244860	368.6076	415.1982
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.65	3057061	265.4636	299.0172
50)	C2-Phenanthrenes/Anthracenes	28.32	2891480	251.0859	282.8222
51)	C3-Phenanthrenes/Anthracenes	29.74	2186840	189.8977	213.9000
52)	C4-Phenanthrenes/Anthracenes	31.71	1418140	123.1464	138.7116
34)	Dibenzothiophene	24.30	482886	48.5226	54.6557
35)+36)+37)	C1-Dibenzothiophenes	26.13	648316	65.1458	73.3800
38)	C2-Dibenzothiophenes	27.56	970136	97.4838	109.8054
39)	C3-Dibenzothiophenes	29.39	940961	94.5522	106.5032
40)	C4-Dibenzothiophenes	30.78	596195	59.9086	67.4808
58)	Fluoranthene	28.84	7555150	614.0168	691.6262
59)	Pyrene	29.63	6372340	484.8233	546.1031
62)	C1-Fluoranthenes/Pyrenes	30.78	3928480	319.2710	359.6257
63)	C2-Fluoranthenes/Pyrenes	32.49	4529300	368.1026	414.6294
64)	C3-Fluoranthenes/Pyrenes	33.93	1731170	140.6944	158.4777
65)	C4-Fluoranthenes/Pyrenes	35.24	1281530	104.1516	117.3159
53)	Naphthobenzothiophene	32.88	1397510	110.4897	124.4552
54)	C1-Naphthobenzothiophenes	34.04	1278610	101.0893	113.8667
55)	C2-Naphthobenzothiophenes	35.75	1232700	97.4597	109.7782
56)	C3-Naphthobenzothiophenes	37.11	886716	70.1055	78.9666
57)	C4-Naphthobenzothiophenes	37.96	374090	29.5763	33.3147
67)	Benz(a)anthracene	33.69	3823410	301.5344	339.6472
68)	Chrysene/Triphenylene	33.81	4221020	386.1352	434.9413
69)	C1-Chrysenes	35.09	2963740	271.1210	305.3897
70)	C2-Chrysenes	36.52	1679820	153.6683	173.0913
71)	C3-Chrysenes	37.30	963058	88.0996	99.2351
72)	C4-Chrysenes	39.32	371002	33.9388	38.2286
77)	Benzo(b)fluoranthene	37.22	4160760	287.9248	324.3174
78)	Benzo(k,j)fluoranthene	37.22	6417600	475.3828	535.4694
79)	Benzo(a)fluoranthene	37.57	830491	61.5186	69.2943
80)	Benzo(e)pyrene	38.19	4006530	275.1460	309.9234
81)	Benzo(a)pyrene	38.39	3258290	234.1245	263.7169
89)	Perylene	38.70	4375000	314.6914	354.4671
82)	Indeno(1,2,3-c,d)pyrene	43.04	3845780	245.7353	276.7953
83)	Dibenzo(a,h)anthracene	43.11	804688	65.3871	73.6517
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	3182240	233.0613	262.5193
# Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	1411110	214.1533	241.2214
10) 1-Methylnaphthalene	16.38	622687	101.3137	114.1194
11) 2,6-Dimethylnaphthalene	18.17	561077	97.4154	109.7283
12) 1,6,7-Trimethylnaphthalene	21.01	179867	33.6998	37.9593
27) 1-Methylfluorene	23.44	120210	26.2298	29.5451
35) 4-Methyldibenzothiophene	25.83	334052	40.0041	45.0605
36) 2/3-Methyldibenzothiophene	26.10	216022	25.8695	29.1394
37) 1-Methyldibenzothiophene	26.45	98242	11.7649	13.2519
43) 3-Methylphenanthrene	26.41	706934	80.1724	90.3058
44) 2-Methylphenanthrene	26.52	750005	85.0570	95.8079
45) 2-Methylanthracene	26.66	448988	50.9192	57.3552
46) 4/9-Methylphenanthrene	26.80	598946	67.9257	76.5112
47) 1-Methylphenanthrene	26.86	552188	62.6228	70.5381
48) 3,6-Dimethylphenanthrene	27.97	249195	34.8020	39.2009
49) Retene	30.64	110810	37.6456	42.4039
60) 2-Methylfluoranthene	30.40	531861	71.3981	80.4225
61) Benzo(b)fluorene	30.99	552109	73.5489	82.8452
74) C29-Hopane	40.64	1015410	242.2014	272.8148
75) 18a-Oleanane	41.71	158885	37.8981	42.6883
76) C30-Hopane	41.94	1162340	277.2480	312.2911
91) C20-TAS	33.23	168604	10.4898	11.8156
92) C21-TAS	34.31	63971	3.9800	4.4830
93) C26(20S)-TAS	38.46	31307	1.9478	2.1940
94) C26(20R)/C27(20S)-TAS	39.36	129519	8.0581	9.0766
95) C28(20S)-TAS	40.13	64621	4.0204	4.5286
96) C27(20R)-TAS	40.57	113473	7.0598	7.9521
97) C28(20R)-TAS	41.71	59923	3.7281	4.1994
Surrogate Standards				
2) Naphthalene-d8	13.74	431003	46.74	75.13
21) Acenaphthene-d10	19.59	288154	53.37	85.76
32) Phenanthrene-d10	24.68	477712	55.25	88.78
66) Chrysene-d12	33.73	547470	52.57	84.51
88) Perylene-d12	38.62	542314	47.80	76.86
90) 5(b)H-Cholane	34.16	116795	59.96	96.42
Internal Standards				
1) Fluorene-d10	21.37	347963	62.45	
31) Pyrene-d10	29.57	670353	62.35	
73) Benzo(a)pyrene-d12	38.31	595166	62.27	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ENV3092B.D
Acq On : 3 Sep 2013 6:07 am
Operator : YM
Sample : SRM 1941b
Misc :
ALS Vial : 13 Sample Multiplier: 0.24876

Quant Time: Sep 09 08:11:06 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.371	176	347963m	251.05		0.00
31) Pyrene-d10	29.565	212	670353m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	595166m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.738	136	431003m	46.74		0.00
21) Acenaphthene-d10	19.588	164	288154m	53.37		0.00
32) Phenanthrene-d10	24.683	188	477712m	55.25		0.00
66) Chrysene-d12	33.731	240	547470m	52.57		0.00
88) Perylene-d12	38.619	264	542314m	47.80		0.00
90) 5(b)H-Cholane	34.158	217	116795m	59.96		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.343	138	41530m	26.55		
4) C1-Decalins	12.652	152	14274m	9.13		
5) C2-Decalins	13.404	166	16918m	10.82		
6) C3-Decalins	16.134	180	26069m	16.67		
7) C4-Decalins	17.527	194	48976m	31.31		
8) Naphthalene	13.822	128	6457714m	652.94		
9) 2-Methylnaphthalene	16.051	142	1411111m	214.15		
10) 1-Methylnaphthalene	16.385	142	622687m	101.31		
11) 2,6-Dimethylnaphthalene	18.168	156	561077m	97.42		
12) 1,6,7-Trimethylnaphtha...	21.009	170	179867m	33.70		
13) C2-Naphthalenes	18.418	156	1811257m	183.14		
14) C3-Naphthalenes	20.424	170	1236606m	125.03		
15) C4-Naphthalenes	22.736	184	911565m	92.17		
16) Benzothiophene	13.989	134	204753m	25.80		
17) C1-Benzothiophenes	16.246	148	110066m	13.87		
18) C2-Benzothiophenes	18.168	162	144781m	18.24		
19) C3-Benzothiophenes	20.536	176	127094m	16.02		
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.611	154	505824m	60.31		
23) Acenaphthylene	19.087	152	614105m	62.25		
24) Acenaphthene	19.700	154	161752m	27.72		
25) Dibenzofuran	20.285	168	729976m	77.26		
26) Fluorene	21.455	166	327640m	44.70		
27) 1-Methylfluorene	23.436	180	120210m	26.23		
28) C1-Fluorenes	23.436	180	379241m	51.74		
29) C2-Fluorenes	25.306	194	862231m	117.64		
30) C3-Fluorenes	27.522	208	1143517m	156.01		
33) Carbazole	25.514	167	161418m	18.42		
34) Dibenzothiophene	24.302	184	482886m	48.52		
35) 4-Methyldibenzothiophene	25.826	198	334052m	40.00		
36) 2/3-Methyldibenzothiop...	26.103	198	216022m	25.87		
37) 1-Methyldibenzothiophene	26.449	198	98242m	11.76		
38) C2-Dibenzothiophenes	27.557	212	970136m	97.48		
39) C3-Dibenzothiophenes	29.392	226	940961m	94.55		
40) C4-Dibenzothiophenes	30.777	240	596195m	59.91		
41) Phenanthrene	24.752	178	4244856m	368.61		
42) Anthracene	24.925	178	1829419m	167.72		
43) 3-Methylphenanthrene	26.414	192	706934m	80.17		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ENV3092B.D
Acq On : 3 Sep 2013 6:07 am
Operator : YM
Sample : SRM 1941b
Misc :
ALS Vial : 13 Sample Multiplier: 0.24876

Quant Time: Sep 09 08:11:06 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.518	192	750005m	85.06		
45)	2-Methylanthracene	26.657	192	448988m	50.92		
46)	4/9-Methylphenanthrene	26.795	192	598946m	67.93		
47)	1-Methylphenanthrene	26.865	192	552188m	62.62		
48)	3,6-Dimethylphenanthrene	27.973	206	249195m	34.80		
49)	Retene	30.639	234	110810m	37.65		
50)	C2-Phenanthrenes/Anthr...	28.319	206	2891476m	251.09		
51)	C3-Phenanthrenes/Anthr...	29.739	220	2186842m	189.90		
52)	C4-Phenanthrenes/Anthr...	31.712	234	1418142m	123.15		
53)	Naphthobenzothiophene	32.878	234	1397509m	110.49		
54)	C1-Naphthobenzothiophenes	34.041	248	1278610m	101.09		
55)	C2-Naphthobenzothiophenes	35.748	262	1232700m	97.46		
56)	C3-Naphthobenzothiophenes	37.106	276	886716m	70.11		
57)	C4-Naphthobenzothiophenes	37.960	290	374090m	29.58		
58)	Fluoranthene	28.838	202	7555150m	614.02		
59)	Pyrene	29.635	202	6372335m	484.82		
60)	2-Methylfluoranthene	30.397	216	531861m	71.40		
61)	Benzo(b)fluorene	30.985	216	552109m	73.55		
62)	C1-Fluoranthenes/Pyrenes	30.777	216	3928478m	319.27		
63)	C2-Fluoranthenes/Pyrenes	32.490	230	4529303m	368.10		
64)	C3-Fluoranthenes/Pyrenes	33.925	244	1731172m	140.69		
65)	C4-Fluoranthenes/Pyrenes	35.244	258	1281530m	104.15		
67)	Benz(a)anthracene	33.692	228	3823405m	301.53		
68)	Chrysene/Triphenylene	33.809	228	4221024m	386.14		
69)	C1-Chrysenes	35.089	242	2963738m	271.12		
70)	C2-Chrysenes	36.524	256	1679819m	153.67		
71)	C3-Chrysenes	37.300	270	963058m	88.10		
72)	C4-Chrysenes	39.317	284	371002m	33.94		
74)	C29-Hopane	40.645	191	1015413m	242.20		
75)	18a-Oleanane	41.714	191	158885m	37.90		
76)	C30-Hopane	41.935	191	1162339m	277.25		
77)	Benzo(b)fluoranthene	37.223	252	4160755m	287.93		
78)	Benzo(k,j)fluoranthene	37.223	252	6417598m	475.38		
79)	Benzo(a)fluoranthene	37.572	252	830491m	61.52		
80)	Benzo(e)pyrene	38.192	252	4006527m	275.15		
81)	Benzo(a)pyrene	38.386	252	3258286m	234.12		
82)	Indeno(1,2,3-c,d)pyrene	43.041	276	3845777m	245.74		
83)	Dibenzo(a,h)anthracene	43.115	278	804688m	65.39		
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	3182237m	233.06		
89)	Perylene	38.697	252	4374997m	314.69		
91)	C20-TAS	33.227	231	168604m	10.49		
92)	C21-TAS	34.313	231	63971m	3.98		
93)	C26(20S)-TAS	38.464	231	31307m	1.95		
94)	C26(20R)/C27(20S)-TAS	39.356	231	129519m	8.06		
95)	C28(20S)-TAS	40.128	231	64621m	4.02		
96)	C27(20R)-TAS	40.571	231	113473m	7.06		
97)	C28(20R)-TAS	41.714	231	59923m	3.73		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ENV3092B.D
Acq On : 3 Sep 2013 6:07 am
Operator : YM
Sample : SRM 1941b
Misc :
ALS Vial : 13 Sample Multiplier: 0.24876

Quant Time: Sep 09 08:11:06 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

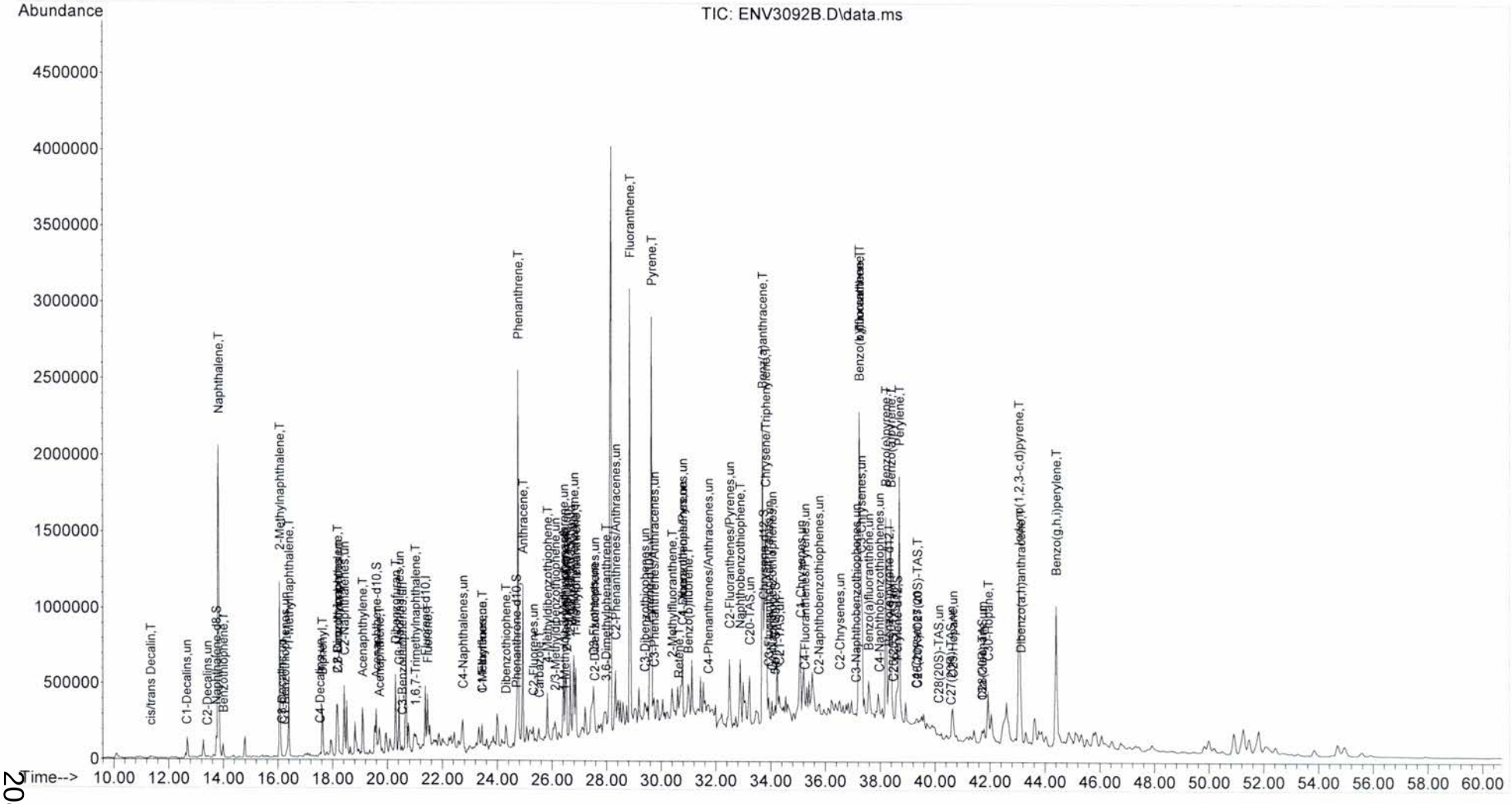
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ENV3092B.D
Acq On : 3 Sep 2013 6:07 am
Operator : YM
Sample : SRM 1941b
Misc :
ALS Vial : 13 Sample Multiplier: 0.24876

Quant Time: Sep 09 08:11:06 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	ENV3092C.D
Data File Path	C:\GCMS7\MS70062\
Operator	YM
Date Acquired	9/3/2013 7:16
Acq. Method File	PAH-2012.M
Sample Name	MS (SED-DA-042 (0-0.5) MS)
Misc Info	0
Instrument Name	GCMSD
Vial Number	14
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

ENV3092C.D
(SED-DA-042 (0-0.5) MS)
9/3/2013
PAH-2012.M
14.99925004

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	10.95	146220	24.6385	26.9990
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	770908	20.5454	22.5138
9)+10)	C1-Naphthalenes	16.22	907536	24.1867	26.5039
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	13.99	178678	5.9348	6.5034
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	17.61	324073	10.1842	11.1599
23)	Acenaphthylene	19.09	255564	6.8287	7.4830
24)	Acenaphthene	19.70	141986	6.4144	7.0289
25)	Dibenzofuran	20.28	474847	13.2463	14.5153
26)	Fluorene	21.45	516714	18.5816	20.3618
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	25.51	246415	8.1841	8.9682
42)	Anthracene	24.93	317708	8.4760	9.2881
41)	Phenanthrene	24.75	1528320	38.6203	42.3202
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	5.37	293729	7.4225	8.1336
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	471921	13.7997	15.1218
35)+36)+37)	C1-Dibenzothiophenes	8.61	405520	11.8580	12.9941
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	28.84	897305	21.2215	23.2546
59)	Pyrene	29.63	773989	17.1364	18.7781
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	33.69	406143	9.3211	10.2141
68)	Chrysene/Triphenylene	33.81	548692	14.6067	16.0060
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	930624	18.0155	19.7415
78)	Benzo(k,j)fluoranthene	37.34	368941	7.6452	8.3777
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.23	707089	13.5841	14.8856
81)	Benzo(a)pyrene	38.39	484148	9.7320	10.6643
89)	Perylene	38.70	9801060	197.2172	216.1114
82)	Indeno(1,2,3-c,d)pyrene	43.11	565631	10.1107	11.0794
83)	Dibenzo(a,h)anthracene	43.23	411886	9.3628	10.2598
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

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.59	564079	11.5569	12.6641
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	574655	22.9873	25.1896
10)	1-Methylnaphthalene	16.38	332881	14.2760	15.6437
11)	2,6-Dimethylnaphthalene	18.14	468089	21.4216	23.4739
12)	1,6,7-Trimethylnaphthalene	21.01	183460	9.0601	9.9281
27)	1-Methylfluorene	23.44	169453	9.7458	10.6795
35)	4-Methyldibenzothiophene	25.83	405520	14.1320	15.4859
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	26.86	293729	9.6938	10.6225
48)	3,6-Dimethylphenanthrene	27.97	172499	7.0106	7.6822
49)	Retene	30.64	109032	10.7793	11.8120
60)	2-Methylfluoranthene	30.40	223921	8.7475	9.5856
61)	Benzo(b)fluorene	31.02	245013	9.4982	10.4082
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	39.32	261951	4.5591	4.9959
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	578067	16.53	99.10
21)	Acenaphthene-d10	19.59	263835	12.88	77.23
32)	Phenanthrene-d10	24.68	452245	15.22	91.26
66)	Chrysene-d12	33.73	471986	13.19	79.11
88)	Perylene-d12	38.62	342871	8.45	50.72
90)	5(b)H-Cholane	34.16	114968	16.51	99.07
	Internal Standards				
1)	Fluorene-d10	21.37	353806	16.74	
31)	Pyrene-d10	29.57	617381	16.71	
73)	Benzo(a)pyrene-d12	38.31	570196	16.69	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ENV3092C.D
Acq On : 3 Sep 2013 7:16 am
Operator : YM
Sample : MS (SED-DA-042 (0-0.5) MS)
Misc :
ALS Vial : 14 Sample Multiplier: 0.06667

Quant Time: Sep 09 09:07:04 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.371	176	353806m	251.05		0.00
31) Pyrene-d10	29.565	212	617381m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	570196m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.738	136	578067m	16.53		0.00
21) Acenaphthene-d10	19.588	164	263835m	12.88		0.00
32) Phenanthrene-d10	24.683	188	452245m	15.22		0.00
66) Chrysene-d12	33.731	240	471986m	13.19		0.00
88) Perylene-d12	38.619	264	342871m	8.45		0.00
90) 5(b)H-Cholane	34.158	217	114968m	16.51		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	10.953	138	146220m	24.64		
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	770908m	20.55		
9) 2-Methylnaphthalene	16.051	142	574655m	22.99		
10) 1-Methylnaphthalene	16.385	142	332881m	14.28		
11) 2,6-Dimethylnaphthalene	18.140	156	468089m	21.42		
12) 1,6,7-Trimethylnaphtha...	21.009	170	183460m	9.06		
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.	d	
16) Benzothiophene	13.989	134	178678m	5.93		
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	324073m	10.18		
23) Acenaphthylene	19.087	152	255564m	6.83		
24) Acenaphthene	19.700	154	141986m	6.41		
25) Dibenzofuran	20.285	168	474847m	13.25		
26) Fluorene	21.455	166	516714m	18.58		
27) 1-Methylfluorene	23.436	180	169453m	9.75		
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	246415m	8.18		
34) Dibenzothiophene	24.337	184	471921m	13.80		
35) 4-Methyldibenzothiophene	25.826	198	405520m	14.13		
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	1528315m	38.62		
42) Anthracene	24.925	178	317708m	8.48		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ENV3092C.D
Acq On : 3 Sep 2013 7:16 am
Operator : YM
Sample : MS (SED-DA-042 (0-0.5) MS)
Misc :
ALS Vial : 14 Sample Multiplier: 0.06667

Quant Time: Sep 09 09:07:04 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 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	26.864	192	293729m	9.69		
48)	3,6-Dimethylphenanthrene	27.973	206	172499m	7.01		
49)	Retene	30.639	234	109032m	10.78		
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	897305m	21.22		
59)	Pyrene	29.635	202	773989m	17.14		
60)	2-Methylfluoranthene	30.397	216	223921m	8.75		
61)	Benzo(b)fluorene	31.020	216	245013m	9.50		
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	406143m	9.32		
68)	Chrysene/Triphenylene	33.809	228	548692m	14.61		
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	0.000		0	N.D.	d	
77)	Benzo(b)fluoranthene	37.261	252	930624m	18.02		
78)	Benzo(k,j)fluoranthene	37.339	252	368941m	7.65		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.231	252	707089m	13.58		
81)	Benzo(a)pyrene	38.386	252	484148m	9.73		
82)	Indeno(1,2,3-c,d)pyrene	43.115	276	565631m	10.11		
83)	Dibenzo(a,h)anthracene	43.225	278	411886m	9.36		
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	44.590	276	564079m	11.56		
89)	Perylene	38.697	252	9801060m	197.22		
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	261951m	4.56		
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 : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ENV3092C.D
Acq On : 3 Sep 2013 7:16 am
Operator : YM
Sample : MS (SED-DA-042 (0-0.5) MS)
Misc :
ALS Vial : 14 Sample Multiplier: 0.06667

Quant Time: Sep 09 09:07:04 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

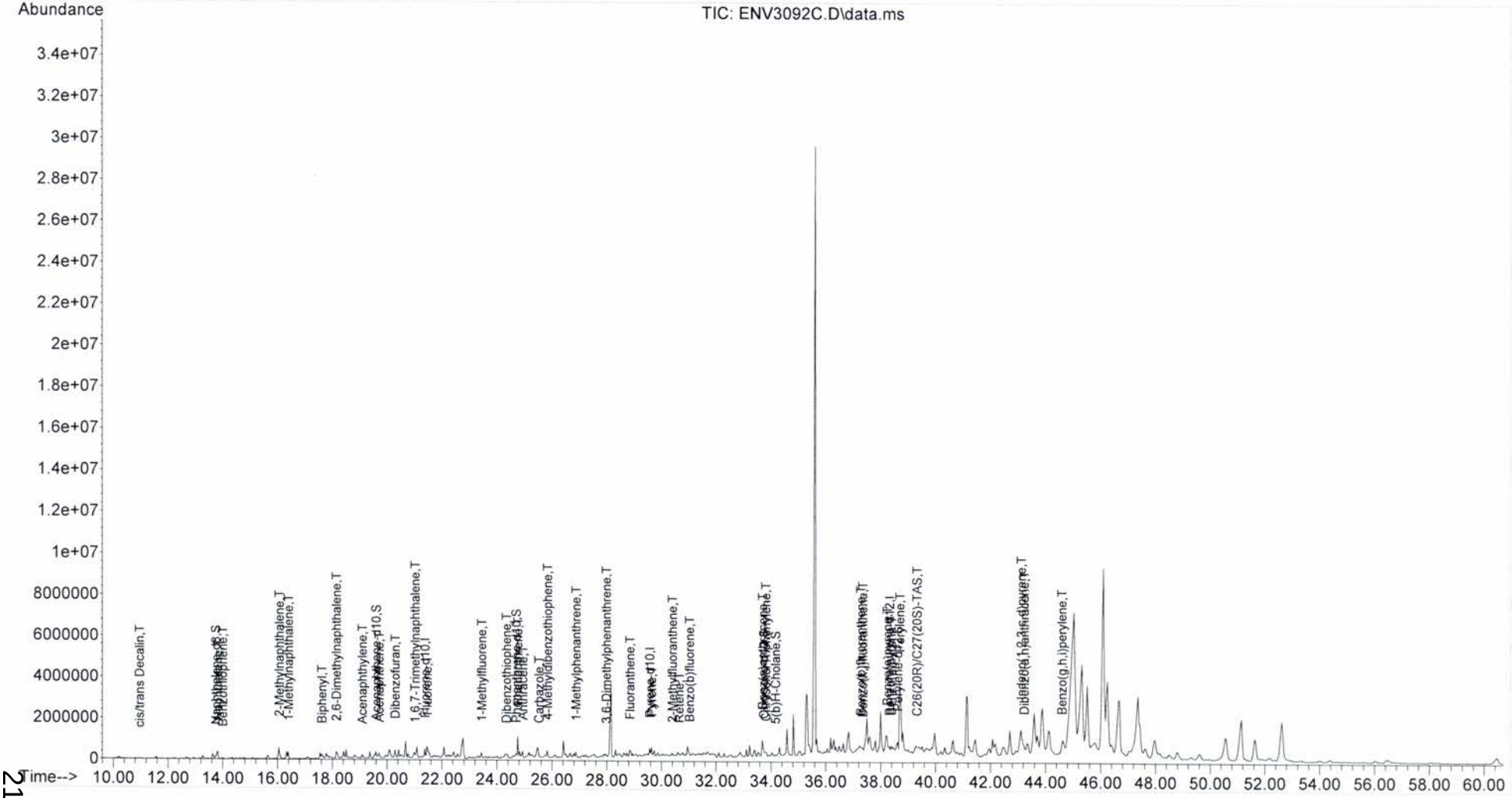
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ENV3092C.D
Acq On : 3 Sep 2013 7:16 am
Operator : YM
Sample : MS (SED-DA-042 (0-0.5) MS)
Misc :
ALS Vial : 14 Sample Multiplier: 0.06667

Quant Time: Sep 09 09:07:04 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	ENV3092D.D
Data File Path	C:\GCMS7\MS70062\
Operator	YM
Date Acquired	9/3/2013 8:24
Acq. Method File	PAH-2012.M
Sample Name	MSD (SED-DA-042 (0-0.5) MSD)
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

ENV3092D.D
) (SED-DA-042 (0-0.5) MSD)
9/3/2013
PAH-2012.M
14.99925004

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	10.95	127016	20.8813	22.9673
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	648297	16.8570	18.5410
9)+10)	C1-Naphthalenes	16.22	793138	20.6231	22.6833
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	13.99	189131	6.1290	6.7413
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	17.61	281618	8.6345	9.4971
23)	Acenaphthylene	19.12	256705	6.6922	7.3607
24)	Acenaphthene	19.70	162517	7.1631	7.8787
25)	Dibenzofuran	20.29	376877	10.2572	11.2819
26)	Fluorene	21.46	406152	14.2500	15.6735
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	25.51	253257	7.5156	8.2664
42)	Anthracene	24.93	362141	8.6326	9.4950
41)	Phenanthrene	24.75	1063030	24.0021	26.3998
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	5.37	315136	7.1154	7.8263
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	480167	12.5457	13.7990
35)+36)+37)	C1-Dibenzothiophenes	8.61	441836	11.5442	12.6974
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	28.84	842069	17.7945	19.5721
59)	Pyrene	29.63	873680	17.2837	19.0104
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	33.69	443514	9.0948	10.0033
68)	Chrysene/Triphenylene	33.85	643337	15.3025	16.8312
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	898191	15.7987	17.3770
78)	Benzo(k,j)fluoranthene	37.34	399340	7.5190	8.2701
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.23	766459	13.3792	14.7158
81)	Benzo(a)pyrene	38.39	464046	8.4755	9.3222
89)	Perylene	38.70	8580040	156.8712	172.5424
82)	Indeno(1,2,3-c,d)pyrene	43.11	599732	9.7406	10.7137
83)	Dibenzo(a,h)anthracene	43.23	424415	8.7660	9.6417
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

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.59	639893	11.9121	13.1021
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	476814	18.6090	20.4680
10)	1-Methylnaphthalene	16.39	316324	13.2355	14.5577
11)	2,6-Dimethylnaphthalene	18.14	360563	16.0989	17.7072
12)	1,6,7-Trimethylnaphthalene	21.01	166000	7.9982	8.7972
27)	1-Methylfluorene	23.44	178802	10.0331	11.0354
35)	4-Methyldibenzothiophene	25.83	441836	13.7580	15.1324
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	26.86	315136	9.2928	10.2211
48)	3,6-Dimethylphenanthrene	27.97	205467	7.4612	8.2065
49)	Retene	30.64	99393	8.7800	9.6571
60)	2-Methylfluoranthene	30.40	210873	7.3606	8.0959
61)	Benzo(b)fluorene	31.02	261071	9.0430	9.9464
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	39.32	257163	4.0668	4.4731
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	545111	15.20	91.17
21)	Acenaphthene-d10	19.59	290243	13.82	82.89
32)	Phenanthrene-d10	24.68	504259	15.17	90.92
66)	Chrysene-d12	33.73	532020	13.28	79.68
88)	Perylene-d12	38.62	346418	7.76	46.56
90)	5(b)H-Cholane	34.16	118796	15.50	93.01
	Internal Standards				
1)	Fluorene-d10	21.37	362638	16.74	
31)	Pyrene-d10	29.57	690959	16.71	
73)	Benzo(a)pyrene-d12	38.31	627542	16.69	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ENV3092D.D
Acq On : 3 Sep 2013 8:24 am
Operator : YM
Sample : MSD (SED-DA-042 (0-0.5) MSD)
Misc :
ALS Vial : 15 Sample Multiplier: 0.06667

Quant Time: Sep 09 09:13:14 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	362638m	251.05	0.00
31) Pyrene-d10	29.566	212	690959m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	627542m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.739	136	545111m	15.20	0.00
21) Acenaphthene-d10	19.589	164	290243m	13.82	0.00
32) Phenanthrene-d10	24.683	188	504259m	15.17	0.00
66) Chrysene-d12	33.731	240	532020m	13.28	0.00
88) Perylene-d12	38.619	264	346418m	7.76	0.00
90) 5(b)H-Cholane	34.158	217	118796m	15.50	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	10.953	138	127016m	20.88	
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	648297m	16.86	
9) 2-Methylnaphthalene	16.051	142	476814m	18.61	
10) 1-Methylnaphthalene	16.385	142	316324m	13.24	
11) 2,6-Dimethylnaphthalene	18.140	156	360563m	16.10	
12) 1,6,7-Trimethylnaphtha...	21.009	170	166000m	8.00	
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	189131m	6.13	
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	281618m	8.63	
23) Acenaphthylene	19.115	152	256705m	6.69	
24) Acenaphthene	19.700	154	162517m	7.16	
25) Dibenzofuran	20.285	168	376877m	10.26	
26) Fluorene	21.455	166	406152m	14.25	
27) 1-Methylfluorene	23.436	180	178802m	10.03	
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	253257m	7.52	
34) Dibenzothiophene	24.337	184	480167m	12.55	
35) 4-Methyldibenzothiophene	25.826	198	441836m	13.76	
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	1063029m	24.00	
42) Anthracene	24.925	178	362141m	8.63	
43) 3-Methylphenanthrene	0.000		0	N.D. d	

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ENV3092D.D
Acq On : 3 Sep 2013 8:24 am
Operator : YM
Sample : MSD (SED-DA-042 (0-0.5) MSD)
Misc :
ALS Vial : 15 Sample Multiplier: 0.06667

Quant Time: Sep 09 09:13:14 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 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	315136m	9.29		
48) 3,6-Dimethylphenanthrene	27.973	206	205467m	7.46		
49) Retene	30.639	234	99393m	8.78		
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	842069m	17.79		
59) Pyrene	29.635	202	873680m	17.28		
60) 2-Methylfluoranthene	30.397	216	210873m	7.36		
61) Benzo(b)fluorene	31.020	216	261071m	9.04		
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	443514m	9.09		
68) Chrysene/Triphenylene	33.848	228	643337m	15.30		
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	37.261	252	898191m	15.80		
78) Benzo(k,j)fluoranthene	37.339	252	399340m	7.52		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.231	252	766459m	13.38		
81) Benzo(a)pyrene	38.386	252	464046m	8.48		
82) Indeno(1,2,3-c,d)pyrene	43.115	276	599732m	9.74		
83) Dibenzo(a,h)anthracene	43.226	278	424415m	8.77		
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	44.590	276	639893m	11.91		
89) Perylene	38.697	252	8580039m	156.87		
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	257163m	4.07		
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 : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ENV3092D.D
Acq On : 3 Sep 2013 8:24 am
Operator : YM
Sample : MSD (SED-DA-042 (0-0.5) MSD)
Misc :
ALS Vial : 15 Sample Multiplier: 0.06667

Quant Time: Sep 09 09:13:14 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

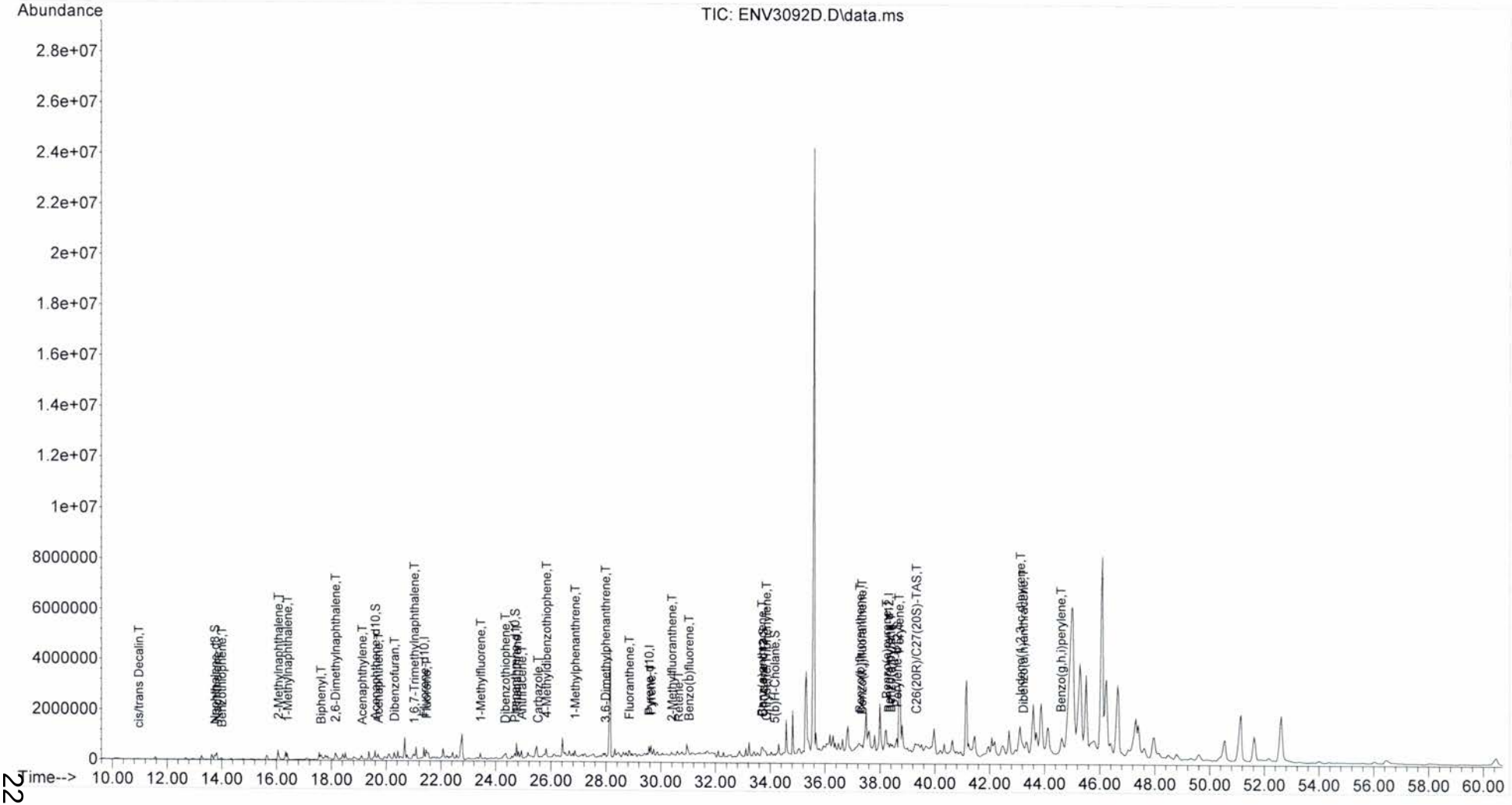
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ENV3092D.D
Acq On : 3 Sep 2013 8:24 am
Operator : YM
Sample : MSD (SED-DA-042 (0-0.5) MSD)
Misc :
ALS Vial : 15 Sample Multiplier: 0.06667

Quant Time: Sep 09 09:13:14 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	ENV3092E.D
Data File Path	P:\2013\J13034\PAH\MSDChemstation\MS70062\
Operator	YM
Date Acquired	9/3/2013 9:33
Acq. Method File	PAH-2012.M
Sample Name	Dupl. (SED-DA-043 (0-0.5))
Misc Info	0
Instrument Name	GCMSD
Vial Number	16
Sample Multiplier	0.33311
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

ENV3092E.D
upl. (SED-DA-043 (0-0.5))
9/3/2013
PAH-2012.M
3.002011348

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.93	10110	6.9033	6.7310
4)	C1-Decalins	12.62	21475	14.6635	14.2975
5)	C2-Decalins	14.66	112821	77.0360	75.1131
6)	C3-Decalins	16.61	560024	382.3936	372.8486
7)	C4-Decalins	18.56	981506	670.1873	653.4587
8)	Naphthalene	13.82	122830	13.2652	12.9341
9)+10)	C1-Naphthalenes	16.22	798215	86.2042	84.0524
13)	C2-Naphthalenes	18.42	5133770	554.4283	540.5891
14)	C3-Naphthalenes	20.42	11610300	1253.8660	1222.5681
15)	C4-Naphthalenes	22.76	12518000	1351.9036	1318.1586
16)	Benzothiophene	13.99	20399	2.7456	2.6771
17)	C1-Benzothiophenes	16.33	283789	38.1967	37.2433
18)	C2-Benzothiophenes	18.56	867710	116.7897	113.8745
19)	C3-Benzothiophenes	20.26	2390490	321.7480	313.7168
20)	C4-Benzothiophenes	21.57	3669760	493.9322	481.6031
22)	Biphenyl	17.64	114230	14.5466	14.1835
23)	Acenaphthylene	19.11	77404	8.3811	8.1719
24)	Acenaphthene	19.70	42393	7.7607	7.5670
25)	Dibenzofuran	20.28	192935	21.8096	21.2652
26)	Fluorene	21.48	265708	38.7197	37.7532
28)	C1-Fluorenes	23.44	1251380	182.3561	177.8043
29)	C2-Fluorenes	25.27	4353140	634.3547	618.5205
30)	C3-Fluorenes	27.25	5573680	812.2155	791.9416
33)	Carbazole	25.51	67813	8.8690	8.6476
42)	Anthracene	24.89	58147	6.1087	5.9562
41)	Phenanthrene	24.75	2375110	236.3439	230.4445
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.66	8078515	803.8817	783.8159
50)	C2-Phenanthrenes/Anthracenes	28.32	14916500	1484.3215	1447.2712
51)	C3-Phenanthrenes/Anthracenes	29.88	16727400	1664.5174	1622.9691
52)	C4-Phenanthrenes/Anthracenes	31.71	11480000	1142.3608	1113.8462
34)	Dibenzothiophene	24.34	2101050	241.9335	235.8945
35)+36)+37)	C1-Dibenzothiophenes	26.15	7889990	908.5232	885.8454
38)	C2-Dibenzothiophenes	27.25	15834900	1823.3609	1777.8477
39)	C3-Dibenzothiophenes	29.43	17340800	1996.7713	1946.9296
40)	C4-Dibenzothiophenes	29.74	12082100	1391.2372	1356.5104
58)	Fluoranthene	28.87	575999	53.6434	52.3044
59)	Pyrene	29.63	1157590	100.9247	98.4055
62)	C1-Fluoranthenes/Pyrenes	31.47	3254070	303.0558	295.4912
63)	C2-Fluoranthenes/Pyrenes	32.53	4618080	430.0883	419.3528
64)	C3-Fluoranthenes/Pyrenes	33.96	4568080	425.4314	414.8122
65)	C4-Fluoranthenes/Pyrenes	35.09	4135630	385.1551	375.5412
53)	Naphthobenzothiophene	32.92	2416420	218.9266	213.4619
54)	C1-Naphthobenzothiophenes	34.66	6771420	613.4887	598.1753
55)	C2-Naphthobenzothiophenes	35.75	10768100	975.5893	951.2374
56)	C3-Naphthobenzothiophenes	37.15	9513710	861.9388	840.4238
57)	C4-Naphthobenzothiophenes	38.11	4168040	377.6235	368.1976
67)	Benz(a)anthracene	33.73	214628	19.3968	18.9126
68)	Chrysene/Triphenylene	33.85	1322930	138.6814	135.2197
69)	C1-Chrysenes	35.21	3162540	331.5247	323.2495
70)	C2-Chrysenes	36.52	4304960	451.2841	440.0195
71)	C3-Chrysenes	37.96	3505430	367.4703	358.2978
72)	C4-Chrysenes	39.36	1667770	174.8305	170.4665
77)	Benzo(b)fluoranthene	37.26	689329	52.3722	51.0650
78)	Benzo(k,j)fluoranthene	37.34	177094	14.4025	14.0430
79)	Benzo(a)fluoranthene	37.49	129355	10.5201	10.2575
80)	Benzo(e)pyrene	38.23	775420	58.4651	57.0058
81)	Benzo(a)pyrene	38.43	279300	22.0340	21.4840
89)	Perylene	38.74	221580	17.4986	17.0618
82)	Indeno(1,2,3-c,d)pyrene	43.11	275180	19.3048	18.8229
83)	Dibenzo(a,h)anthracene	43.15	104418	9.3155	9.0829
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

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.48	598086	48.0911	46.8907
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	494721	80.1932	78.1915
10)	1-Methylnaphthalene	16.38	303494	52.7426	51.4261
11)	2,6-Dimethylnaphthalene	18.17	1288140	238.8805	232.9178
12)	1,6,7-Trimethylnaphthalene	21.01	833684	166.8358	162.6714
27)	1-Methylfluorene	23.44	600897	140.0444	136.5488
35)	4-Methyldibenzothiophene	25.83	3317760	455.2981	443.9333
36)	2/3-Methyldibenzothiophene	26.14	2732260	374.9486	365.5895
37)	1-Methyldibenzothiophene	26.48	1839970	252.4990	246.1964
43)	3-Methylphenanthrene	26.41	1651030	214.5658	209.2100
44)	2-Methylphenanthrene	26.52	2154740	280.0273	273.0375
45)	2-Methylanthracene	26.69	115815	15.0511	14.6754
46)	4/9-Methylphenanthrene	26.80	2693390	350.0287	341.2915
47)	1-Methylphenanthrene	26.90	1463540	190.1995	185.4519
48)	3,6-Dimethylphenanthrene	27.97	554963	88.8151	86.5982
49)	Retene	30.64	350275	136.3652	132.9614
60)	2-Methylfluoranthene	30.43	234111	36.0139	35.1149
61)	Benzo(b)fluorene	31.02	148196	22.6228	22.0581
74)	C29-Hopane	40.64	3604960	944.0604	920.4956
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	41.97	4664190	1221.4477	1190.9590
91)	C20-TAS	33.30	682730	46.6351	45.4710
92)	C21-TAS	34.39	671688	45.8806	44.7353
93)	C26(20S)-TAS	38.50	776067	53.0105	51.6873
94)	C26(20R)/C27(20S)-TAS	39.40	2491360	170.1762	165.9284
95)	C28(20S)-TAS	40.17	1791250	122.3543	119.3002
96)	C27(20R)-TAS	40.61	1649470	112.6695	109.8571
97)	C28(20R)-TAS	41.71	1570470	107.2734	104.5957
	Surrogate Standards				
2)	Naphthalene-d8	13.74	594599	68.88	82.67
21)	Acenaphthene-d10	19.59	339737	67.21	80.65
32)	Phenanthrene-d10	24.68	644887	85.48	102.56
66)	Chrysene-d12	33.77	768609	84.57	101.54
88)	Perylene-d12	38.62	797593	77.19	92.68
90)	5(b)H-Cholane	34.16	223649	126.07	151.38
	Internal Standards				
1)	Fluorene-d10	21.37	436241	83.63	
31)	Pyrene-d10	29.60	783343	83.49	
73)	Benzo(a)pyrene-d12	38.35	725906	83.39	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ENV3092E.D
Acq On : 3 Sep 2013 9:33 am
Operator : YM
Sample : Dupl. (SED-DA-043 (0-0.5))
Misc :
ALS Vial : 16 Sample Multiplier: 0.33311

Quant Time: Sep 09 12:22:02 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.371	176	436241m	251.05		0.00
31) Pyrene-d10	29.600	212	783343m	250.63		0.03
73) Benzo(a)pyrene-d12	38.348	264	725906m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.739	136	594599m	68.88		0.00
21) Acenaphthene-d10	19.588	164	339737m	67.21		0.00
32) Phenanthrene-d10	24.683	188	644887m	85.48		0.00
66) Chrysene-d12	33.770	240	768609m	84.57		0.04
88) Perylene-d12	38.619	264	797593m	77.19		0.00
90) 5(b)H-Cholane	34.158	217	223649m	126.07		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.928	138	10110m	6.90		
4) C1-Decalins	12.624	152	21475m	14.66		
5) C2-Decalins	14.658	166	112821m	77.04		
6) C3-Decalins	16.608	180	560024m	382.39		
7) C4-Decalins	18.558	194	981506m	670.19		
8) Naphthalene	13.822	128	122830m	13.27		
9) 2-Methylnaphthalene	16.051	142	494721m	80.19		
10) 1-Methylnaphthalene	16.385	142	303494m	52.74		
11) 2,6-Dimethylnaphthalene	18.168	156	1288135m	238.88		
12) 1,6,7-Trimethylnaphtha...	21.009	170	833684m	166.84		
13) C2-Naphthalenes	18.418	156	5133774m	554.43		
14) C3-Naphthalenes	20.424	170	11610254m	1253.86		
15) C4-Naphthalenes	22.764	184	12518049m	1351.90		
16) Benzothiophene	13.989	134	20399m	2.75		
17) C1-Benzothiophenes	16.329	148	283789m	38.20		
18) C2-Benzothiophenes	18.558	162	867710m	116.79		
19) C3-Benzothiophenes	20.257	176	2390486m	321.75		
20) C4-Benzothiophenes	21.566	190	3669764m	493.93		
22) Biphenyl	17.638	154	114230m	14.55		
23) Acenaphthylene	19.115	152	77404m	8.38		
24) Acenaphthene	19.700	154	42393m	7.76		
25) Dibenzofuran	20.285	168	192935m	21.81		
26) Fluorene	21.483	166	265708m	38.72		
27) 1-Methylfluorene	23.436	180	600897m	140.04		
28) C1-Fluorenes	23.436	180	1251384m	182.36		
29) C2-Fluorenes	25.272	194	4353135m	634.35		
30) C3-Fluorenes	27.245	208	5573684m	812.22		
33) Carbazole	25.514	167	67813m	8.87		
34) Dibenzothiophene	24.337	184	2101054m	241.93		
35) 4-Methyldibenzothiophene	25.826	198	3317764m	455.30		
36) 2/3-Methyldibenzothiop...	26.137	198	2732262m	374.95		
37) 1-Methyldibenzothiophene	26.484	198	1839965m	252.50		
38) C2-Dibenzothiophenes	27.245	212	15834851m	1823.36		
39) C3-Dibenzothiophenes	29.427	226	17340809m	1996.77		
40) C4-Dibenzothiophenes	29.739	240	12082093m	1391.24		
41) Phenanthrene	24.752	178	2375108m	236.34		
42) Anthracene	24.891	178	58147m	6.11		
43) 3-Methylphenanthrene	26.414	192	1651034m	214.57		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ENV3092E.D
Acq On : 3 Sep 2013 9:33 am
Operator : YM
Sample : Dupl. (SED-DA-043 (0-0.5))
Misc :
ALS Vial : 16 Sample Multiplier: 0.33311

Quant Time: Sep 09 12:22:02 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.518	192	2154744m	280.03		
45)	2-Methylanthracene	26.691	192	115815m	15.05		
46)	4/9-Methylphenanthrene	26.795	192	2693391m	350.03		
47)	1-Methylphenanthrene	26.899	192	1463541m	190.20		
48)	3,6-Dimethylphenanthrene	27.973	206	554963m	88.82		
49)	Retene	30.639	234	350275m	136.37		
50)	C2-Phenanthrenes/Anthr...	28.319	206	14916519m	1484.32		
51)	C3-Phenanthrenes/Anthr...	29.877	220	16727380m	1664.52		
52)	C4-Phenanthrenes/Anthr...	31.712	234	11480024m	1142.36		
53)	Naphthobenzothiophene	32.916	234	2416420m	218.93		
54)	C1-Naphthobenzothiophenes	34.662	248	6771418m	613.49		
55)	C2-Naphthobenzothiophenes	35.748	262	10768126m	975.59		
56)	C3-Naphthobenzothiophenes	37.145	276	9513706m	861.94		
57)	C4-Naphthobenzothiophenes	38.115	290	4168037m	377.62		
58)	Fluoranthene	28.873	202	575999m	53.64		
59)	Pyrene	29.635	202	1157589m	100.92		
60)	2-Methylfluoranthene	30.431	216	234111m	36.01		
61)	Benzo(b)fluorene	31.020	216	148196m	22.62		
62)	C1-Fluoranthenes/Pyrenes	31.470	216	3254072m	303.06		
63)	C2-Fluoranthenes/Pyrenes	32.528	230	4618080m	430.09		
64)	C3-Fluoranthenes/Pyrenes	33.964	244	4568082m	425.43		
65)	C4-Fluoranthenes/Pyrenes	35.089	258	4135625m	385.16		
67)	Benz(a)anthracene	33.731	228	214628m	19.40		
68)	Chrysene/Triphenylene	33.847	228	1322932m	138.68		
69)	C1-Chrysenes	35.205	242	3162536m	331.52		
70)	C2-Chrysenes	36.524	256	4304957m	451.28		
71)	C3-Chrysenes	37.960	270	3505427m	367.47		
72)	C4-Chrysenes	39.356	284	1667772m	174.83		
74)	C29-Hopane	40.645	191	3604959m	944.06		
75)	18a-Oleanane	0.000		0	N.D.	d	
76)	C30-Hopane	41.972	191	4664189m	1221.45		
77)	Benzo(b)fluoranthene	37.261	252	689329m	52.37		
78)	Benzo(k,j)fluoranthene	37.339	252	177094m	14.40		
79)	Benzo(a)fluoranthene	37.494	252	129355m	10.52		
80)	Benzo(e)pyrene	38.231	252	775420m	58.47		
81)	Benzo(a)pyrene	38.425	252	279300m	22.03		
82)	Indeno(1,2,3-c,d)pyrene	43.115	276	275180m	19.30		
83)	Dibenzo(a,h)anthracene	43.152	278	104418m	9.32		
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	44.479	276	598086m	48.09		
89)	Perylene	38.736	252	221580m	17.50		
91)	C20-TAS	33.304	231	682730m	46.63		
92)	C21-TAS	34.391	231	671688m	45.88		
93)	C26(20S)-TAS	38.503	231	776067m	53.01		
94)	C26(20R)/C27(20S)-TAS	39.395	231	2491357m	170.18		
95)	C28(20S)-TAS	40.165	231	1791250m	122.35		
96)	C27(20R)-TAS	40.608	231	1649467m	112.67		
97)	C28(20R)-TAS	41.714	231	1570467m	107.27		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ENV3092E.D
Acq On : 3 Sep 2013 9:33 am
Operator : YM
Sample : Dupl. (SED-DA-043 (0-0.5))
Misc :
ALS Vial : 16 Sample Multiplier: 0.33311

Quant Time: Sep 09 12:22:02 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

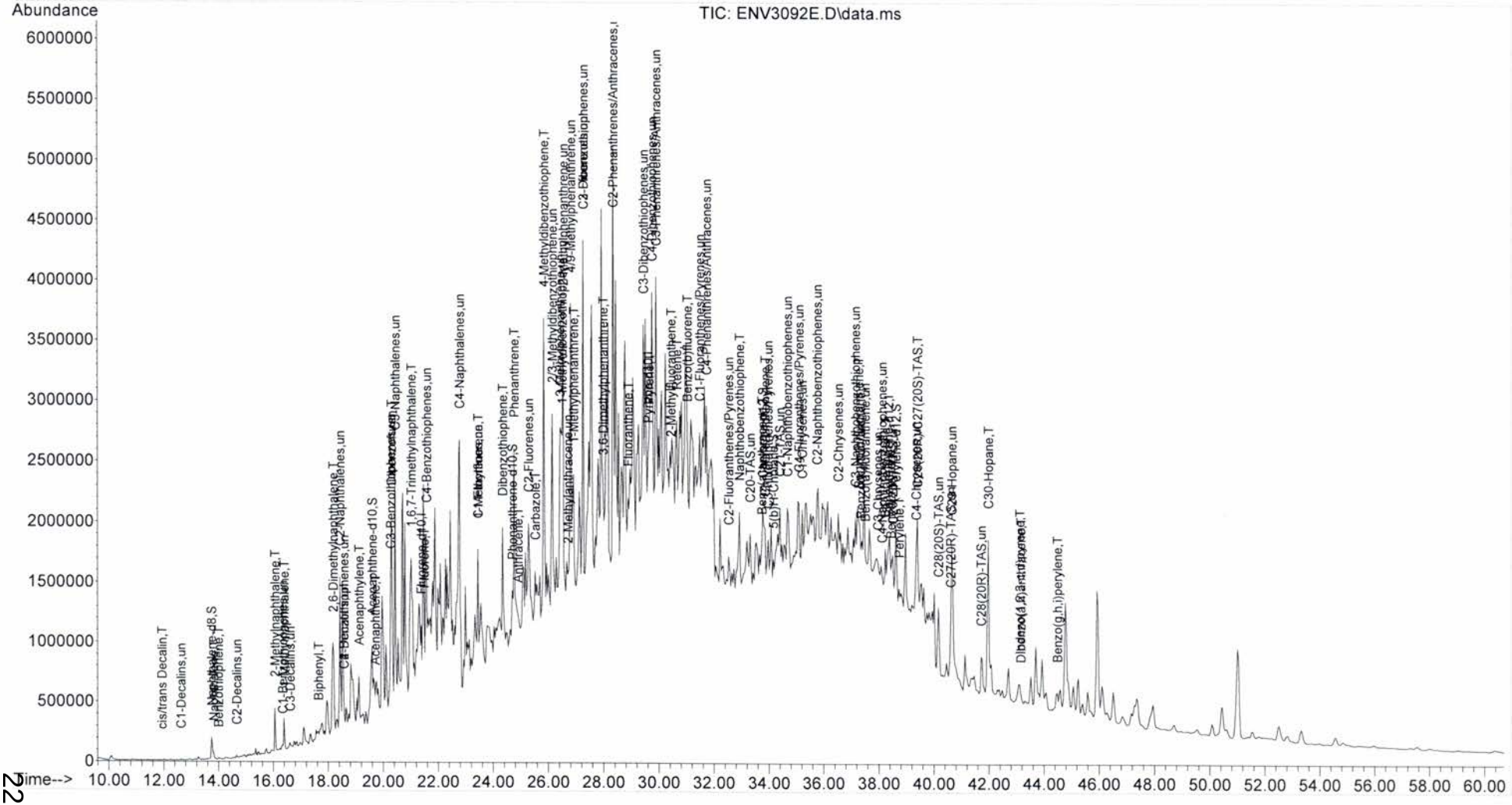
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ENV3092E.D
Acq On : 3 Sep 2013 9:33 am
Operator : YM
Sample : Dupl. (SED-DA-043 (0-0.5))
Misc :
ALS Vial : 16 Sample Multiplier: 0.33311

Quant Time: Sep 09 12:22:02 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	ARC1784.D
Data File Path	P:\2013\J13034\PAH\MSDChemstation\MS70062\
Operator	YM
Date Acquired	9/3/2013 10:42
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-021 (0-0.5)
Misc Info	0
Instrument Name	GCMSD
Vial Number	17
Sample Multiplier	0.33311
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

ARC1784.D
SED-DA-021 (0-0.5)
9/3/2013
PAH-2012.M
3.002011348

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.34	63517	48.3632	52.4444
4)	C1-Decalins	12.62	6834	5.2035	5.6427
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	226566	27.2850	29.5875
9)+10)	C1-Naphthalenes	16.22	313942	37.8076	40.9981
13)	C2-Naphthalenes	18.42	548790	66.0900	71.6671
14)	C3-Naphthalenes	20.42	547674	65.9558	71.5216
15)	C4-Naphthalenes	22.74	310347	37.3746	40.5285
16)	Benzothiophene	13.99	10574	1.5870	1.7210
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	56362	8.0037	8.6791
23)	Acenaphthylene	19.11	73458	8.8695	9.6180
24)	Acenaphthene	19.70	21064	4.3000	4.6628
25)	Dibenzofuran	20.28	95251	12.0068	13.0200
26)	Fluorene	21.45	128084	20.8135	22.5699
28)	C1-Fluorenes	23.44	98908	16.0724	17.4287
29)	C2-Fluorenes	24.93	213420	34.6804	37.6070
30)	C3-Fluorenes	27.52	247132	40.1587	43.5476
33)	Carbazole	25.51	45909	6.3065	6.8387
42)	Anthracene	24.93	130592	14.4101	15.6261
41)	Phenanthrene	24.75	484662	50.6557	54.9304
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.65	315143	32.9380	35.7175
50)	C2-Phenanthrenes/Anthracenes	28.32	400077	41.8150	45.3436
51)	C3-Phenanthrenes/Anthracenes	29.88	481320	50.3063	54.5514
52)	C4-Phenanthrenes/Anthracenes	31.71	412150	43.0768	46.7119
34)	Dibenzothiophene	24.34	106424	12.8714	13.9576
35)+36)+37)	C1-Dibenzothiophenes	26.13	194780	23.5576	25.5455
38)	C2-Dibenzothiophenes	27.56	277419	33.5525	36.3839
39)	C3-Dibenzothiophenes	28.73	425750	51.4921	55.8374
40)	C4-Dibenzothiophenes	30.15	305894	36.9962	40.1182
58)	Fluoranthene	28.84	398967	39.0265	42.3198
59)	Pyrene	29.63	373228	34.1778	37.0619
62)	C1-Fluoranthenes/Pyrenes	30.78	322765	31.5726	34.2369
63)	C2-Fluoranthenes/Pyrenes	32.49	517743	50.6450	54.9188
64)	C3-Fluoranthenes/Pyrenes	34.04	328364	32.1203	34.8308
65)	C4-Fluoranthenes/Pyrenes	35.71	456519	44.6564	48.4248
53)	Naphthobenzothiophene	32.88	173810	16.5397	17.9355
54)	C1-Naphthobenzothiophenes	34.31	437118	41.5961	45.1063
55)	C2-Naphthobenzothiophenes	35.32	752784	71.6350	77.6800
56)	C3-Naphthobenzothiophenes	37.11	743610	70.7619	76.7332
57)	C4-Naphthobenzothiophenes	38.11	317990	30.2599	32.8134
67)	Benz(a)anthracene	33.69	140541	13.3406	14.4664
68)	Chrysene/Triphenylene	33.81	264101	29.0789	31.5328
69)	C1-Chrysenes	35.52	623940	68.6993	74.4966
70)	C2-Chrysenes	36.21	575375	63.3519	68.6979
71)	C3-Chrysenes	38.70	452390	49.8106	54.0139
72)	C4-Chrysenes	39.24	295847	32.5743	35.3232
77)	Benzo(b)fluoranthene	37.22	668746	57.2823	62.1161
78)	Benzo(k,j)fluoranthene	37.34	122075	11.1931	12.1376
79)	Benzo(a)fluoranthene	37.57	111630	10.2354	11.0991
80)	Benzo(e)pyrene	38.19	314081	26.6986	28.9516
81)	Benzo(a)pyrene	38.39	169179	15.0472	16.3170
89)	Perylene	38.70	1238160	110.2391	119.5418
82)	Indeno(1,2,3-c,d)pyrene	43.11	354626	28.0483	30.4152
83)	Dibenzo(a,h)anthracene	43.15	82627	8.3107	9.0120
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	381774	34.6095	37.5300
# Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	203272	36.7430	39.8436
10) 1-Methylnaphthalene	16.38	110670	21.4469	23.2567
11) 2,6-Dimethylnaphthalene	18.17	149421	30.8996	33.5071
12) 1,6,7-Trimethylnaphthalene	21.01	35048	7.8212	8.4812
27) 1-Methylfluorene	23.44	33660	8.7478	9.4860
35) 4-Methyldibenzothiophene	25.83	86445	12.4600	13.5114
36) 2/3-Methyldibenzothiophene	26.10	67124	9.6751	10.4916
37) 1-Methyldibenzothiophene	26.45	41211	5.9401	6.4413
43) 3-Methylphenanthrene	26.41	76776	10.4799	11.3643
44) 2-Methylphenanthrene	26.52	78058	10.6549	11.5541
45) 2-Methylanthracene	26.66	37199	5.0777	5.5061
46) 4/9-Methylphenanthrene	26.80	66462	9.0721	9.8376
47) 1-Methylphenanthrene	26.86	56648	7.7324	8.3850
48) 3,6-Dimethylphenanthrene	27.94	31477	5.2911	5.7376
49) Retene	30.64	16241	6.6410	7.2014
60) 2-Methylfluoranthene	30.40	27622	4.4630	4.8397
61) Benzo(b)fluorene	31.02	48884	7.8380	8.4994
74) C29-Hopane	40.64	322118	95.1042	103.1298
75) 18a-Oleanane	0.00	0	0.0000	0.0000
76) C30-Hopane	41.93	491831	145.2116	157.4656
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	557679	72.04	86.46
21) Acenaphthene-d10	19.59	330730	72.96	87.55
32) Phenanthrene-d10	24.68	552069	76.86	92.22
66) Chrysene-d12	33.73	589405	68.12	81.78
88) Perylene-d12	38.62	627946	68.52	82.26
90) 5(b)H-Cholane	34.16	139797	88.84	106.68
Internal Standards				
1) Fluorene-d10	21.37	391206	83.63	
31) Pyrene-d10	29.57	745803	83.49	
73) Benzo(a)pyrene-d12	38.31	643863	83.39	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1784.D
Acq On : 3 Sep 2013 10:42 am
Operator : YM
Sample : SED-DA-021 (0-0.5)
Misc :
ALS Vial : 17 Sample Multiplier: 0.33311

Quant Time: Sep 09 12:50:04 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.371	176	391206m	251.05		0.00
31) Pyrene-d10	29.565	212	745803m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	643863m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.738	136	557679m	72.04		0.00
21) Acenaphthene-d10	19.588	164	330730m	72.96		0.00
32) Phenanthrene-d10	24.683	188	552069m	76.86		0.00
66) Chrysene-d12	33.731	240	589405m	68.12		0.00
88) Perylene-d12	38.619	264	627946m	68.52		0.00
90) 5(b)H-Cholane	34.158	217	139797m	88.84		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.343	138	63517m	48.36		
4) C1-Decalins	12.624	152	6834m	5.20		
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	226566m	27.29		
9) 2-Methylnaphthalene	16.051	142	203272m	36.74		
10) 1-Methylnaphthalene	16.385	142	110670m	21.45		
11) 2,6-Dimethylnaphthalene	18.168	156	149421m	30.90		
12) 1,6,7-Trimethylnaphtha...	21.009	170	35048m	7.82		
13) C2-Naphthalenes	18.418	156	548790m	66.09		
14) C3-Naphthalenes	20.424	170	547674m	65.96		
15) C4-Naphthalenes	22.736	184	310347m	37.37		
16) Benzothiophene	13.989	134	10574m	1.59		
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	56362m	8.00		
23) Acenaphthylene	19.115	152	73458m	8.87		
24) Acenaphthene	19.700	154	21064m	4.30		
25) Dibenzofuran	20.285	168	95251m	12.01		
26) Fluorene	21.455	166	128084m	20.81		
27) 1-Methylfluorene	23.436	180	33660m	8.75		
28) C1-Fluorenes	23.436	180	98908m	16.07		
29) C2-Fluorenes	24.925	194	213420m	34.68		
30) C3-Fluorenes	27.522	208	247132m	40.16		
33) Carbazole	25.514	167	45909m	6.31		
34) Dibenzothiophene	24.337	184	106424m	12.87		
35) 4-Methyldibenzothiophene	25.826	198	86445m	12.46		
36) 2/3-Methyldibenzothiop...	26.103	198	67124m	9.68		
37) 1-Methyldibenzothiophene	26.449	198	41211m	5.94		
38) C2-Dibenzothiophenes	27.557	212	277419m	33.55		
39) C3-Dibenzothiophenes	28.734	226	425750m	51.49		
40) C4-Dibenzothiophenes	30.154	240	305894m	37.00		
41) Phenanthrene	24.752	178	484662m	50.66		
42) Anthracene	24.925	178	130592m	14.41		
43) 3-Methylphenanthrene	26.414	192	76776m	10.48		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1784.D
Acq On : 3 Sep 2013 10:42 am
Operator : YM
Sample : SED-DA-021 (0-0.5)
Misc :
ALS Vial : 17 Sample Multiplier: 0.33311

Quant Time: Sep 09 12:50:04 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.518	192	78058m	10.65		
45) 2-Methylanthracene	26.657	192	37199m	5.08		
46) 4/9-Methylphenanthrene	26.795	192	66462m	9.07		
47) 1-Methylphenanthrene	26.864	192	56648m	7.73		
48) 3,6-Dimethylphenanthrene	27.938	206	31477m	5.29		
49) Retene	30.639	234	16241m	6.64		
50) C2-Phenanthrenes/Anthr...	28.319	206	400077m	41.82		
51) C3-Phenanthrenes/Anthr...	29.877	220	481320m	50.31		
52) C4-Phenanthrenes/Anthr...	31.712	234	412150m	43.08		
53) Naphthobenzothiophene	32.878	234	173810m	16.54		
54) C1-Naphthobenzothiophenes	34.313	248	437118m	41.60		
55) C2-Naphthobenzothiophenes	35.322	262	752784m	71.63		
56) C3-Naphthobenzothiophenes	37.106	276	743610m	70.76		
57) C4-Naphthobenzothiophenes	38.115	290	317990m	30.26		
58) Fluoranthene	28.838	202	398967m	39.03		
59) Pyrene	29.635	202	373228m	34.18		
60) 2-Methylfluoranthene	30.397	216	27622m	4.46		
61) Benzo(b)fluorene	31.020	216	48884m	7.84		
62) C1-Fluoranthenes/Pyrenes	30.777	216	322765m	31.57		
63) C2-Fluoranthenes/Pyrenes	32.490	230	517743m	50.65		
64) C3-Fluoranthenes/Pyrenes	34.041	244	328364m	32.12		
65) C4-Fluoranthenes/Pyrenes	35.710	258	456519m	44.66		
67) Benz(a)anthracene	33.692	228	140541m	13.34		
68) Chrysene/Triphenylene	33.809	228	264101m	29.08		
69) C1-Chrysenes	35.516	242	623940m	68.70		
70) C2-Chrysenes	36.214	256	575375m	63.35		
71) C3-Chrysenes	38.697	270	452390m	49.81		
72) C4-Chrysenes	39.240	284	295847m	32.57		
74) C29-Hopane	40.644	191	322118m	95.10		
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	41.935	191	491831m	145.21		
77) Benzo(b)fluoranthene	37.223	252	668746m	57.28		
78) Benzo(k,j)fluoranthene	37.339	252	122075m	11.19		
79) Benzo(a)fluoranthene	37.572	252	111630m	10.24		
80) Benzo(e)pyrene	38.192	252	314081m	26.70		
81) Benzo(a)pyrene	38.386	252	169179m	15.05		
82) Indeno(1,2,3-c,d)pyrene	43.115	276	354626m	28.05		
83) Dibenzo(a,h)anthracene	43.152	278	82627m	8.31		
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	44.516	276	381774m	34.61		
89) Perylene	38.697	252	1238156m	110.24		
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	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 : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1784.D
Acq On : 3 Sep 2013 10:42 am
Operator : YM
Sample : SED-DA-021 (0-0.5)
Misc :
ALS Vial : 17 Sample Multiplier: 0.33311

Quant Time: Sep 09 12:50:04 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

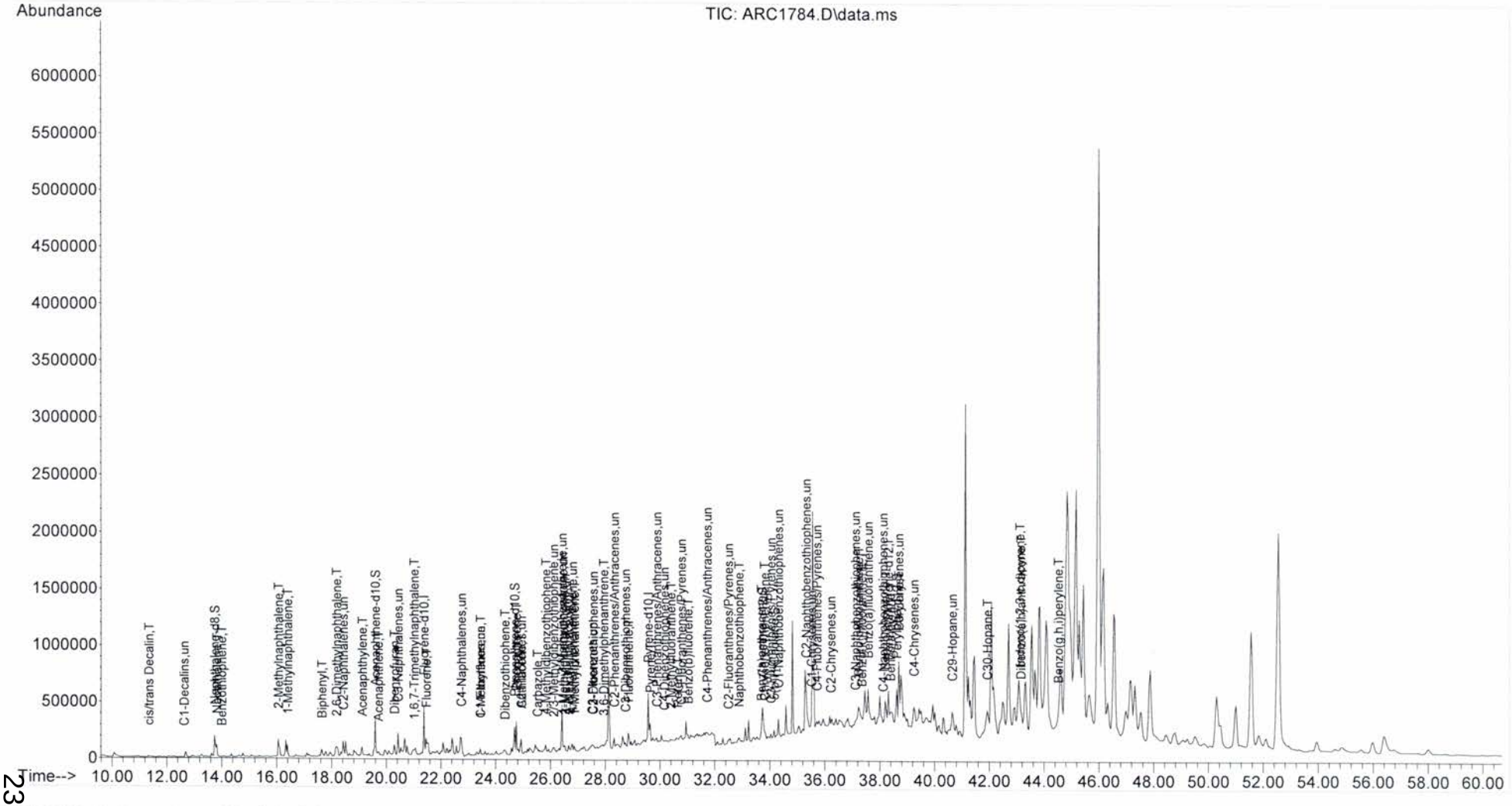
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1784.D
Acq On : 3 Sep 2013 10:42 am
Operator : YM
Sample : SED-DA-021 (0-0.5)
Misc :
ALS Vial : 17 Sample Multiplier: 0.33311

Quant Time: Sep 09 12:50:04 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	ARC1785.D
Data File Path	P:\2013\J13034\PAH\MSDChemstation\MS70062\
Operator	YM
Date Acquired	9/3/2013 11:50
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-021 (0.5-1.0)
Misc Info	0
Instrument Name	GCMSD
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

ARC1785.D
SED-DA-021 (0.5-1.0)
9/3/2013
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	13.82	272554	8.2144	9.0424
9)+10)	C1-Naphthalenes	16.22	191078	5.7588	6.3393
13)	C2-Naphthalenes	18.42	251638	7.5840	8.3484
14)	C3-Naphthalenes	20.09	283935	8.5574	9.4200
15)	C4-Naphthalenes	22.74	244265	7.3618	8.1038
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	16289	0.4922	0.5418
24)	Acenaphthene	19.70	12486	0.6379	0.7022
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.48	105730	4.2997	4.7331
28)	C1-Fluorenes	23.44	55438	2.2545	2.4817
29)	C2-Fluorenes	25.31	129260	5.2566	5.7865
30)	C3-Fluorenes	26.69	119158	4.8458	5.3342
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.93	21377	0.5756	0.6336
41)	Phenanthrene	24.75	401941	10.2505	11.2837
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.65	232514	5.9297	6.5274
50)	C2-Phenanthrenes/Anthracenes	28.15	256044	6.5298	7.1880
51)	C3-Phenanthrenes/Anthracenes	29.88	103522	2.6401	2.9062
52)	C4-Phenanthrenes/Anthracenes	32.41	95448	2.4342	2.6795
34)	Dibenzothiophene	24.34	48403	1.4284	1.5724
35)+36)+37)	C1-Dibenzothiophenes	26.14	67992	2.0065	2.2088
38)	C2-Dibenzothiophenes	27.56	73254	2.1618	2.3797
39)	C3-Dibenzothiophenes	29.05	74787	2.2070	2.4295
40)	C4-Dibenzothiophenes	30.15	54576	1.6106	1.7729
58)	Fluoranthene	28.84	183261	4.3741	4.8150
59)	Pyrene	29.63	145397	3.2488	3.5763
62)	C1-Fluoranthenes/Pyrenes	30.78	122209	2.9169	3.2109
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	51617	1.1955	1.3160
68)	Chrysene/Triphenylene	33.81	151131	4.0603	4.4696
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	268646	5.2619	5.7923
78)	Benzo(k,j)fluoranthene	37.34	35988	0.7545	0.8306
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	38.70	13244100	269.6373	296.8165
82)	Indeno(1,2,3-c,d)pyrene	43.08	109322	1.9772	2.1765
83)	Dibenzo(a,h)anthracene	43.19	46956	1.0800	1.1888
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	84428	1.7501	1.9266
# Compound Name	**Ret Time (minute)**	**Target Response (area)**	**Concentration**	**Su. Corrected Concentration**
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	130188	5.8893	6.4829
10) 1-Methylnaphthalene	16.38	60890	2.9531	3.2507
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	31856	1.1204	1.2333
36) 2/3-Methyldibenzothiophene	26.14	25243	0.8878	0.9773
37) 1-Methyldibenzothiophene	26.45	10893	0.3831	0.4217
43) 3-Methylphenanthrene	26.41	49627	1.6529	1.8195
44) 2-Methylphenanthrene	26.52	59307	1.9753	2.1744
45) 2-Methylanthracene	26.66	68285	2.2743	2.5036
46) 4/9-Methylphenanthrene	26.80	29405	0.9794	1.0781
47) 1-Methylphenanthrene	26.86	25890	0.8623	0.9492
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	510095	16.49	99.76
21) Acenaphthene-d10	19.59	254431	14.05	84.96
32) Phenanthrene-d10	24.68	442204	15.02	90.84
66) Chrysene-d12	33.73	460024	12.97	78.50
88) Perylene-d12	38.62	437310	10.91	66.03
90) 5(b)H-Cholane	34.16	101500	14.75	89.27
Internal Standards				
1) Fluorene-d10	21.37	310143	16.59	
31) Pyrene-d10	29.57	606425	16.56	
73) Benzo(a)pyrene-d12	38.31	558654	16.54	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1785.D
Acq On : 3 Sep 2013 11:50 am
Operator : YM
Sample : SED-DA-021 (0.5-1.0)
Misc :
ALS Vial : 18 Sample Multiplier: 0.06609

Quant Time: Sep 09 20:24:12 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.371	176	310143m	251.05		0.00
31) Pyrene-d10	29.565	212	606425m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	558654m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.738	136	510095m	16.49		0.00
21) Acenaphthene-d10	19.588	164	254431m	14.05		0.00
32) Phenanthrene-d10	24.683	188	442204m	15.02		0.00
66) Chrysene-d12	33.731	240	460024m	12.97		0.00
88) Perylene-d12	38.619	264	437310m	10.91		0.00
90) 5(b)H-Cholane	34.158	217	101500m	14.75		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	272554m	8.21		
9) 2-Methylnaphthalene	16.051	142	130188m	5.89		
10) 1-Methylnaphthalene	16.385	142	60890m	2.95		
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	251638m	7.58		
14) C3-Naphthalenes	20.090	170	283935m	8.56		
15) C4-Naphthalenes	22.736	184	244265m	7.36		
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	0.000		0	N.D.	d	
23) Acenaphthylene	19.115	152	16289m	0.49		
24) Acenaphthene	19.700	154	12486m	0.64		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.483	166	105730m	4.30		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.436	180	55438m	2.25		
29) C2-Fluorenes	25.306	194	129260m	5.26		
30) C3-Fluorenes	26.691	208	119158m	4.85		
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.337	184	48403m	1.43		
35) 4-Methyldibenzothiophene	25.826	198	31856m	1.12		
36) 2/3-Methyldibenzothiop...	26.137	198	25243m	0.89		
37) 1-Methyldibenzothiophene	26.449	198	10893m	0.38		
38) C2-Dibenzothiophenes	27.557	212	73254m	2.16		
39) C3-Dibenzothiophenes	29.046	226	74787m	2.21		
40) C4-Dibenzothiophenes	30.154	240	54576m	1.61		
41) Phenanthrene	24.752	178	401941m	10.25		
42) Anthracene	24.925	178	21377m	0.58		
43) 3-Methylphenanthrene	26.414	192	49627m	1.65		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1785.D
Acq On : 3 Sep 2013 11:50 am
Operator : YM
Sample : SED-DA-021 (0.5-1.0)
Misc :
ALS Vial : 18 Sample Multiplier: 0.06609

Quant Time: Sep 09 20:24:12 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.518	192	59307m	1.98		
45) 2-Methylanthracene	26.657	192	68285m	2.27		
46) 4/9-Methylphenanthrene	26.795	192	29405m	0.98		
47) 1-Methylphenanthrene	26.865	192	25890m	0.86		
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	256044m	6.53		
51) C3-Phenanthrenes/Anthr...	29.877	220	103522m	2.64		
52) C4-Phenanthrenes/Anthr...	32.412	234	95448m	2.43		
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	183261m	4.37		
59) Pyrene	29.635	202	145397m	3.25		
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	122209m	2.92		
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	51617m	1.20		
68) Chrysene/Triphenylene	33.809	228	151131m	4.06		
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	268646m	5.26		
78) Benzo(k,j)fluoranthene	37.339	252	35988m	0.75		
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	43.078	276	109322m	1.98		
83) Dibenzo(a,h)anthracene	43.189	278	46956m	1.08		
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	44.442	276	84428m	1.75		
89) Perylene	38.697	252	13244062m	269.64		
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 : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1785.D
Acq On : 3 Sep 2013 11:50 am
Operator : YM
Sample : SED-DA-021 (0.5-1.0)
Misc :
ALS Vial : 18 Sample Multiplier: 0.06609

Quant Time: Sep 09 20:24:12 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

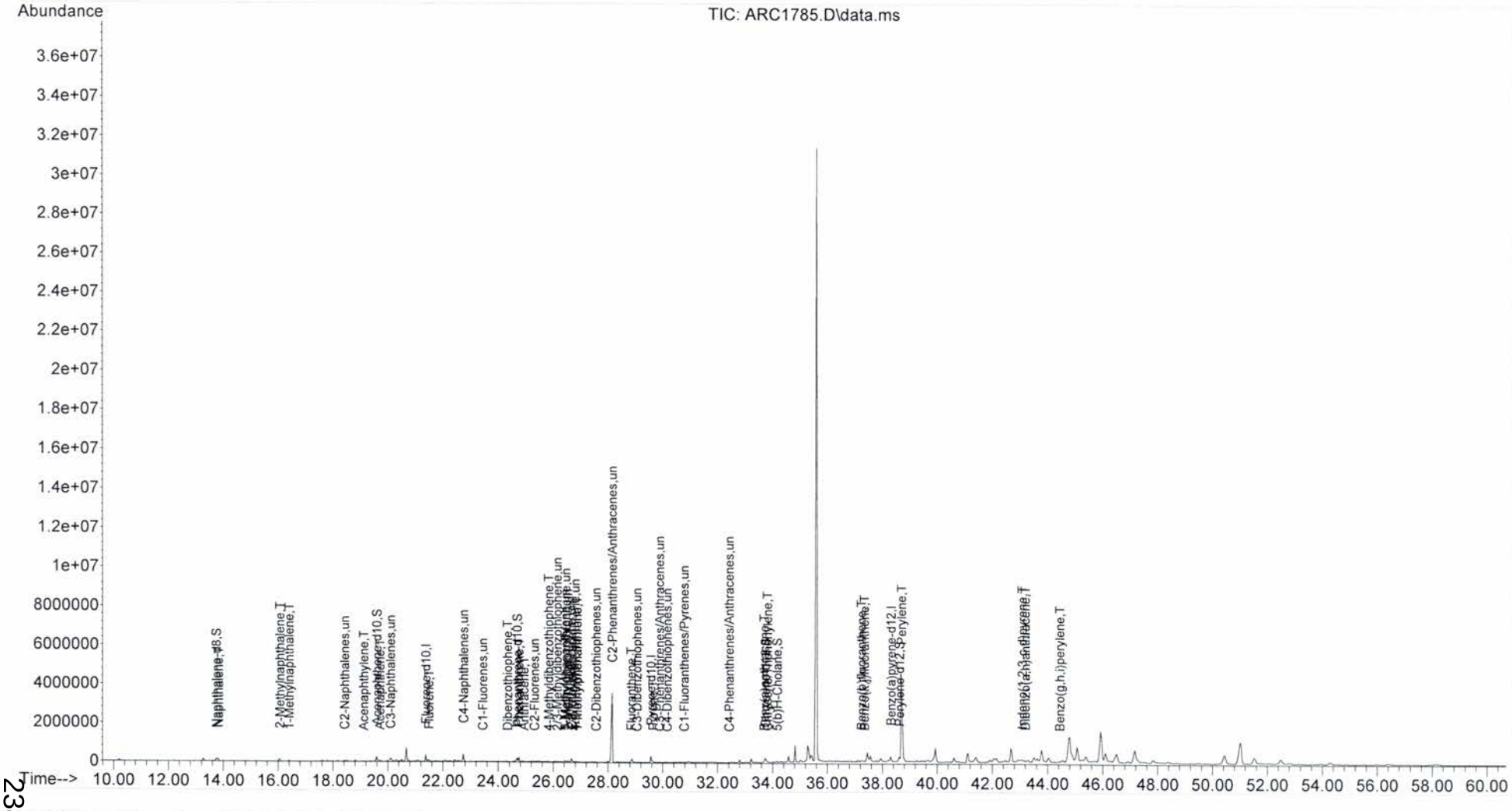
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1785.D
Acq On : 3 Sep 2013 11:50 am
Operator : YM
Sample : SED-DA-021 (0.5-1.0)
Misc :
ALS Vial : 18 Sample Multiplier: 0.06609

Quant Time: Sep 09 20:24:12 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	ARC1786.D
Data File Path	P:\2013\J13034\PAH\MSDChemstation\MS70062\
Operator	YM
Date Acquired	9/3/2013 12:59
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-021 (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

ARC1786.D
SED-DA-021 (1.0-1.5)
9/3/2013
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	89985	2.8964	3.2586
9)+10)	C1-Naphthalenes	16.22	64996	2.0921	2.3537
13)	C2-Naphthalenes	18.50	105534	3.3969	3.8216
14)	C3-Naphthalenes	20.09	198487	6.3888	7.1877
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	1432	0.0462	0.0520
24)	Acenaphthene	19.70	5495	0.2998	0.3373
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.48	70290	3.0528	3.4346
28)	C1-Fluorenes	23.44	30730	1.3347	1.5015
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	255042	6.9633	7.8340
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.65	99238	2.7095	3.0482
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	7758	0.2451	0.2758
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	28.84	26538	0.6781	0.7629
59)	Pyrene	29.63	14369	0.3437	0.3867
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	37.22	9006	0.2018	0.2270
78)	Benzo(k,j)fluoranthene	37.30	3024	0.0725	0.0816
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	38.70	736039	17.1389	19.2820
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	44580	2.1538	2.4231
10) 1-Methylnaphthalene	16.39	20416	1.0575	1.1897
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	26.41	11312	0.4034	0.4538
44) 2-Methylphenanthrene	26.52	13753	0.4904	0.5517
45) 2-Methylanthracene	26.66	59124	2.1082	2.3718
46) 4/9-Methylphenanthrene	26.80	7106	0.2534	0.2851
47) 1-Methylphenanthrene	26.86	7943	0.2832	0.3186
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	534938	18.47	110.99
21) Acenaphthene-d10	19.45	227910	13.44	80.74
32) Phenanthrene-d10	24.68	406842	14.80	88.89
66) Chrysene-d12	33.73	424861	12.83	77.10
88) Perylene-d12	38.62	282165	8.05	48.40
90) 5(b)H-Cholane	34.16	102748	17.08	102.67
Internal Standards				
1) Fluorene-d10	21.37	292331	16.70	
31) Pyrene-d10	29.57	570216	16.67	
73) Benzo(a)pyrene-d12	38.31	491701	16.65	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1786.D
Acq On : 3 Sep 2013 12:59 pm
Operator : YM
Sample : SED-DA-021 (1.0-1.5)
Misc :
ALS Vial : 19 Sample Multiplier: 0.06653

Quant Time: Sep 09 13:14:12 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.371	176	292331m	251.05		0.00
31) Pyrene-d10	29.566	212	570216m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	491701m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.739	136	534938m	18.47		0.00
21) Acenaphthene-d10	19.449	164	227910m	13.44		-0.14
32) Phenanthrene-d10	24.683	188	406842m	14.80		0.00
66) Chrysene-d12	33.731	240	424861m	12.83		0.00
88) Perylene-d12	38.619	264	282165m	8.05		0.00
90) 5(b)H-Cholane	34.158	217	102748m	17.08		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	89985m	2.90		
9) 2-Methylnaphthalene	16.051	142	44580m	2.15		
10) 1-Methylnaphthalene	16.385	142	20416m	1.06		
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	105534m	3.40		
14) C3-Naphthalenes	20.090	170	198487m	6.39		
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	1432m	0.05		
24) Acenaphthene	19.700	154	5495m	0.30		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.483	166	70290m	3.05		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.436	180	30730m	1.33		
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	7758m	0.25		
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	255042m	6.96		
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	26.414	192	11312m	0.40		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1786.D
Acq On : 3 Sep 2013 12:59 pm
Operator : YM
Sample : SED-DA-021 (1.0-1.5)
Misc :
ALS Vial : 19 Sample Multiplier: 0.06653

Quant Time: Sep 09 13:14:12 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.518	192	13753m	0.49		
45) 2-Methylanthracene	26.657	192	59124m	2.11		
46) 4/9-Methylphenanthrene	26.795	192	7106m	0.25		
47) 1-Methylphenanthrene	26.865	192	7943m	0.28		
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	26538m	0.68		
59) Pyrene	29.635	202	14369m	0.34		
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	37.223	252	9006m	0.20		
78) Benzo(k,j)fluoranthene	37.300	252	3024m	0.07		
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	38.697	252	736039m	17.14		
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 : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1786.D
Acq On : 3 Sep 2013 12:59 pm
Operator : YM
Sample : SED-DA-021 (1.0-1.5)
Misc :
ALS Vial : 19 Sample Multiplier: 0.06653

Quant Time: Sep 09 13:14:12 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

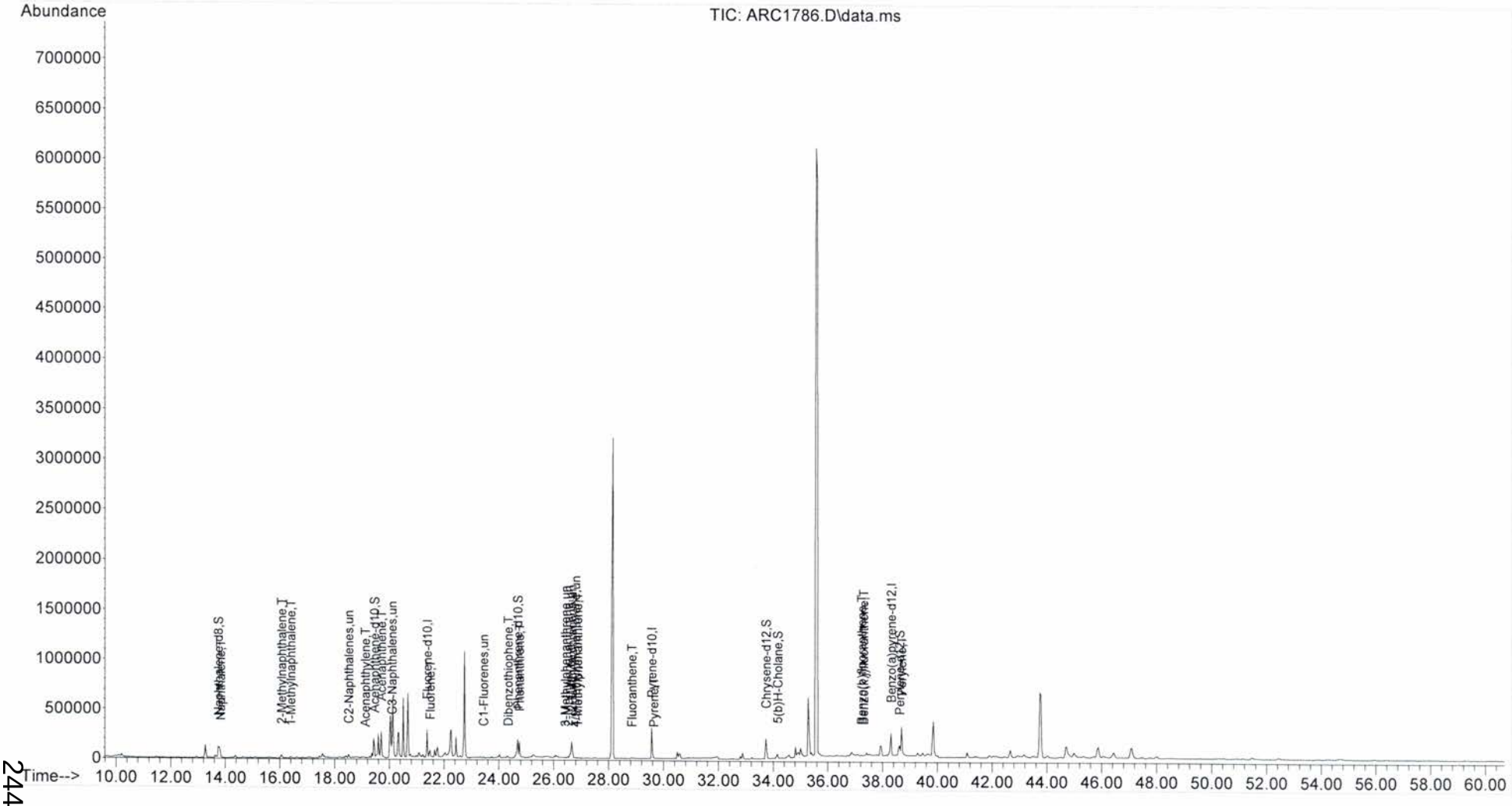
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1786.D
Acq On : 3 Sep 2013 12:59 pm
Operator : YM
Sample : SED-DA-021 (1.0-1.5)
Misc :
ALS Vial : 19 Sample Multiplier: 0.06653

Quant Time: Sep 09 13:14:12 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	ARC1790.D
Data File Path	C:\GCMS7\MS70062\
Operator	YM
Date Acquired	9/3/2013 15:16
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-042 (0-0.5)
Misc Info	0
Instrument Name	GCMSD
Vial Number	21
Sample Multiplier	0.06614
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

ARC1790.D
SED-DA-042 (0-0.5)
9/3/2013
PAH-2012.M
15.1194436

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	10.95	60307	13.1654	13.6379
4)	C1-Decalins	12.71	160846	35.1139	36.3740
5)	C2-Decalins	13.74	17239	3.7634	3.8985
6)	C3-Decalins	16.61	37891	8.2719	8.5687
7)	C4-Decalins	17.92	56194	12.2676	12.7078
8)	Naphthalene	13.82	331427	11.4436	11.8543
9)+10)	C1-Naphthalenes	16.22	362464	12.5153	12.9644
13)	C2-Naphthalenes	18.42	663832	22.9209	23.7435
14)	C3-Naphthalenes	20.09	729881	25.2015	26.1059
15)	C4-Naphthalenes	21.48	484981	16.7455	17.3465
16)	Benzothiophene	13.99	17708	0.7620	0.7894
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	85796	3.4931	3.6185
23)	Acenaphthylene	19.12	39806	1.3780	1.4275
24)	Acenaphthene	19.70	25499	1.4924	1.5460
25)	Dibenzofuran	20.28	182805	6.6068	6.8439
26)	Fluorene	21.48	202101	9.4159	9.7538
28)	C1-Fluorenes	23.44	152306	7.0960	7.3506
29)	C2-Fluorenes	25.48	422608	19.6894	20.3960
30)	C3-Fluorenes	27.52	341613	15.9158	16.4870
33)	Carbazole	25.51	29711	1.0609	1.0989
42)	Anthracene	24.93	70379	2.0186	2.0910
41)	Phenanthrene	24.75	819660	22.2678	23.0670
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.65	510363	13.8651	14.3627
50)	C2-Phenanthrenes/Anthracenes	28.32	798868	21.7030	22.4819
51)	C3-Phenanthrenes/Anthracenes	29.88	749751	20.3686	21.0996
52)	C4-Phenanthrenes/Anthracenes	31.71	609046	16.5460	17.1399
34)	Dibenzothiophene	24.34	118957	3.7397	3.8739
35)+36)+37)	C1-Dibenzothiophenes	26.14	279793	8.7959	9.1116
38)	C2-Dibenzothiophenes	27.56	486733	15.3015	15.8506
39)	C3-Dibenzothiophenes	28.73	706974	22.2252	23.0229
40)	C4-Dibenzothiophenes	30.15	576573	18.1258	18.7763
58)	Fluoranthene	28.84	372347	9.4673	9.8071
59)	Pyrene	29.63	326550	7.7728	8.0517
62)	C1-Fluoranthenes/Pyrenes	30.78	359391	9.1379	9.4658
63)	C2-Fluoranthenes/Pyrenes	32.49	699099	17.7753	18.4133
64)	C3-Fluoranthenes/Pyrenes	34.04	529744	13.4693	13.9527
65)	C4-Fluoranthenes/Pyrenes	35.59	738708	18.7824	19.4565
53)	Naphthobenzothiophene	32.88	221507	5.4790	5.6756
54)	C1-Naphthobenzothiophenes	34.31	618690	15.3032	15.8524
55)	C2-Naphthobenzothiophenes	35.32	1271090	31.4402	32.5685
56)	C3-Naphthobenzothiophenes	36.83	1161020	28.7178	29.7484
57)	C4-Naphthobenzothiophenes	38.11	444302	10.9898	11.3842
67)	Benz(a)anthracene	33.69	102482	2.5286	2.6193
68)	Chrysene/Triphenylene	33.81	303685	8.6914	9.0033
69)	C1-Chrysenes	35.59	1621390	46.4035	48.0688
70)	C2-Chrysenes	36.76	698202	19.9823	20.6994
71)	C3-Chrysenes	38.74	610849	17.4823	18.1097
72)	C4-Chrysenes	39.24	238782	6.8338	7.0791
77)	Benzo(b)fluoranthene	37.26	516514	10.5004	10.8772
78)	Benzo(k,j)fluoranthene	37.34	101733	2.2139	2.2933
79)	Benzo(a)fluoranthene	37.57	108460	2.3602	2.4449
80)	Benzo(e)pyrene	38.23	270102	5.4493	5.6448
81)	Benzo(a)pyrene	38.39	149664	3.1593	3.2727
89)	Perylene	38.70	6640990	140.3319	145.3682
82)	Indeno(1,2,3-c,d)pyrene	43.11	272775	5.1204	5.3042
83)	Dibenzo(a,h)anthracene	43.23	102553	2.4481	2.5360
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	267223	5.7495	5.9558
# Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	245422	12.7191	13.1756
10) 1-Methylnaphthalene	16.39	117042	6.5031	6.7365
11) 2,6-Dimethylnaphthalene	18.17	173897	10.3104	10.6805
12) 1,6,7-Trimethylnaphthalene	21.01	48157	3.0812	3.1917
27) 1-Methylfluorene	23.44	51960	3.8717	4.0106
35) 4-Methyldibenzothiophene	25.83	123476	4.6261	4.7921
36) 2/3-Methyldibenzothiophene	26.14	92765	3.4755	3.6002
37) 1-Methyldibenzothiophene	26.45	63552	2.3810	2.4665
43) 3-Methylphenanthrene	26.41	110887	3.9343	4.0755
44) 2-Methylphenanthrene	26.52	125324	4.4465	4.6061
45) 2-Methylanthracene	26.66	84667	3.0040	3.1118
46) 4/9-Methylphenanthrene	26.80	103123	3.6588	3.7902
47) 1-Methylphenanthrene	26.86	86362	3.0642	3.1741
48) 3,6-Dimethylphenanthrene	27.97	25476	1.1131	1.1531
49) Retene	30.64	38401	4.0815	4.2280
60) 2-Methylfluoranthene	30.40	25501	1.0710	1.1094
61) Benzo(b)fluorene	31.02	50818	2.1179	2.1939
74) C29-Hopane	40.64	451421	31.6324	32.7676
75) 18a-Oleanane	0.00	0	0.0000	0.0000
76) C30-Hopane	41.97	392183	27.4814	28.4676
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	442647	16.39	99.10
21) Acenaphthene-d10	19.59	251315	15.90	96.07
32) Phenanthrene-d10	24.68	441454	15.97	96.54
66) Chrysene-d12	33.73	442743	13.30	80.42
88) Perylene-d12	38.62	262077	6.79	41.04
90) 5(b)H-Cholane	34.16	115473	17.42	105.33
Internal Standards				
1) Fluorene-d10	21.37	270918	16.60	
31) Pyrene-d10	29.57	569698	16.58	
73) Benzo(a)pyrene-d12	38.31	538649	16.56	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1790.D
Acq On : 3 Sep 2013 3:16 pm
Operator : YM
Sample : SED-DA-042 (0-0.5)
Misc :
ALS Vial : 21 Sample Multiplier: 0.06614

Quant Time: Sep 09 08:55:32 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.371	176	270918m	251.05		0.00
31) Pyrene-d10	29.566	212	569698m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	538649m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.739	136	442647m	16.39		0.00
21) Acenaphthene-d10	19.589	164	251315m	15.90		0.00
32) Phenanthrene-d10	24.683	188	441454m	15.97		0.00
66) Chrysene-d12	33.731	240	442743m	13.30		0.00
88) Perylene-d12	38.619	264	262077m	6.79		0.00
90) 5(b)H-Cholane	34.158	217	115473m	17.42		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	10.953	138	60307m	13.17		
4) C1-Decalins	12.708	152	160846m	35.11		
5) C2-Decalins	13.739	166	17239m	3.76		
6) C3-Decalins	16.608	180	37891m	8.27		
7) C4-Decalins	17.917	194	56194m	12.27		
8) Naphthalene	13.822	128	331427m	11.44		
9) 2-Methylnaphthalene	16.051	142	245422m	12.72		
10) 1-Methylnaphthalene	16.385	142	117042m	6.50		
11) 2,6-Dimethylnaphthalene	18.168	156	173897m	10.31		
12) 1,6,7-Trimethylnaphtha...	21.009	170	48157m	3.08		
13) C2-Naphthalenes	18.419	156	663832m	22.92		
14) C3-Naphthalenes	20.090	170	729881m	25.20		
15) C4-Naphthalenes	21.483	184	484981m	16.75		
16) Benzothiophene	13.989	134	17708m	0.76		
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	85796m	3.49		
23) Acenaphthylene	19.115	152	39806m	1.38		
24) Acenaphthene	19.700	154	25499m	1.49		
25) Dibenzofuran	20.285	168	182805m	6.61		
26) Fluorene	21.483	166	202101m	9.42		
27) 1-Methylfluorene	23.436	180	51960m	3.87		
28) C1-Fluorenes	23.436	180	152306m	7.10		
29) C2-Fluorenes	25.480	194	422608m	19.69		
30) C3-Fluorenes	27.523	208	341613m	15.92		
33) Carbazole	25.514	167	29711m	1.06		
34) Dibenzothiophene	24.337	184	118957m	3.74		
35) 4-Methyldibenzothiophene	25.826	198	123476m	4.63		
36) 2/3-Methyldibenzothiop...	26.137	198	92765m	3.48		
37) 1-Methyldibenzothiophene	26.449	198	63552m	2.38		
38) C2-Dibenzothiophenes	27.557	212	486733m	15.30		
39) C3-Dibenzothiophenes	28.735	226	706974m	22.23		
40) C4-Dibenzothiophenes	30.154	240	576573m	18.13		
41) Phenanthrene	24.752	178	819660m	22.27		
42) Anthracene	24.925	178	70379m	2.02		
43) 3-Methylphenanthrene	26.414	192	110887m	3.93		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1790.D
Acq On : 3 Sep 2013 3:16 pm
Operator : YM
Sample : SED-DA-042 (0-0.5)
Misc :
ALS Vial : 21 Sample Multiplier: 0.06614

Quant Time: Sep 09 08:55:32 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.518	192	125324m	4.45		
45)	2-Methylanthracene	26.657	192	84667m	3.00		
46)	4/9-Methylphenanthrene	26.795	192	103123m	3.66		
47)	1-Methylphenanthrene	26.865	192	86362m	3.06		
48)	3,6-Dimethylphenanthrene	27.973	206	25476m	1.11		
49)	Retene	30.639	234	38401m	4.08		
50)	C2-Phenanthrenes/Anthr...	28.319	206	798868m	21.70		
51)	C3-Phenanthrenes/Anthr...	29.877	220	749751m	20.37		
52)	C4-Phenanthrenes/Anthr...	31.713	234	609046m	16.55		
53)	Naphthobenzothiophene	32.878	234	221507m	5.48		
54)	C1-Naphthobenzothiophenes	34.313	248	618690m	15.30		
55)	C2-Naphthobenzothiophenes	35.322	262	1271085m	31.44		
56)	C3-Naphthobenzothiophenes	36.835	276	1161023m	28.72		
57)	C4-Naphthobenzothiophenes	38.115	290	444302m	10.99		
58)	Fluoranthene	28.838	202	372347m	9.47		
59)	Pyrene	29.635	202	326550m	7.77		
60)	2-Methylfluoranthene	30.397	216	25501m	1.07		
61)	Benzo(b)fluorene	31.020	216	50818m	2.12		
62)	C1-Fluoranthenes/Pyrenes	30.778	216	359391m	9.14		
63)	C2-Fluoranthenes/Pyrenes	32.490	230	699099m	17.78		
64)	C3-Fluoranthenes/Pyrenes	34.041	244	529744m	13.47		
65)	C4-Fluoranthenes/Pyrenes	35.593	258	738708m	18.78		
67)	Benz(a)anthracene	33.692	228	102482m	2.53		
68)	Chrysene/Triphenylene	33.809	228	303685m	8.69		
69)	C1-Chrysenes	35.593	242	1621385m	46.40		
70)	C2-Chrysenes	36.757	256	698202m	19.98		
71)	C3-Chrysenes	38.736	270	610849m	17.48		
72)	C4-Chrysenes	39.240	284	238782m	6.83		
74)	C29-Hopane	40.645	191	451421m	31.63		
75)	18a-Oleanane	0.000		0	N.D.	d	
76)	C30-Hopane	41.972	191	392183m	27.48		
77)	Benzo(b)fluoranthene	37.261	252	516514m	10.50		
78)	Benzo(k,j)fluoranthene	37.339	252	101733m	2.21		
79)	Benzo(a)fluoranthene	37.572	252	108460m	2.36		
80)	Benzo(e)pyrene	38.231	252	270102m	5.45		
81)	Benzo(a)pyrene	38.386	252	149664m	3.16		
82)	Indeno(1,2,3-c,d)pyrene	43.115	276	272775m	5.12		
83)	Dibenzo(a,h)anthracene	43.226	278	102553m	2.45		
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	44.516	276	267223m	5.75		
89)	Perylene	38.697	252	6640987m	140.33		
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 : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1790.D
Acq On : 3 Sep 2013 3:16 pm
Operator : YM
Sample : SED-DA-042 (0-0.5)
Misc :
ALS Vial : 21 Sample Multiplier: 0.06614

Quant Time: Sep 09 08:55:32 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

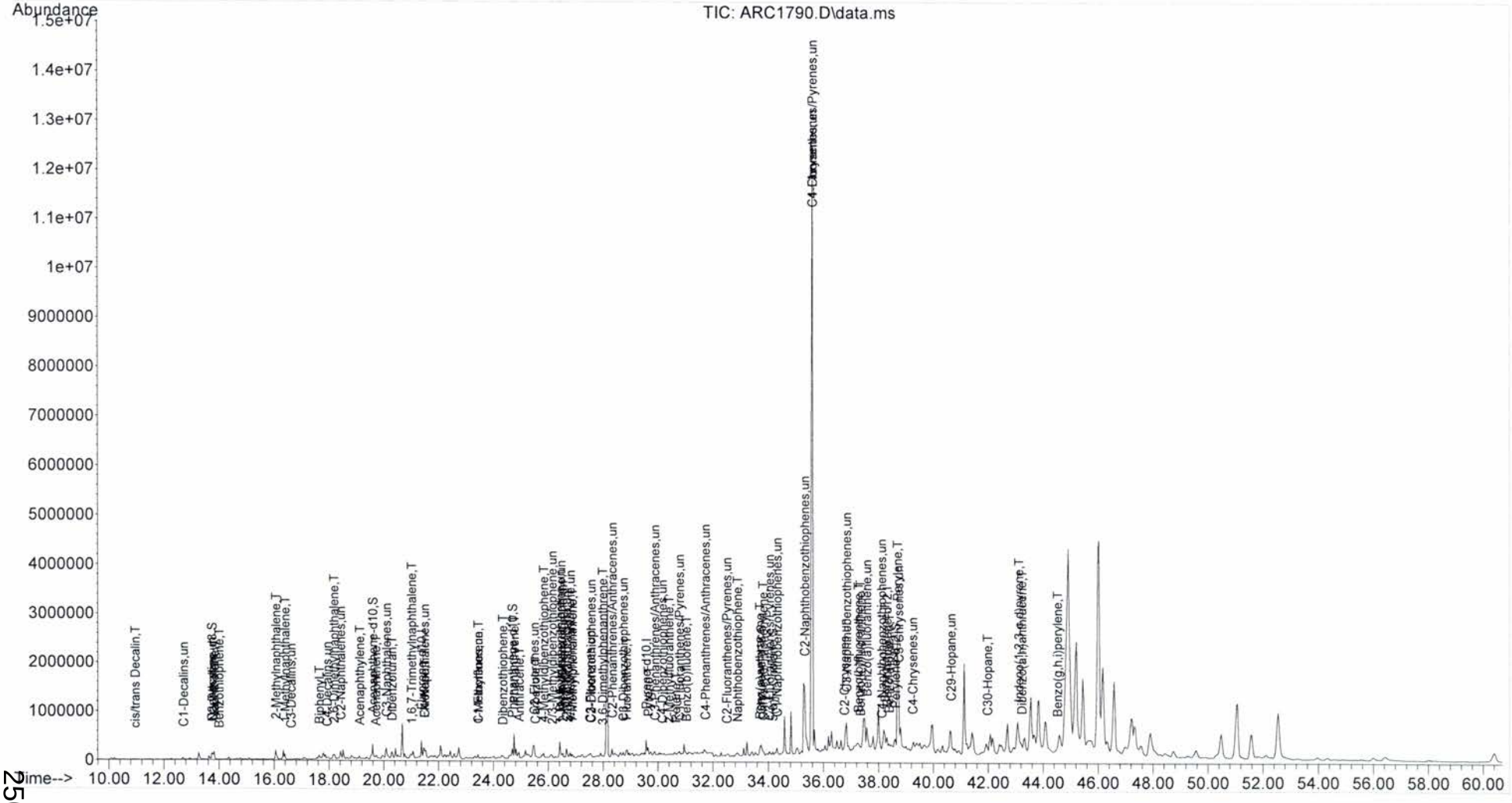
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1790.D
Acq On : 3 Sep 2013 3:16 pm
Operator : YM
Sample : SED-DA-042 (0-0.5)
Misc :
ALS Vial : 21 Sample Multiplier: 0.06614

Quant Time: Sep 09 08:55:32 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	ARC1793.D	**Surrogate/Internal Multiplier Factor:**	1.00		
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS70062\	**AR-WKSU-2500-001:**	**(ng/mL)**		
Operator	YM	Naphthalene-d8	250.125		
Date Acquired	9/3/2013 16:25	Acenaphthene-d10	250.163	***Copy data below***	
Acq. Method File	PAH-2012.M	Phenanthrene-d10	250.194	***to Spread Sheet***	
Sample Name	SED-DA-042 (0.5-1.0)	Chrysene-d12	250.038		
Misc Info	0	Perylene-d12	250.031	ARC1793.D	
Instrument Name	GCMSD	5(b)H-Cholane	250.000	SED-DA-042 (0.5-1.0)	
Vial Number	22			9/3/2013	
Sample Multiplier	0.06658			PAH-2012.M	
Sample Amount	0			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	211610	6.3420	6.9484
9)+10)	C1-Naphthalenes	16.22	163898	4.9121	5.3817
13)	C2-Naphthalenes	18.42	251021	7.5231	8.2424
14)	C3-Naphthalenes	20.09	404093	12.1108	13.2687
15)	C4-Naphthalenes	21.48	175297	5.2537	5.7560
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	16821	0.5054	0.5538
24)	Acenaphthene	19.70	10378	0.5272	0.5776
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.48	99564	4.0264	4.4113
28)	C1-Fluorenes	23.44	57461	2.3237	2.5459
29)	C2-Fluorenes	25.48	165210	6.6811	7.3199
30)	C3-Fluorenes	26.69	138973	5.6201	6.1574
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.93	23773	0.6938	0.7602
41)	Phenanthrene	24.75	360583	9.9682	10.9213
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.65	203026	5.6126	6.1492
50)	C2-Phenanthrenes/Anthracenes	28.15	291941	8.0706	8.8423
51)	C3-Phenanthrenes/Anthracenes	29.88	201206	5.5623	6.0941
52)	C4-Phenanthrenes/Anthracenes	31.71	210854	5.8290	6.3863
34)	Dibenzothiophene	24.34	37087	1.1864	1.2998
35)+36)+37)	C1-Dibenzothiophenes	26.14	62068	1.9855	2.1754
38)	C2-Dibenzothiophenes	27.56	113722	3.6379	3.9858
39)	C3-Dibenzothiophenes	28.73	178548	5.7117	6.2578
40)	C4-Dibenzothiophenes	30.15	166826	5.3367	5.8470
58)	Fluoranthene	28.84	175797	4.5484	4.9833
59)	Pyrene	29.63	133589	3.2357	3.5450
62)	C1-Fluoranthenes/Pyrenes	30.78	147174	3.8078	4.1719
63)	C2-Fluoranthenes/Pyrenes	33.23	197207	5.1023	5.5902
64)	C3-Fluoranthenes/Pyrenes	34.04	155976	4.0356	4.4214
65)	C4-Fluoranthenes/Pyrenes	35.59	405393	10.4887	11.4916
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	43347	1.0883	1.1924
68)	Chrysene/Triphenylene	33.81	142731	4.1567	4.5541
69)	C1-Chrysenes	35.59	884264	25.7521	28.2144
70)	C2-Chrysenes	36.76	223703	6.5148	7.1377
71)	C3-Chrysenes	38.70	285339	8.3098	9.1044
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.22	257161	5.3080	5.8155
78)	Benzo(k,j)fluoranthene	37.34	42560	0.9404	1.0303
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.23	129269	2.6479	2.9011
81)	Benzo(a)pyrene	38.39	49228	1.0551	1.1560
89)	Perylene	38.70	4014210	86.1246	94.3591
82)	Indeno(1,2,3-c,d)pyrene	43.08	103283	1.9685	2.1567
83)	Dibenzo(a,h)anthracene	43.19	51513	1.2485	1.3679
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	89092	1.9462	2.1323
# Compound Name	**Ret Time (minute)**	**Target Response (area)**	**Concentration**	**Su. Corrected Concentration**
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	112996	5.0830	5.5690
10) 1-Methylnaphthalene	16.39	50902	2.4549	2.6896
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	27089	1.0327	1.1315
36) 2/3-Methyldibenzothiophene	26.14	22810	0.8696	0.9528
37) 1-Methyldibenzothiophene	26.45	12169	0.4639	0.5083
43) 3-Methylphenanthrene	26.41	39158	1.4138	1.5489
44) 2-Methylphenanthrene	26.52	49879	1.8008	1.9730
45) 2-Methylanthracene	26.66	66230	2.3912	2.6198
46) 4/9-Methylphenanthrene	26.80	22771	0.8221	0.9007
47) 1-Methylphenanthrene	26.86	24988	0.9022	0.9884
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	381587	12.27	73.66
21) Acenaphthene-d10	19.59	232263	12.75	76.56
32) Phenanthrene-d10	24.68	412909	15.20	91.27
66) Chrysene-d12	33.73	408753	12.49	75.05
88) Perylene-d12	38.62	180259	4.74	28.47
90) 5(b)H-Cholane	34.16	107101	16.40	98.54
Internal Standards				
1) Fluorene-d10	21.37	314197	16.71	
31) Pyrene-d10	29.57	563582	16.69	
73) Benzo(a)pyrene-d12	38.31	534050	16.67	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1793.D
Acq On : 3 Sep 2013 4:25 pm
Operator : YM
Sample : SED-DA-042 (0.5-1.0)
Misc :
ALS Vial : 22 Sample Multiplier: 0.06658

Quant Time: Sep 09 13:25:38 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.371	176	314197m	251.05		0.00
31) Pyrene-d10	29.566	212	563582m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	534050m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.739	136	381587m	12.27		0.00
21) Acenaphthene-d10	19.589	164	232263m	12.75		0.00
32) Phenanthrene-d10	24.683	188	412909m	15.20		0.00
66) Chrysene-d12	33.731	240	408753m	12.49		0.00
88) Perylene-d12	38.619	264	180259m	4.74		0.00
90) 5(b)H-Cholane	34.158	217	107101m	16.40		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	211610m	6.34		
9) 2-Methylnaphthalene	16.051	142	112996m	5.08		
10) 1-Methylnaphthalene	16.385	142	50902m	2.45		
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	251021m	7.52		
14) C3-Naphthalenes	20.090	170	404093m	12.11		
15) C4-Naphthalenes	21.483	184	175297m	5.25		
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	16821m	0.51		
24) Acenaphthene	19.700	154	10378m	0.53		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.483	166	99564m	4.03		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.436	180	57461m	2.32		
29) C2-Fluorenes	25.479	194	165210m	6.68		
30) C3-Fluorenes	26.691	208	138973m	5.62		
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.337	184	37087m	1.19		
35) 4-Methyldibenzothiophene	25.826	198	27089m	1.03		
36) 2/3-Methyldibenzothiop...	26.137	198	22810m	0.87		
37) 1-Methyldibenzothiophene	26.449	198	12169m	0.46		
38) C2-Dibenzothiophenes	27.557	212	113722m	3.64		
39) C3-Dibenzothiophenes	28.735	226	178548m	5.71		
40) C4-Dibenzothiophenes	30.154	240	166826m	5.34		
41) Phenanthrene	24.752	178	360583m	9.97		
42) Anthracene	24.925	178	23773m	0.69		
43) 3-Methylphenanthrene	26.414	192	39158m	1.41		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1793.D
Acq On : 3 Sep 2013 4:25 pm
Operator : YM
Sample : SED-DA-042 (0.5-1.0)
Misc :
ALS Vial : 22 Sample Multiplier: 0.06658

Quant Time: Sep 09 13:25:38 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.518	192	49879m	1.80		
45)	2-Methylanthracene	26.657	192	66230m	2.39		
46)	4/9-Methylphenanthrene	26.795	192	22771m	0.82		
47)	1-Methylphenanthrene	26.865	192	24988m	0.90		
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	291941m	8.07		
51)	C3-Phenanthrenes/Anthr...	29.877	220	201206m	5.56		
52)	C4-Phenanthrenes/Anthr...	31.712	234	210854m	5.83		
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	175797m	4.55		
59)	Pyrene	29.635	202	133589m	3.24		
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	147174m	3.81		
63)	C2-Fluoranthenes/Pyrenes	33.227	230	197207m	5.10		
64)	C3-Fluoranthenes/Pyrenes	34.041	244	155976m	4.04		
65)	C4-Fluoranthenes/Pyrenes	35.593	258	405393m	10.49		
67)	Benz(a)anthracene	33.692	228	43347m	1.09		
68)	Chrysene/Triphenylene	33.809	228	142731m	4.16		
69)	C1-Chrysenes	35.593	242	884264m	25.75		
70)	C2-Chrysenes	36.757	256	223703m	6.51		
71)	C3-Chrysenes	38.697	270	285339m	8.31		
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	257161m	5.31		
78)	Benzo(k,j)fluoranthene	37.339	252	42560m	0.94		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.231	252	129269m	2.65		
81)	Benzo(a)pyrene	38.386	252	49228m	1.06		
82)	Indeno(1,2,3-c,d)pyrene	43.078	276	103283m	1.97		
83)	Dibenzo(a,h)anthracene	43.189	278	51513m	1.25		
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	44.442	276	89092m	1.95		
89)	Perylene	38.697	252	4014205m	86.12		
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 : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1793.D
Acq On : 3 Sep 2013 4:25 pm
Operator : YM
Sample : SED-DA-042 (0.5-1.0)
Misc :
ALS Vial : 22 Sample Multiplier: 0.06658

Quant Time: Sep 09 13:25:38 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

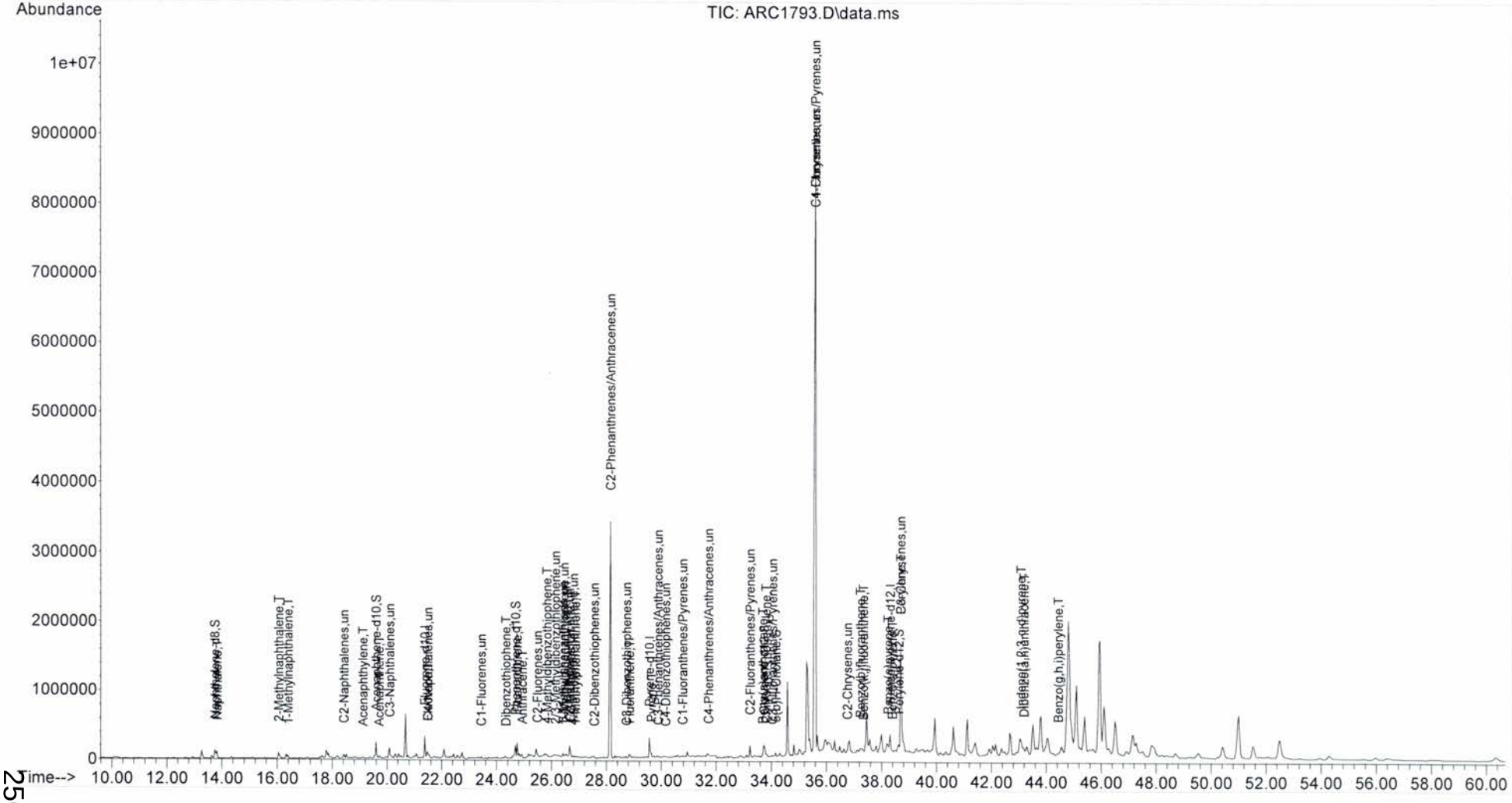
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1793.D
Acq On : 3 Sep 2013 4:25 pm
Operator : YM
Sample : SED-DA-042 (0.5-1.0)
Misc :
ALS Vial : 22 Sample Multiplier: 0.06658

Quant Time: Sep 09 13:25:38 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	ARC1794.D
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS70062\
Operator	YM
Date Acquired	9/3/2013 17:33
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-042 (1.0-1.5)
Misc Info	0
Instrument Name	GCMSD
Vial Number	23
Sample Multiplier	0.0664
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

ARC1794.D
SED-DA-042 (1.0-1.5)
9/3/2013
PAH-2012.M
15.06024096

#	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	147244	4.3074	4.9236
9)+10)	C1-Naphthalenes	16.22	90967	2.6611	3.0418
13)	C2-Naphthalenes	18.42	122608	3.5867	4.0998
14)	C3-Naphthalenes	20.09	265405	7.7640	8.8747
15)	C4-Naphthalenes	21.48	88049	2.5757	2.9442
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	4630	0.1358	0.1552
24)	Acenaphthene	19.70	5627	0.2790	0.3189
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.48	85287	3.3665	3.8481
28)	C1-Fluorenes	23.44	37426	1.4773	1.6886
29)	C2-Fluorenes	26.03	106161	4.1905	4.7900
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.93	5185	0.1344	0.1536
41)	Phenanthrene	24.75	316722	7.7736	8.8857
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.65	142232	3.4909	3.9904
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	15992	0.4542	0.5192
35)+36)+37)	C1-Dibenzothiophenes	26.14	13657	0.3879	0.4434
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	28.84	61872	1.4213	1.6246
59)	Pyrene	29.63	48680	1.0468	1.1966
62)	C1-Fluoranthenes/Pyrenes	30.78	35359	0.8122	0.9284
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	8891	0.1982	0.2265
68)	Chrysene/Triphenylene	33.81	58833	1.5212	1.7388
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	94280	1.8236	2.0845
78)	Benzo(k,j)fluoranthene	37.30	8290	0.1716	0.1962
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	38.70	9839830	197.8295	226.1319
82)	Indeno(1,2,3-c,d)pyrene	43.08	23920	0.4272	0.4883
83)	Dibenzo(a,h)anthracene	43.15	6380	0.1449	0.1656
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	17187	0.3518	0.4022
# Compound Name	**Ret Time (minute)**	**Target Response (area)**	**Concentration**	**Su. Corrected Concentration**
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	62887	2.7612	3.1563
10) 1-Methylnaphthalene	16.39	28080	1.3218	1.5109
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	6218	0.2105	0.2406
36) 2/3-Methyldibenzothiophene	26.14	6007	0.2033	0.2324
37) 1-Methyldibenzothiophene	26.45	1432	0.0485	0.0554
43) 3-Methylphenanthrene	26.41	21315	0.6832	0.7810
44) 2-Methylphenanthrene	26.52	28239	0.9052	1.0347
45) 2-Methylanthracene	26.66	67503	2.1638	2.4733
46) 4/9-Methylphenanthrene	26.80	12150	0.3895	0.4452
47) 1-Methylphenanthrene	26.86	13025	0.4175	0.4772
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	418537	13.13	79.08
21) Acenaphthene-d10	19.59	255982	13.72	82.58
32) Phenanthrene-d10	24.68	444564	14.53	87.48
66) Chrysene-d12	33.73	464236	12.60	75.89
88) Perylene-d12	38.62	258718	6.37	38.39
90) 5(b)H-Cholane	34.16	107080	15.37	92.57
Internal Standards				
1) Fluorene-d10	21.37	321026	16.67	
31) Pyrene-d10	29.57	633070	16.64	
73) Benzo(a)pyrene-d12	38.31	568369	16.62	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1794.D
Acq On : 3 Sep 2013 5:33 pm
Operator : YM
Sample : SED-DA-042 (1.0-1.5)
Misc :
ALS Vial : 23 Sample Multiplier: 0.0664

Quant Time: Sep 09 13:32:24 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.371	176	321026m	251.05		0.00
31) Pyrene-d10	29.566	212	633070m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	568369m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.739	136	418537m	13.13		0.00
21) Acenaphthene-d10	19.589	164	255982m	13.72		0.00
32) Phenanthrene-d10	24.683	188	444564m	14.53		0.00
66) Chrysene-d12	33.731	240	464236m	12.60		0.00
88) Perylene-d12	38.619	264	258718m	6.37		0.00
90) 5(b)H-Cholane	34.158	217	107080m	15.37		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	147244m	4.31		
9) 2-Methylnaphthalene	16.051	142	62887m	2.76		
10) 1-Methylnaphthalene	16.385	142	28080m	1.32		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.419	156	122608m	3.59		
14) C3-Naphthalenes	20.090	170	265405m	7.76		
15) C4-Naphthalenes	21.483	184	88049m	2.58		
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	4630m	0.14		
24) Acenaphthene	19.700	154	5627m	0.28		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.483	166	85287m	3.37		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.436	180	37426m	1.48		
29) C2-Fluorenes	26.034	194	106161m	4.19		
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.337	184	15992m	0.45		
35) 4-Methyldibenzothiophene	25.826	198	6218m	0.21		
36) 2/3-Methyldibenzothiop...	26.137	198	6007m	0.20		
37) 1-Methyldibenzothiophene	26.449	198	1432m	0.05		
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	316722m	7.77		
42) Anthracene	24.925	178	5185m	0.13		
43) 3-Methylphenanthrene	26.414	192	21315m	0.68		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1794.D
Acq On : 3 Sep 2013 5:33 pm
Operator : YM
Sample : SED-DA-042 (1.0-1.5)
Misc :
ALS Vial : 23 Sample Multiplier: 0.0664

Quant Time: Sep 09 13:32:24 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.518	192	28239m	0.91		
45) 2-Methylanthracene	26.657	192	67503m	2.16		
46) 4/9-Methylphenanthrene	26.795	192	12150m	0.39		
47) 1-Methylphenanthrene	26.865	192	13025m	0.42		
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	61872m	1.42		
59) Pyrene	29.635	202	48680m	1.05		
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	35359m	0.81		
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	8891m	0.20		
68) Chrysene/Triphenylene	33.809	228	58833m	1.52		
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	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	37.223	252	94280m	1.82		
78) Benzo(k,j)fluoranthene	37.300	252	8290m	0.17		
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	43.078	276	23920m	0.43		
83) Dibenzo(a,h)anthracene	43.152	278	6380m	0.14		
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	17187m	0.35		
89) Perylene	38.697	252	9839834m	197.83		
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 : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1794.D
Acq On : 3 Sep 2013 5:33 pm
Operator : YM
Sample : SED-DA-042 (1.0-1.5)
Misc :
ALS Vial : 23 Sample Multiplier: 0.0664

Quant Time: Sep 09 13:32:24 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

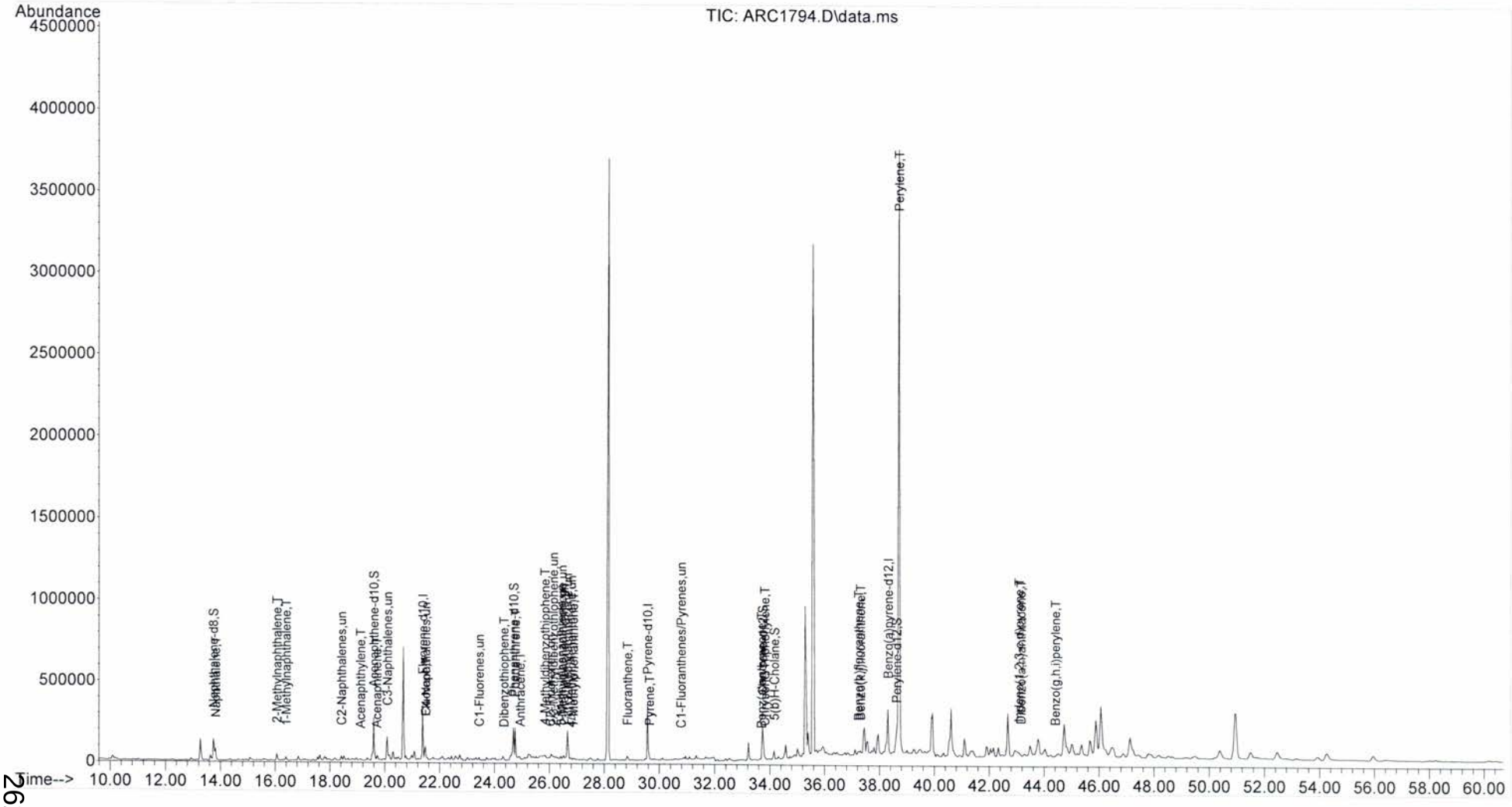
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1794.D
Acq On : 3 Sep 2013 5:33 pm
Operator : YM
Sample : SED-DA-042 (1.0-1.5)
Misc :
ALS Vial : 23 Sample Multiplier: 0.0664

Quant Time: Sep 09 13:32:24 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	ARC1795.D
Data File Path	C:\GCMS7\MS70062\
Operator	YM
Date Acquired	9/3/2013 18:42
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-046 (0-0.5)
Misc Info	0
Instrument Name	GCMSD
Vial Number	24
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

ARC1795.D
SED-DA-046 (0-0.5)
9/3/2013
PAH-2012.M
3.016045361

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.93	6685	3.9864	3.7800
4)	C1-Decalins	12.62	9422	5.6185	5.3276
5)	C2-Decalins	14.66	65374	38.9835	36.9650
6)	C3-Decalins	16.61	412921	246.2310	233.4816
7)	C4-Decalins	18.56	754315	449.8076	426.5173
8)	Naphthalene	13.82	136796	12.9019	12.2339
9)+10)	C1-Naphthalenes	16.22	1685315	158.9506	150.7205
13)	C2-Naphthalenes	18.42	7897770	744.8794	706.3108
14)	C3-Naphthalenes	20.79	11917800	1124.0282	1065.8280
15)	C4-Naphthalenes	22.76	12085500	1139.8436	1080.8245
16)	Benzothiophene	14.02	15369	1.8065	1.7130
17)	C1-Benzothiophenes	16.36	214095	25.1657	23.8626
18)	C2-Benzothiophenes	18.56	1172230	137.7890	130.6546
19)	C3-Benzothiophenes	20.26	3143940	369.5535	350.4186
20)	C4-Benzothiophenes	21.57	4294610	504.8067	478.6687
22)	Biphenyl	17.64	224761	24.9962	23.7020
23)	Acenaphthylene	19.11	96147	9.0917	8.6210
24)	Acenaphthene	19.70	65548	10.4794	9.9368
25)	Dibenzofuran	20.31	227566	22.4655	21.3023
26)	Fluorene	21.48	448764	57.1109	54.1538
28)	C1-Fluorenes	23.44	1753800	223.1936	211.6370
29)	C2-Fluorenes	25.27	4612360	586.9839	556.5909
30)	C3-Fluorenes	27.25	5241780	667.0855	632.5449
33)	Carbazole	25.51	77071	11.3517	10.7639
42)	Anthracene	24.89	98319	11.6323	11.0300
41)	Phenanthrene	24.75	2476730	277.5525	263.1813
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.66	7502846	840.7997	797.2646
50)	C2-Phenanthrenes/Anthracenes	28.32	11633600	1303.7072	1236.2035
51)	C3-Phenanthrenes/Anthracenes	29.88	12588300	1410.6983	1337.6548
52)	C4-Phenanthrenes/Anthracenes	31.71	9568320	1072.2684	1016.7482
34)	Dibenzothiophene	24.34	2098400	272.1156	258.0259
35)+36)+37)	C1-Dibenzothiophenes	26.15	7193750	932.8687	884.5664
38)	C2-Dibenzothiophenes	27.25	13053800	1692.7895	1605.1399
39)	C3-Dibenzothiophenes	29.43	15305600	1984.7977	1882.0284
40)	C4-Dibenzothiophenes	29.74	10608300	1375.6557	1304.4267
58)	Fluoranthene	28.87	451462	47.3504	44.8987
59)	Pyrene	29.63	782547	76.8351	72.8567
62)	C1-Fluoranthenes/Pyrenes	31.47	2839620	297.8258	282.4049
63)	C2-Fluoranthenes/Pyrenes	32.53	4416980	463.2623	439.2754
64)	C3-Fluoranthenes/Pyrenes	33.96	4296400	450.6166	427.2844
65)	C4-Fluoranthenes/Pyrenes	35.09	3900480	409.0920	387.9099
53)	Naphthobenzothiophene	32.92	2060100	210.1941	199.3106
54)	C1-Naphthobenzothiophenes	34.66	5697480	581.3208	551.2211
55)	C2-Naphthobenzothiophenes	35.75	8255820	842.3514	798.7359
56)	C3-Naphthobenzothiophenes	37.14	7192190	733.8285	695.8321
57)	C4-Naphthobenzothiophenes	38.11	3534320	360.6113	341.9395
67)	Benz(a)anthracene	33.73	137178	13.9616	13.2387
68)	Chrysene/Triphenylene	33.85	957004	112.9797	107.1298
69)	C1-Chrysenes	35.21	2560470	302.2776	286.6262
70)	C2-Chrysenes	36.52	3817200	450.6431	427.3096
71)	C3-Chrysenes	37.96	2593870	306.2215	290.3659
72)	C4-Chrysenes	39.36	1425090	168.2395	159.5284
77)	Benzo(b)fluoranthene	37.26	495684	42.1705	39.9869
78)	Benzo(k,j)fluoranthene	37.34	150965	13.7481	13.0363
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.23	541330	45.7039	43.3374
81)	Benzo(a)pyrene	38.43	277216	24.4891	23.2211
89)	Perylene	38.74	419749	37.1188	35.1969
82)	Indeno(1,2,3-c,d)pyrene	43.11	178555	14.0266	13.3003
83)	Dibenzo(a,h)anthracene	43.15	91439	9.1346	8.6617
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	44.48	521543	46.9595	44.5280
# Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	996137	141.0161	133.7145
10) 1-Methylnaphthalene	16.38	689178	104.5962	99.1804
11) 2,6-Dimethylnaphthalene	18.17	2005730	324.8356	308.0162
12) 1,6,7-Trimethylnaphthalene	21.01	966528	168.9176	160.1713
27) 1-Methylfluorene	23.44	911842	185.5914	175.9818
35) 4-Methyldibenzothiophene	25.83	3058230	472.6355	448.1632
36) 2/3-Methyldibenzothiophene	26.14	2508370	387.6566	367.5845
37) 1-Methyldibenzothiophene	26.48	1627150	251.4684	238.4478
43) 3-Methylphenanthrene	26.41	1557370	227.9306	216.1287
44) 2-Methylphenanthrene	26.52	1956680	286.3720	271.5442
45) 2-Methylanthracene	26.69	205706	30.1063	28.5475
46) 4/9-Methylphenanthrene	26.80	2444150	357.7168	339.1948
47) 1-Methylphenanthrene	26.90	1338940	195.9612	185.8147
48) 3,6-Dimethylphenanthrene	27.97	515926	92.9857	88.1710
49) Retene	30.64	265430	116.3726	110.3470
60) 2-Methylfluoranthene	30.43	159960	27.7119	26.2770
61) Benzo(b)fluorene	31.02	192537	33.1002	31.3863
74) C29-Hopane	40.68	2541000	745.1347	706.5529
75) 18a-Oleanane	0.00	0	0.0000	0.0000
76) C30-Hopane	41.97	3486080	1022.2757	969.3441
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	538871	54.52	65.74
21) Acenaphthene-d10	19.59	328552	56.76	68.43
32) Phenanthrene-d10	24.68	586088	87.48	105.46
66) Chrysene-d12	33.77	764480	94.73	114.27
88) Perylene-d12	38.62	662208	71.76	86.57
90) 5(b)H-Cholane	34.16	201333	127.08	153.31
Internal Standards				
1) Fluorene-d10	21.37	497197	83.24	
31) Pyrene-d10	29.60	692341	83.10	
73) Benzo(a)pyrene-d12	38.35	645243	83.00	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1795.D
Acq On : 3 Sep 2013 6:42 pm
Operator : YM
Sample : SED-DA-046 (0-0.5)
Misc :
ALS Vial : 24 Sample Multiplier: 0.33156

Quant Time: Sep 09 13:47:56 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.371	176	497197m	251.05		0.00
31) Pyrene-d10	29.600	212	692341m	250.63		0.03
73) Benzo(a)pyrene-d12	38.348	264	645243m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.738	136	538871m	54.52		0.00
21) Acenaphthene-d10	19.588	164	328552m	56.76		0.00
32) Phenanthrene-d10	24.683	188	586088m	87.48		0.00
66) Chrysene-d12	33.770	240	764480m	94.73		0.04
88) Perylene-d12	38.619	264	662208m	71.76		0.00
90) 5(b)H-Cholane	34.158	217	201333m	127.08		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.928	138	6685m	3.99		
4) C1-Decalins	12.624	152	9422m	5.62		
5) C2-Decalins	14.658	166	65374m	38.98		
6) C3-Decalins	16.608	180	412921m	246.23		
7) C4-Decalins	18.558	194	754315m	449.81		
8) Naphthalene	13.822	128	136796m	12.90		
9) 2-Methylnaphthalene	16.051	142	996137m	141.02		
10) 1-Methylnaphthalene	16.385	142	689178m	104.60		
11) 2,6-Dimethylnaphthalene	18.168	156	2005727m	324.84		
12) 1,6,7-Trimethylnaphtha...	21.009	170	966528m	168.92		
13) C2-Naphthalenes	18.418	156	7897774m	744.88		
14) C3-Naphthalenes	20.786	170	11917807m	1124.03		
15) C4-Naphthalenes	22.764	184	12085480m	1139.84		
16) Benzothiophene	14.017	134	15369m	1.81		
17) C1-Benzothiophenes	16.357	148	214095m	25.17		
18) C2-Benzothiophenes	18.558	162	1172230m	137.79		
19) C3-Benzothiophenes	20.257	176	3143939m	369.55		
20) C4-Benzothiophenes	21.566	190	4294608m	504.81		
22) Biphenyl	17.638	154	224761m	25.00		
23) Acenaphthylene	19.115	152	96147m	9.09		
24) Acenaphthene	19.700	154	65548m	10.48		
25) Dibenzofuran	20.313	168	227566m	22.47		
26) Fluorene	21.483	166	448764m	57.11		
27) 1-Methylfluorene	23.436	180	911842m	185.59		
28) C1-Fluorenes	23.436	180	1753799m	223.19		
29) C2-Fluorenes	25.272	194	4612362m	586.98		
30) C3-Fluorenes	27.245	208	5241782m	667.08		
33) Carbazole	25.514	167	77071m	11.35		
34) Dibenzothiophene	24.337	184	2098400m	272.12		
35) 4-Methyldibenzothiophene	25.826	198	3058230m	472.64		
36) 2/3-Methyldibenzothiop...	26.137	198	2508368m	387.66		
37) 1-Methyldibenzothiophene	26.484	198	1627148m	251.47		
38) C2-Dibenzothiophenes	27.245	212	13053816m	1692.79		
39) C3-Dibenzothiophenes	29.427	226	15305616m	1984.80		
40) C4-Dibenzothiophenes	29.739	240	10608274m	1375.66		
41) Phenanthrene	24.752	178	2476728m	277.55		
42) Anthracene	24.891	178	98319m	11.63		
43) 3-Methylphenanthrene	26.414	192	1557369m	227.93		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1795.D
Acq On : 3 Sep 2013 6:42 pm
Operator : YM
Sample : SED-DA-046 (0-0.5)
Misc :
ALS Vial : 24 Sample Multiplier: 0.33156

Quant Time: Sep 09 13:47:56 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.518	192	1956680m	286.37		
45)	2-Methylanthracene	26.691	192	205706m	30.11		
46)	4/9-Methylphenanthrene	26.795	192	2444150m	357.72		
47)	1-Methylphenanthrene	26.899	192	1338935m	195.96		
48)	3,6-Dimethylphenanthrene	27.973	206	515926m	92.99		
49)	Retene	30.639	234	265430m	116.37		
50)	C2-Phenanthrenes/Anthr...	28.319	206	11633555m	1303.71		
51)	C3-Phenanthrenes/Anthr...	29.877	220	12588298m	1410.70		
52)	C4-Phenanthrenes/Anthr...	31.712	234	9568322m	1072.27		
53)	Naphthobenzothiophene	32.916	234	2060098m	210.19		
54)	C1-Naphthobenzothiophenes	34.662	248	5697477m	581.32		
55)	C2-Naphthobenzothiophenes	35.748	262	8255817m	842.35		
56)	C3-Naphthobenzothiophenes	37.145	276	7192188m	733.83		
57)	C4-Naphthobenzothiophenes	38.115	290	3534315m	360.61		
58)	Fluoranthene	28.873	202	451462m	47.35		
59)	Pyrene	29.635	202	782547m	76.84		
60)	2-Methylfluoranthene	30.431	216	159960m	27.71		
61)	Benzo(b)fluorene	31.020	216	192537m	33.10		
62)	C1-Fluoranthenes/Pyrenes	31.470	216	2839621m	297.83		
63)	C2-Fluoranthenes/Pyrenes	32.528	230	4416979m	463.26		
64)	C3-Fluoranthenes/Pyrenes	33.964	244	4296402m	450.62		
65)	C4-Fluoranthenes/Pyrenes	35.089	258	3900475m	409.09		
67)	Benz(a)anthracene	33.731	228	137178m	13.96		
68)	Chrysene/Triphenylene	33.847	228	957004m	112.98		
69)	C1-Chrysenes	35.205	242	2560467m	302.28		
70)	C2-Chrysenes	36.524	256	3817195m	450.64		
71)	C3-Chrysenes	37.960	270	2593872m	306.22		
72)	C4-Chrysenes	39.356	284	1425087m	168.24		
74)	C29-Hopane	40.681	191	2541004m	745.14		
75)	18a-Oleanane	0.000		0	N.D.	d	
76)	C30-Hopane	41.972	191	3486081m	1022.27		
77)	Benzo(b)fluoranthene	37.261	252	495684m	42.17		
78)	Benzo(k,j)fluoranthene	37.339	252	150965m	13.75		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.231	252	541330m	45.70		
81)	Benzo(a)pyrene	38.425	252	277216m	24.49		
82)	Indeno(1,2,3-c,d)pyrene	43.115	276	178555m	14.03		
83)	Dibenzo(a,h)anthracene	43.152	278	91439m	9.13		
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	44.479	276	521543m	46.96		
89)	Perylene	38.736	252	419749m	37.12		
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 : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1795.D
Acq On : 3 Sep 2013 6:42 pm
Operator : YM
Sample : SED-DA-046 (0-0.5)
Misc :
ALS Vial : 24 Sample Multiplier: 0.33156

Quant Time: Sep 09 13:47:56 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

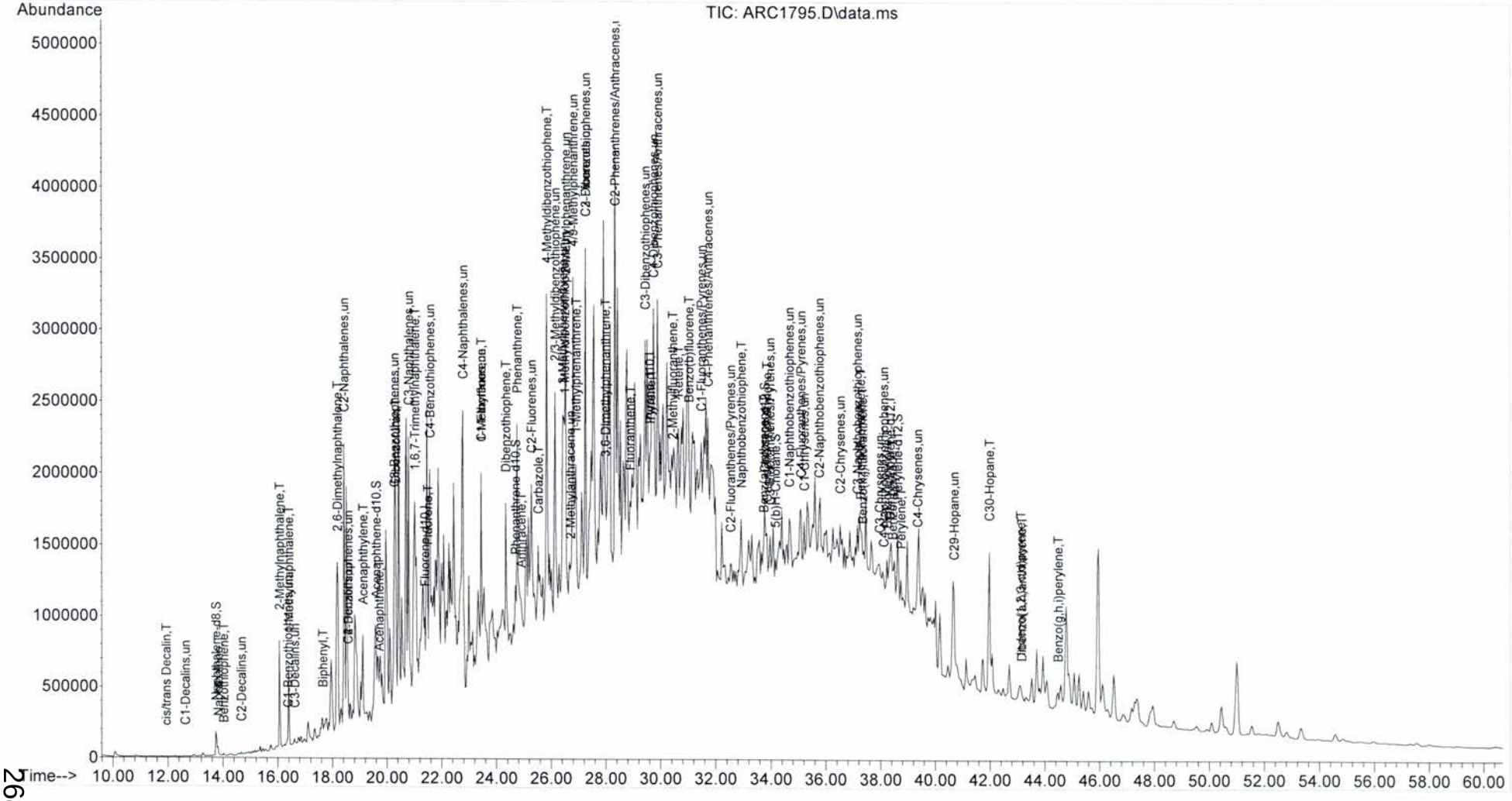
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1795.D
Acq On : 3 Sep 2013 6:42 pm
Operator : YM
Sample : SED-DA-046 (0-0.5)
Misc :
ALS Vial : 24 Sample Multiplier: 0.33156

Quant Time: Sep 09 13:47:56 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	ARC1796.D
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS70062\
Operator	YM
Date Acquired	9/3/2013 19:51
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-046 (0.5-1.0)
Misc Info	0
Instrument Name	GCMSD
Vial Number	25
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

ARC1796.D
SED-DA-046 (0.5-1.0)
9/3/2013
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	621741	16.4319	17.0197
9)+10)	C1-Naphthalenes	16.22	4025390	106.3865	110.1922
13)	C2-Naphthalenes	18.42	16974300	448.6125	464.6605
14)	C3-Naphthalenes	20.70	28333600	748.8218	775.6091
15)	C4-Naphthalenes	22.76	24548800	648.7979	672.0071
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	152204	4.0331	4.1773
24)	Acenaphthene	19.70	178703	8.0058	8.2922
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.48	1260580	44.9539	46.5620
28)	C1-Fluorenes	23.44	4221200	150.5341	155.9191
29)	C2-Fluorenes	25.20	10777000	384.3232	398.0715
30)	C3-Fluorenes	27.25	11172200	398.4162	412.6687
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	0.00	0	0.0000	0.0000
41)	Phenanthrene	24.79	5541520	119.5910	123.8691
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.67	16708494	360.5844	373.4834
50)	C2-Phenanthrenes/Anthracenes	28.35	28647800	618.2460	640.3623
51)	C3-Phenanthrenes/Anthracenes	30.99	28649600	618.2852	640.4030
52)	C4-Phenanthrenes/Anthracenes	31.75	20667900	446.0318	461.9875
34)	Dibenzothiophene	24.34	5428910	135.5755	140.4254
35)+36)+37)	C1-Dibenzothiophenes	26.16	17117020	427.4612	442.7527
38)	C2-Dibenzothiophenes	27.94	27049200	675.4924	699.6566
39)	C3-Dibenzothiophenes	28.77	35009600	874.2907	905.5664
40)	C4-Dibenzothiophenes	29.77	22005600	549.5431	569.2018
58)	Fluoranthene	28.87	1173570	23.7036	24.5515
59)	Pyrene	29.67	2180110	41.2221	42.6967
62)	C1-Fluoranthenes/Pyrenes	31.16	6796510	137.2747	142.1854
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	33.73	479168	9.3916	9.7276
68)	Chrysene/Triphenylene	33.85	1942700	44.1667	45.7467
69)	C1-Chrysenes	35.09	6551540	148.9474	154.2756
70)	C2-Chrysenes	36.56	7870870	178.9417	185.3430
71)	C3-Chrysenes	37.96	5853630	133.0806	137.8413
72)	C4-Chrysenes	39.39	2898560	65.8981	68.2555
77)	Benzo(b)fluoranthene	37.30	1065150	21.7751	22.5540
78)	Benzo(k,j)fluoranthene	37.38	306401	6.7051	6.9450
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.27	1166820	23.6724	24.5193
81)	Benzo(a)pyrene	38.46	511360	10.8549	11.2432
89)	Perylene	38.77	2945630	62.5934	64.8326
82)	Indeno(1,2,3-c,d)pyrene	43.15	415954	7.8519	8.1328
83)	Dibenzo(a,h)anthracene	43.23	202550	4.8623	5.0362
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	869628	18.8154	19.4885
# Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	2456970	97.4645	100.9510
10) 1-Methylnaphthalene	16.38	1568420	66.7030	69.0891
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	25.86	7457200	221.9394	229.8788
36) 2/3-Methyldibenzothiophene	26.14	5319050	158.3048	163.9678
37) 1-Methyldibenzothiophene	26.48	4340770	129.1893	133.8107
43) 3-Methylphenanthrene	26.45	3723220	104.9378	108.6917
44) 2-Methylphenanthrene	26.52	4034380	113.7078	117.7754
45) 2-Methylanthracene	26.69	213974	6.0308	6.2465
46) 4/9-Methylphenanthrene	26.80	4839440	136.3985	141.2778
47) 1-Methylphenanthrene	26.90	3897480	109.8490	113.7786
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	477649	13.54	81.37
21) Acenaphthene-d10	19.59	280677	13.59	81.64
32) Phenanthrene-d10	24.68	559064	16.07	96.55
66) Chrysene-d12	33.77	582398	13.90	83.54
88) Perylene-d12	38.66	479083	12.48	75.00
90) 5(b)H-Cholane	34.16	135405	20.54	123.48
Internal Standards				
1) Fluorene-d10	21.40	356030	16.70	
31) Pyrene-d10	29.60	721394	16.67	
73) Benzo(a)pyrene-d12	38.35	538806	16.65	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1796.D
Acq On : 3 Sep 2013 7:51 pm
Operator : YM
Sample : SED-DA-046 (0.5-1.0)
Misc :
ALS Vial : 25 Sample Multiplier: 0.06653

Quant Time: Sep 09 14:00:06 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.399	176	356030m	251.05		0.03
31) Pyrene-d10	29.600	212	721394m	250.63		0.03
73) Benzo(a)pyrene-d12	38.347	264	538806m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.738	136	477649m	13.54		0.00
21) Acenaphthene-d10	19.588	164	280677m	13.59		0.00
32) Phenanthrene-d10	24.683	188	559064m	16.07		0.00
66) Chrysene-d12	33.770	240	582398m	13.90		0.04
88) Perylene-d12	38.658	264	479083m	12.48		0.04
90) 5(b)H-Cholane	34.157	217	135405m	20.54		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	621741m	16.43		
9) 2-Methylnaphthalene	16.050	142	2456968m	97.46		
10) 1-Methylnaphthalene	16.385	142	1568418m	66.70		
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	16974331m	448.61		
14) C3-Naphthalenes	20.702	170	28333577m	748.82		
15) C4-Naphthalenes	22.764	184	24548824m	648.80		
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	152204m	4.03		
24) Acenaphthene	19.700	154	178703m	8.01		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.482	166	1260575m	44.95		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.436	180	4221197m	150.53		
29) C2-Fluorenes	25.202	194	10776997m	384.32		
30) C3-Fluorenes	27.245	208	11172176m	398.42		
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.336	184	5428906m	135.58		
35) 4-Methyldibenzothiophene	25.860	198	7457199m	221.94		
36) 2/3-Methyldibenzothiop...	26.137	198	5319048m	158.30		
37) 1-Methyldibenzothiophene	26.483	198	4340765m	129.19		
38) C2-Dibenzothiophenes	27.938	212	27049192m	675.50		
39) C3-Dibenzothiophenes	28.769	226	35009577m	874.29		
40) C4-Dibenzothiophenes	29.773	240	22005623m	549.54		
41) Phenanthrene	24.787	178	5541523m	119.59		
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	26.449	192	3723216m	104.94		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1796.D
Acq On : 3 Sep 2013 7:51 pm
Operator : YM
Sample : SED-DA-046 (0.5-1.0)
Misc :
ALS Vial : 25 Sample Multiplier: 0.06653

Quant Time: Sep 09 14:00:06 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.518	192	4034384m	113.71		
45) 2-Methylanthracene	26.691	192	213974m	6.03		
46) 4/9-Methylphenanthrene	26.795	192	4839438m	136.40		
47) 1-Methylphenanthrene	26.899	192	3897477m	109.85		
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	28.353	206	28647806m	618.25		
51) C3-Phenanthrenes/Anthr...	30.985	220	28649634m	618.29		
52) C4-Phenanthrenes/Anthr...	31.747	234	20667881m	446.03		
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	1173571m	23.70		
59) Pyrene	29.669	202	2180106m	41.22		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	31.158	216	6796513m	137.27		
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	33.731	228	479168m	9.39		
68) Chrysene/Triphenylene	33.847	228	1942699m	44.17		
69) C1-Chrysenes	35.089	242	6551544m	148.95		
70) C2-Chrysenes	36.563	256	7870866m	178.94		
71) C3-Chrysenes	37.959	270	5853631m	133.08		
72) C4-Chrysenes	39.395	284	2898563m	65.90		
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	1065145m	21.78		
78) Benzo(k,j)fluoranthene	37.377	252	306401m	6.71		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.270	252	1166822m	23.67		
81) Benzo(a)pyrene	38.464	252	511360m	10.85		
82) Indeno(1,2,3-c,d)pyrene	43.151	276	415954m	7.85		
83) Dibenzo(a,h)anthracene	43.225	278	202550m	4.86		
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	44.552	276	869628m	18.82		
89) Perylene	38.774	252	2945628m	62.59		
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 : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1796.D
Acq On : 3 Sep 2013 7:51 pm
Operator : YM
Sample : SED-DA-046 (0.5-1.0)
Misc :
ALS Vial : 25 Sample Multiplier: 0.06653

Quant Time: Sep 09 14:00:06 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

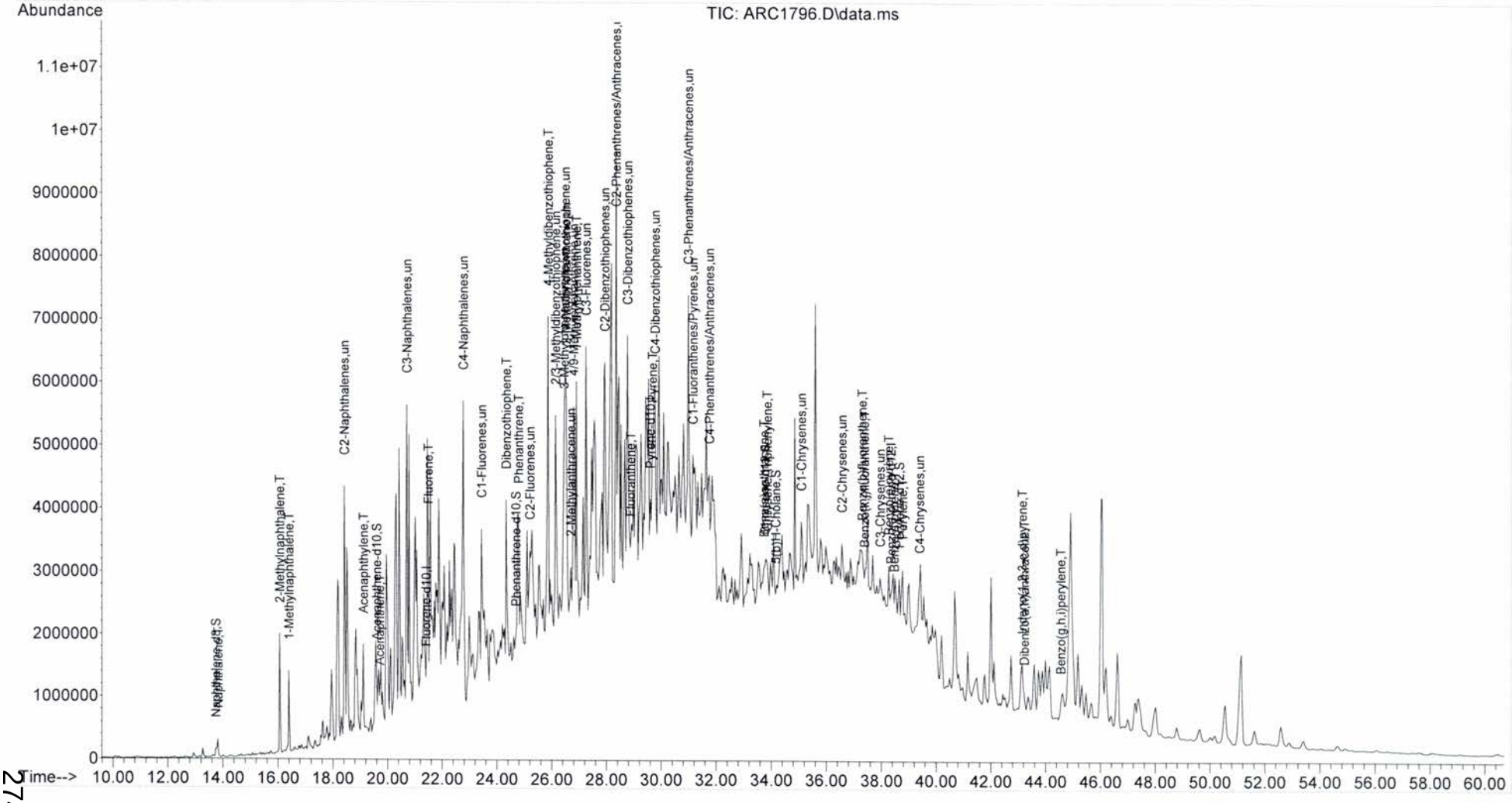
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1796.D
Acq On : 3 Sep 2013 7:51 pm
Operator : YM
Sample : SED-DA-046 (0.5-1.0)
Misc :
ALS Vial : 25 Sample Multiplier: 0.06653

Quant Time: Sep 09 14:00:06 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	ARC1797.D
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS70062\
Operator	YM
Date Acquired	9/3/2013 20:59
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-046 (1.0-1.5)
Misc Info	0
Instrument Name	GCMSD
Vial Number	26
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

ARC1797.D
SED-DA-046 (1.0-1.5)
9/3/2013
PAH-2012.M
15.01050736

#	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	108417	3.6449	3.7974
9)+10)	C1-Naphthalenes	16.22	100266	3.3709	3.5119
13)	C2-Naphthalenes	18.42	165552	5.5658	5.7986
14)	C3-Naphthalenes	20.09	220563	7.4153	7.7255
15)	C4-Naphthalenes	21.48	118374	3.9797	4.1462
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	3152	0.1062	0.1107
24)	Acenaphthene	19.70	2689	0.1532	0.1597
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.48	54407	2.4681	2.5714
28)	C1-Fluorenes	23.44	30335	1.3761	1.4337
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	4751	0.1518	0.1581
41)	Phenanthrene	24.75	180972	5.4758	5.7049
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.65	121055	3.6628	3.8161
50)	C2-Phenanthrenes/Anthracenes	28.15	220744	6.6792	6.9586
51)	C3-Phenanthrenes/Anthracenes	29.88	106653	3.2271	3.3621
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	16671	0.5837	0.6081
35)+36)+37)	C1-Dibenzothiophenes	26.14	38682	1.3544	1.4110
38)	C2-Dibenzothiophenes	27.90	65651	2.2986	2.3948
39)	C3-Dibenzothiophenes	29.43	93023	3.2570	3.3933
40)	C4-Dibenzothiophenes	29.74	76003	2.6611	2.7724
58)	Fluoranthene	28.87	69667	1.9729	2.0554
59)	Pyrene	29.63	29330	0.7775	0.8101
62)	C1-Fluoranthenes/Pyrenes	30.78	37008	1.0480	1.0919
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	37.22	14178	0.3284	0.3421
78)	Benzo(k,j)fluoranthene	37.34	4108	0.1018	0.1061
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	38.70	294634	7.0932	7.3899
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	44.41	5820	0.1427	0.1486
# Compound Name	**Ret Time (minute)**	**Target Response (area)**	**Concentration**	**Su. Corrected Concentration**
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	67727	3.4176	3.5606
10) 1-Methylnaphthalene	16.38	32539	1.7604	1.8340
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	18334	0.7650	0.7970
36) 2/3-Methyldibenzothiophene	26.14	11682	0.4875	0.5079
37) 1-Methyldibenzothiophene	26.45	8666	0.3616	0.3767
43) 3-Methylphenanthrene	26.41	16788	0.6634	0.6912
44) 2-Methylphenanthrene	26.52	19550	0.7725	0.8049
45) 2-Methylanthracene	26.66	56170	2.2196	2.3125
46) 4/9-Methylphenanthrene	26.80	16324	0.6451	0.6721
47) 1-Methylphenanthrene	26.86	12223	0.4830	0.5032
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	353639	12.75	76.53
21) Acenaphthene-d10	19.59	223553	13.77	82.61
32) Phenanthrene-d10	24.68	396962	16.00	95.98
66) Chrysene-d12	33.73	392871	13.14	78.91
88) Perylene-d12	38.62	156962	4.63	27.80
90) 5(b)H-Cholane	34.16	76098	13.08	78.51
Internal Standards				
1) Fluorene-d10	21.37	280259	16.72	
31) Pyrene-d10	29.57	515224	16.70	
73) Benzo(a)pyrene-d12	38.31	476225	16.68	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1797.D
Acq On : 3 Sep 2013 8:59 pm
Operator : YM
Sample : SED-DA-046 (1.0-1.5)
Misc :
ALS Vial : 26 Sample Multiplier: 0.06662

Quant Time: Sep 09 14:07:30 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.371	176	280259m	251.05		0.00
31) Pyrene-d10	29.565	212	515224m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	476225m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.738	136	353639m	12.75		0.00
21) Acenaphthene-d10	19.588	164	223553m	13.77		0.00
32) Phenanthrene-d10	24.683	188	396962m	16.00		0.00
66) Chrysene-d12	33.731	240	392871m	13.14		0.00
88) Perylene-d12	38.619	264	156962m	4.63		0.00
90) 5(b)H-Cholane	34.158	217	76098m	13.08		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	108417m	3.64		
9) 2-Methylnaphthalene	16.051	142	67727m	3.42		
10) 1-Methylnaphthalene	16.385	142	32539m	1.76		
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	165552m	5.57		
14) C3-Naphthalenes	20.090	170	220563m	7.42		
15) C4-Naphthalenes	21.483	184	118374m	3.98		
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	3152m	0.11		
24) Acenaphthene	19.700	154	2689m	0.15		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.483	166	54407m	2.47		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.436	180	30335m	1.38		
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	16671m	0.58		
35) 4-Methyldibenzothiophene	25.826	198	18334m	0.77		
36) 2/3-Methyldibenzothiop...	26.137	198	11682m	0.49		
37) 1-Methyldibenzothiophene	26.449	198	8666m	0.36		
38) C2-Dibenzothiophenes	27.903	212	65651m	2.30		
39) C3-Dibenzothiophenes	29.427	226	93023m	3.26		
40) C4-Dibenzothiophenes	29.739	240	76003m	2.66		
41) Phenanthrene	24.752	178	180972m	5.48		
42) Anthracene	24.925	178	4751m	0.15		
43) 3-Methylphenanthrene	26.414	192	16788m	0.66		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1797.D
Acq On : 3 Sep 2013 8:59 pm
Operator : YM
Sample : SED-DA-046 (1.0-1.5)
Misc :
ALS Vial : 26 Sample Multiplier: 0.06662

Quant Time: Sep 09 14:07:30 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.518	192	19550m	0.77		
45)	2-Methylanthracene	26.657	192	56170m	2.22		
46)	4/9-Methylphenanthrene	26.795	192	16324m	0.65		
47)	1-Methylphenanthrene	26.865	192	12223m	0.48		
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	220744m	6.68		
51)	C3-Phenanthrenes/Anthr...	29.877	220	106653m	3.23		
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	28.873	202	69667m	1.97		
59)	Pyrene	29.635	202	29330m	0.78		
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	37008m	1.05		
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	37.223	252	14178m	0.33		
78)	Benzo(k,j)fluoranthene	37.339	252	4108m	0.10		
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	44.405	276	5820m	0.14		
89)	Perylene	38.697	252	294634m	7.09		
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	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 : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1797.D
Acq On : 3 Sep 2013 8:59 pm
Operator : YM
Sample : SED-DA-046 (1.0-1.5)
Misc :
ALS Vial : 26 Sample Multiplier: 0.06662

Quant Time: Sep 09 14:07:30 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

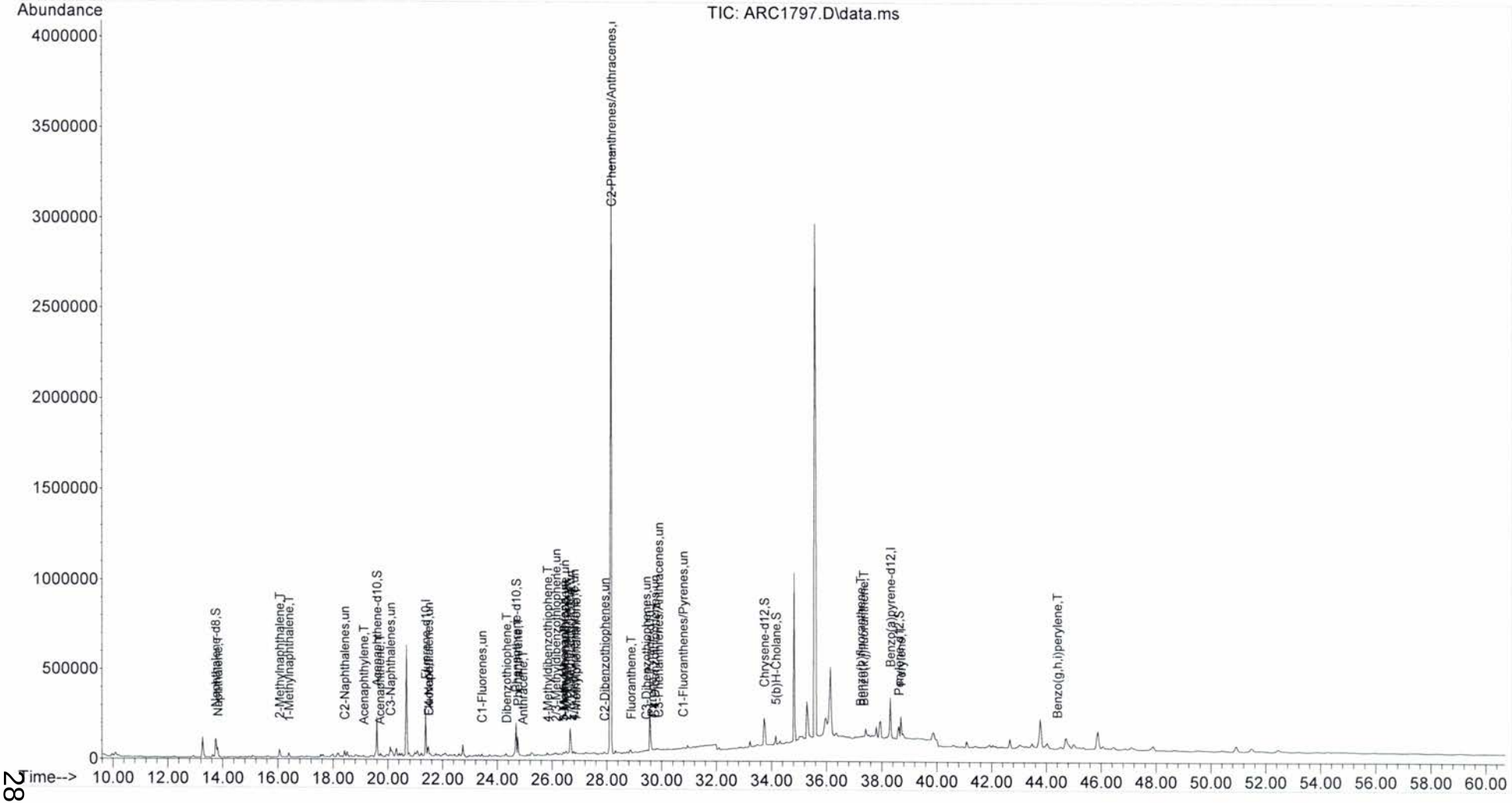
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1797.D
Acq On : 3 Sep 2013 8:59 pm
Operator : YM
Sample : SED-DA-046 (1.0-1.5)
Misc :
ALS Vial : 26 Sample Multiplier: 0.06662

Quant Time: Sep 09 14:07:30 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	ARC1798.D
Data File Path	P:\2013\J13034\PAH\MSDChemstation\MS70062\
Operator	YM
Date Acquired	9/3/2013 22:08
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-049 (0-0.5)
Misc Info	0
Instrument Name	GCMSD
Vial Number	27
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

ARC1798.D
SED-DA-049 (0-0.5)
9/3/2013
PAH-2012.M
15.06931887

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	10.95	53797	11.6208	12.1000
4)	C1-Decalins	12.62	52369	11.3123	11.7789
5)	C2-Decalins	14.66	171665	37.0816	38.6110
6)	C3-Decalins	16.61	1015070	219.2660	228.3092
7)	C4-Decalins	18.59	1496790	323.3245	336.6593
8)	Naphthalene	13.82	786142	26.8586	27.9663
9)+10)	C1-Naphthalenes	16.22	4010950	137.0345	142.6862
13)	C2-Naphthalenes	18.42	13155800	449.4696	468.0070
14)	C3-Naphthalenes	20.70	20475100	699.5339	728.3847
15)	C4-Naphthalenes	22.76	19226000	656.8565	683.9471
16)	Benzothiophene	13.99	70157	2.9873	3.1105
17)	C1-Benzothiophenes	16.33	800184	34.0717	35.4769
18)	C2-Benzothiophenes	18.56	2133070	90.8256	94.5715
19)	C3-Benzothiophenes	20.26	4778480	203.4664	211.8579
20)	C4-Benzothiophenes	21.57	6533920	278.2130	289.6873
22)	Biphenyl	17.64	561285	22.6120	23.5446
23)	Acenaphthylene	19.11	356725	12.2193	12.7232
24)	Acenaphthene	19.70	148590	8.6054	8.9603
25)	Dibenzofuran	20.31	594950	21.2761	22.1536
26)	Fluorene	21.48	866805	39.9599	41.6080
28)	C1-Fluorenes	23.44	2766080	127.5167	132.7759
29)	C2-Fluorenes	25.20	7938590	365.9708	381.0644
30)	C3-Fluorenes	27.52	9248880	426.3756	443.9606
33)	Carbazole	25.51	384404	13.2967	13.8451
42)	Anthracene	24.96	421968	11.7246	12.2081
41)	Phenanthrene	24.79	4163960	109.5876	114.1073
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.68	11790442	310.3022	323.0999
50)	C2-Phenanthrenes/Anthracenes	28.35	20273400	533.5563	555.5617
51)	C3-Phenanthrenes/Anthracenes	30.99	26910200	708.2205	737.4295
52)	C4-Phenanthrenes/Anthracenes	31.75	18131800	477.1934	496.8743
34)	Dibenzothiophene	24.34	3993990	121.6352	126.6518
35)+36)+37)	C1-Dibenzothiophenes	26.16	13018190	396.4633	412.8146
38)	C2-Dibenzothiophenes	27.94	21203100	645.7312	672.3630
39)	C3-Dibenzothiophenes	28.77	31861300	970.3226	1010.3414
40)	C4-Dibenzothiophenes	29.77	19645500	598.2958	622.9712
58)	Fluoranthene	28.87	2307430	56.8352	59.1793
59)	Pyrene	29.67	3005170	69.2958	72.1537
62)	C1-Fluoranthenes/Pyrenes	31.16	6279100	154.6626	161.0413
63)	C2-Fluoranthenes/Pyrenes	32.88	8648110	213.0149	221.8003
64)	C3-Fluoranthenes/Pyrenes	34.00	6433490	158.4657	165.0013
65)	C4-Fluoranthenes/Pyrenes	35.13	8366990	206.0903	214.5900
53)	Naphthobenzothiophene	32.92	4225710	101.2554	105.4315
54)	C1-Naphthobenzothiophenes	34.70	9664080	231.5685	241.1191
55)	C2-Naphthobenzothiophenes	35.79	16614700	398.1189	414.5384
56)	C3-Naphthobenzothiophenes	37.18	14107800	338.0485	351.9905
57)	C4-Naphthobenzothiophenes	38.15	7478200	179.1912	186.5816
67)	Benz(a)anthracene	33.73	723261	17.2875	18.0005
68)	Chrysene/Triphenylene	33.85	2356880	65.3449	68.0399
69)	C1-Chrysenes	35.09	6105020	169.2625	176.2433
70)	C2-Chrysenes	36.56	7453760	206.6563	215.1794
71)	C3-Chrysenes	38.00	5580360	154.7163	161.0973
72)	C4-Chrysenes	39.32	4203490	116.5421	121.3486
77)	Benzo(b)fluoranthene	37.30	3139170	79.9027	83.1982
78)	Benzo(k,j)fluoranthene	37.38	940249	25.6183	26.6749
79)	Benzo(a)fluoranthene	37.65	345680	9.4185	9.8070
80)	Benzo(e)pyrene	38.27	1764860	44.5802	46.4189
81)	Benzo(a)pyrene	38.46	1052320	27.8127	28.9597
89)	Perylene	38.77	1326410	35.0931	36.5404
82)	Indeno(1,2,3-c,d)pyrene	43.23	1034830	24.3213	25.3244
83)	Dibenzo(a,h)anthracene	43.26	265584	7.9379	8.2652
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	44.66	1219640	32.8553	34.2103
# Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	2418230	124.0076	129.1220
10) 1-Methylnaphthalene	16.38	1592720	87.5640	91.1754
11) 2,6-Dimethylnaphthalene	18.20	3379420	198.2598	206.4366
12) 1,6,7-Trimethylnaphthalene	21.01	1473400	93.2789	97.1260
27) 1-Methylfluorene	23.44	1190450	87.7711	91.3910
35) 4-Methyldibenzothiophene	25.86	5693400	206.6404	215.1628
36) 2/3-Methyldibenzothiophene	26.14	3928120	142.5698	148.4498
37) 1-Methyldibenzothiophene	26.48	3396670	123.2810	128.3654
43) 3-Methylphenanthrene	26.45	2571160	88.3743	92.0191
44) 2-Methylphenanthrene	26.55	2827140	97.1729	101.1806
45) 2-Methylanthracene	26.69	227652	7.8247	8.1474
46) 4/9-Methylphenanthrene	26.83	3397110	116.7631	121.5787
47) 1-Methylphenanthrene	26.90	2767380	95.1191	99.0421
48) 3,6-Dimethylphenanthrene	28.01	1568640	66.3952	69.1335
49) Retene	30.67	1027830	105.8296	110.1943
60) 2-Methylfluoranthene	30.43	364874	14.8451	15.4574
61) Benzo(b)fluorene	31.05	370458	14.9569	15.5738
74) C29-Hopane	40.72	5927370	520.0354	541.4832
75) 18a-Oleanane	0.00	0	0.0000	0.0000
76) C30-Hopane	42.05	6958200	610.4748	635.6526
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	398480	14.60	87.98
21) Acenaphthene-d10	19.59	219787	13.75	82.86
32) Phenanthrene-d10	24.68	454861	15.95	96.04
66) Chrysene-d12	33.77	457373	13.31	80.22
88) Perylene-d12	38.70	423837	13.74	82.82
90) 5(b)H-Cholane	34.20	107884	20.37	122.81
Internal Standards				
1) Fluorene-d10	21.40	274708	16.66	
31) Pyrene-d10	29.60	590035	16.63	
73) Benzo(a)pyrene-d12	38.39	431645	16.61	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1798.D
Acq On : 3 Sep 2013 10:08 pm
Operator : YM
Sample : SED-DA-049 (0-0.5)
Misc :
ALS Vial : 27 Sample Multiplier: 0.06636

Quant Time: Sep 09 14:19:06 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.399	176	274708m	251.05		0.03
31) Pyrene-d10	29.600	212	590035m	250.63		0.03
73) Benzo(a)pyrene-d12	38.386	264	431645m	250.32		0.08
System Monitoring Compounds						
2) Naphthalene-d8	13.739	136	398480m	14.60		0.00
21) Acenaphthene-d10	19.588	164	219787m	13.75		0.00
32) Phenanthrene-d10	24.683	188	454861m	15.95		0.00
66) Chrysene-d12	33.770	240	457373m	13.31		0.04
88) Perylene-d12	38.697	264	423837m	13.74		0.08
90) 5(b)H-Cholane	34.197	217	107884m	20.37		0.04
Target Compounds						Qvalue
3) cis/trans Decalin	10.953	138	53797m	11.62		
4) C1-Decalins	12.624	152	52369m	11.31		
5) C2-Decalins	14.658	166	171665m	37.08		
6) C3-Decalins	16.608	180	1015066m	219.27		
7) C4-Decalins	18.586	194	1496793m	323.32		
8) Naphthalene	13.822	128	786142m	26.86		
9) 2-Methylnaphthalene	16.051	142	2418230m	124.01		
10) 1-Methylnaphthalene	16.385	142	1592719m	87.56		
11) 2,6-Dimethylnaphthalene	18.196	156	3379419m	198.26		
12) 1,6,7-Trimethylnaphtha...	21.009	170	1473404m	93.28		
13) C2-Naphthalenes	18.418	156	13155801m	449.47		
14) C3-Naphthalenes	20.703	170	20475140m	699.54		
15) C4-Naphthalenes	22.764	184	19225952m	656.86		
16) Benzothiophene	13.989	134	70157m	2.99		
17) C1-Benzothiophenes	16.329	148	800184m	34.07		
18) C2-Benzothiophenes	18.558	162	2133072m	90.83		
19) C3-Benzothiophenes	20.257	176	4778475m	203.47		
20) C4-Benzothiophenes	21.566	190	6533915m	278.21		
22) Biphenyl	17.638	154	561285m	22.61		
23) Acenaphthylene	19.115	152	356725m	12.22		
24) Acenaphthene	19.700	154	148590m	8.61		
25) Dibenzofuran	20.313	168	594950m	21.28		
26) Fluorene	21.483	166	866805m	39.96		
27) 1-Methylfluorene	23.436	180	1190449m	87.77		
28) C1-Fluorenes	23.436	180	2766082m	127.52		
29) C2-Fluorenes	25.202	194	7938594m	365.97		
30) C3-Fluorenes	27.522	208	9248877m	426.38		
33) Carbazole	25.514	167	384404m	13.30		
34) Dibenzothiophene	24.337	184	3993988m	121.64		
35) 4-Methyldibenzothiophene	25.860	198	5693401m	206.64		
36) 2/3-Methyldibenzothiop...	26.137	198	3928118m	142.57		
37) 1-Methyldibenzothiophene	26.484	198	3396673m	123.28		
38) C2-Dibenzothiophenes	27.938	212	21203122m	645.73		
39) C3-Dibenzothiophenes	28.769	226	31861308m	970.32		
40) C4-Dibenzothiophenes	29.773	240	19645535m	598.30		
41) Phenanthrene	24.787	178	4163962m	109.59		
42) Anthracene	24.960	178	421968m	11.72		
43) 3-Methylphenanthrene	26.449	192	2571158m	88.37		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1798.D
Acq On : 3 Sep 2013 10:08 pm
Operator : YM
Sample : SED-DA-049 (0-0.5)
Misc :
ALS Vial : 27 Sample Multiplier: 0.06636

Quant Time: Sep 09 14:19:06 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.553	192	2827136m	97.17		
45)	2-Methylanthracene	26.691	192	227652m	7.82		
46)	4/9-Methylphenanthrene	26.830	192	3397106m	116.76		
47)	1-Methylphenanthrene	26.899	192	2767380m	95.12		
48)	3,6-Dimethylphenanthrene	28.007	206	1568635m	66.40		
49)	Retene	30.674	234	1027826m	105.83		
50)	C2-Phenanthrenes/Anthr...	28.354	206	20273398m	533.56		
51)	C3-Phenanthrenes/Anthr...	30.985	220	26910168m	708.22		
52)	C4-Phenanthrenes/Anthr...	31.747	234	18131788m	477.19		
53)	Naphthobenzothiophene	32.916	234	4225713m	101.26		
54)	C1-Naphthobenzothiophenes	34.701	248	9664080m	231.57		
55)	C2-Naphthobenzothiophenes	35.787	262	16614733m	398.12		
56)	C3-Naphthobenzothiophenes	37.184	276	14107819m	338.05		
57)	C4-Naphthobenzothiophenes	38.154	290	7478200m	179.19		
58)	Fluoranthene	28.873	202	2307433m	56.84		
59)	Pyrene	29.669	202	3005166m	69.30		
60)	2-Methylfluoranthene	30.431	216	364874m	14.85		
61)	Benzo(b)fluorene	31.055	216	370458m	14.96		
62)	C1-Fluoranthenes/Pyrenes	31.158	216	6279099m	154.66		
63)	C2-Fluoranthenes/Pyrenes	32.878	230	8648110m	213.01		
64)	C3-Fluoranthenes/Pyrenes	34.003	244	6433488m	158.47		
65)	C4-Fluoranthenes/Pyrenes	35.128	258	8366989m	206.09		
67)	Benz(a)anthracene	33.731	228	723261m	17.29		
68)	Chrysene/Triphenylene	33.847	228	2356884m	65.34		
69)	C1-Chrysenes	35.089	242	6105022m	169.26		
70)	C2-Chrysenes	36.563	256	7453757m	206.66		
71)	C3-Chrysenes	37.998	270	5580364m	154.72		
72)	C4-Chrysenes	39.318	284	4203492m	116.54		
74)	C29-Hopane	40.718	191	5927366m	520.04		
75)	18a-Oleanane	0.000		0	N.D.	d	
76)	C30-Hopane	42.046	191	6958199m	610.48		
77)	Benzo(b)fluoranthene	37.300	252	3139171m	79.90		
78)	Benzo(k,j)fluoranthene	37.378	252	940249m	25.62		
79)	Benzo(a)fluoranthene	37.649	252	345680m	9.42		
80)	Benzo(e)pyrene	38.270	252	1764858m	44.58		
81)	Benzo(a)pyrene	38.464	252	1052320m	27.81		
82)	Indeno(1,2,3-c,d)pyrene	43.225	276	1034825m	24.32		
83)	Dibenzo(a,h)anthracene	43.262	278	265584m	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	44.663	276	1219638m	32.86		
89)	Perylene	38.774	252	1326405m	35.09		
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	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 : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1798.D
Acq On : 3 Sep 2013 10:08 pm
Operator : YM
Sample : SED-DA-049 (0-0.5)
Misc :
ALS Vial : 27 Sample Multiplier: 0.06636

Quant Time: Sep 09 14:19:06 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

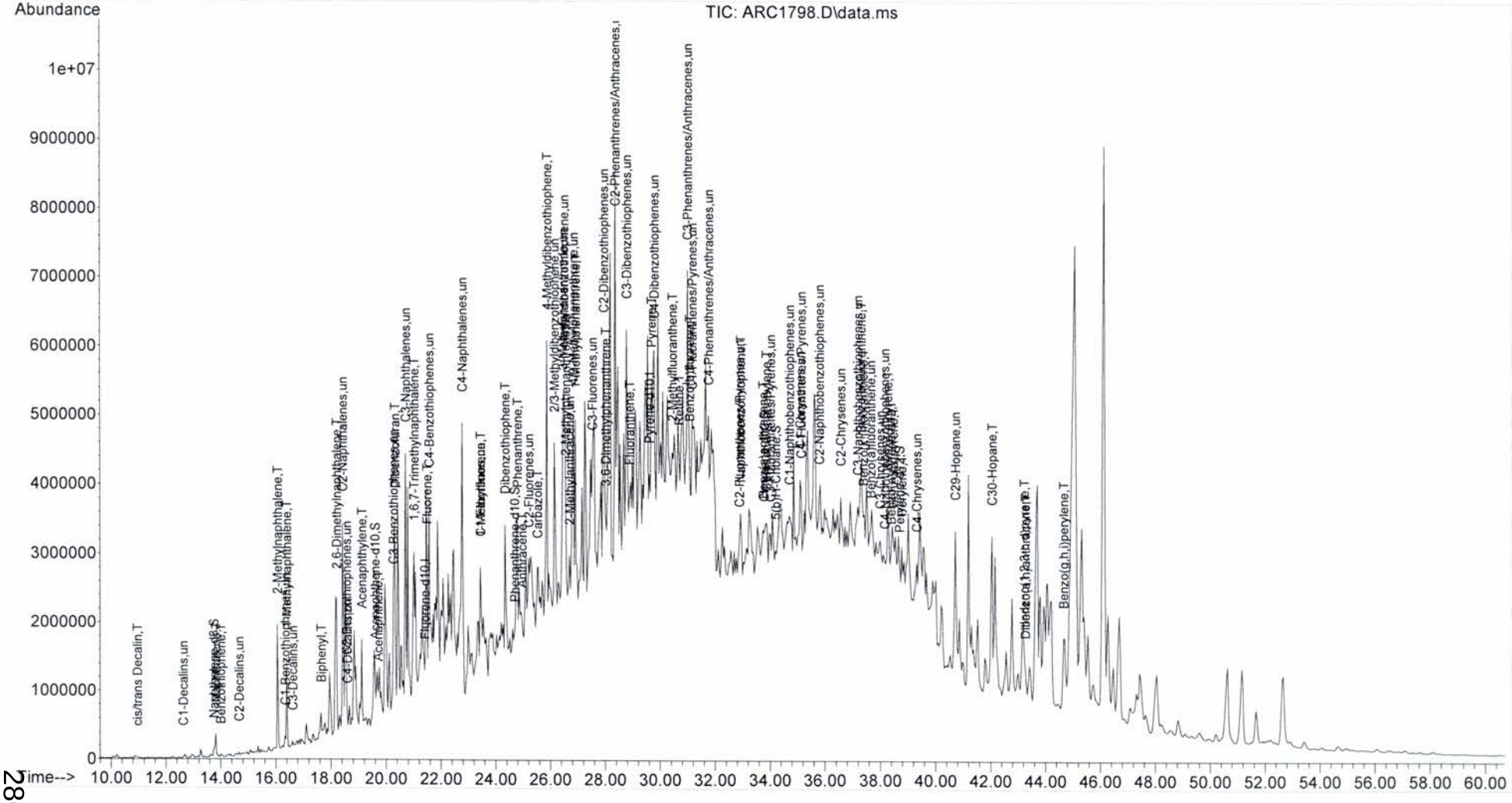
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1798.D
Acq On : 3 Sep 2013 10:08 pm
Operator : YM
Sample : SED-DA-049 (0-0.5)
Misc :
ALS Vial : 27 Sample Multiplier: 0.06636

Quant Time: Sep 09 14:19:06 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	ARC1799.D	**Surrogate/Internal Multiplier Factor:**	1.00		
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS70062\	**AR-WKSU-2500-001:**	**(ng/mL)**		
Operator	YM	Naphthalene-d8	250.125		
Date Acquired	9/3/2013 23:16	Acenaphthene-d10	250.163	***Copy data below***	
Acq. Method File	PAH-2012.M	Phenanthrene-d10	250.194	***to Spread Sheet***	
Sample Name	SED-DA-049 (0.5-1.0)	Chrysene-d12	250.038		
Misc Info	0	Perylene-d12	250.031	ARC1799.D	
Instrument Name	GCMSD	5(b)H-Cholane	250.000	SED-DA-049 (0.5-1.0)	
Vial Number	28			9/3/2013	
Sample Multiplier	0.06645			PAH-2012.M	
Sample Amount	0			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	620456	19.5501	19.9440
9)+10)	C1-Naphthalenes	16.22	934289	29.4388	30.0319
13)	C2-Naphthalenes	18.42	1709790	53.8743	54.9597
14)	C3-Naphthalenes	20.79	1774810	55.9230	57.0496
15)	C4-Naphthalenes	22.76	1165380	36.7202	37.4600
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	87701	2.7706	2.8264
24)	Acenaphthene	19.70	37420	1.9987	2.0389
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.48	277171	11.7844	12.0218
28)	C1-Fluorenes	23.44	303283	12.8946	13.1543
29)	C2-Fluorenes	25.48	1109450	47.1700	48.1203
30)	C3-Fluorenes	27.25	748908	31.8410	32.4825
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.93	142825	4.4684	4.5584
41)	Phenanthrene	24.75	1048120	31.0596	31.6853
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.66	1263675	37.4473	38.2017
50)	C2-Phenanthrenes/Anthracenes	28.32	2172390	64.3754	65.6724
51)	C3-Phenanthrenes/Anthracenes	29.88	2450120	72.6059	74.0687
52)	C4-Phenanthrenes/Anthracenes	31.71	2043650	60.5606	61.7807
34)	Dibenzothiophene	24.34	402223	13.7927	14.0706
35)+36)+37)	C1-Dibenzothiophenes	26.15	904244	31.0076	31.6323
38)	C2-Dibenzothiophenes	27.56	1717990	58.9116	60.0985
39)	C3-Dibenzothiophenes	28.77	2758910	94.6062	96.5122
40)	C4-Dibenzothiophenes	30.81	2608120	89.4351	91.2369
58)	Fluoranthene	28.87	672896	18.6623	19.0383
59)	Pyrene	29.63	592546	15.3846	15.6946
62)	C1-Fluoranthenes/Pyrenes	31.47	905416	25.1111	25.6170
63)	C2-Fluoranthenes/Pyrenes	32.53	1472070	40.8269	41.6495
64)	C3-Fluoranthenes/Pyrenes	34.08	1483920	41.1555	41.9846
65)	C4-Fluoranthenes/Pyrenes	35.32	2055260	57.0014	58.1498
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	237417	6.3897	6.5184
68)	Chrysene/Triphenylene	33.85	838982	26.1912	26.7189
69)	C1-Chrysenes	35.52	3287500	102.6287	104.6963
70)	C2-Chrysenes	36.25	1995590	62.2981	63.5532
71)	C3-Chrysenes	37.46	1767560	55.1793	56.2910
72)	C4-Chrysenes	39.28	978121	30.5348	31.1500
77)	Benzo(b)fluoranthene	37.26	1056980	31.3220	31.9530
78)	Benzo(k,j)fluoranthene	37.30	280984	8.9131	9.0926
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.23	608271	17.8882	18.2486
81)	Benzo(a)pyrene	38.43	149466	4.5991	4.6918
89)	Perylene	38.74	2640490	81.3328	82.9714
82)	Indeno(1,2,3-c,d)pyrene	43.23	483988	13.2432	13.5100
83)	Dibenzo(a,h)anthracene	43.26	96698	3.3648	3.4326
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	44.70	532053	16.6865	17.0227
# Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	610198	28.8588	29.4402
10) 1-Methylnaphthalene	16.38	324091	16.4328	16.7638
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	386781	15.8066	16.1250
36) 2/3-Methyldibenzothiophene	26.14	336541	13.7534	14.0305
37) 1-Methyldibenzothiophene	26.48	180922	7.3938	7.5427
43) 3-Methylphenanthrene	26.41	263957	10.2155	10.4213
44) 2-Methylphenanthrene	26.52	356999	13.8164	14.0947
45) 2-Methylanthracene	26.69	131786	5.1003	5.2031
46) 4/9-Methylphenanthrene	26.80	292184	11.3079	11.5357
47) 1-Methylphenanthrene	26.90	218749	8.4659	8.6365
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	406480	13.74	82.66
21) Acenaphthene-d10	19.59	241363	13.93	83.80
32) Phenanthrene-d10	24.68	412884	16.30	98.03
66) Chrysene-d12	33.77	462540	15.16	91.22
88) Perylene-d12	38.66	93195	3.52	21.17
90) 5(b)H-Cholane	34.16	159401	35.05	210.96
Internal Standards				
1) Fluorene-d10	21.37	298266	16.68	
31) Pyrene-d10	29.60	524731	16.65	
73) Benzo(a)pyrene-d12	38.35	371260	16.63	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1799.D
Acq On : 3 Sep 2013 11:16 pm
Operator : YM
Sample : SED-DA-049 (0.5-1.0)
Misc :
ALS Vial : 28 Sample Multiplier: 0.06645

Quant Time: Sep 10 11:20:08 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.371	176	298266m	251.05		0.00
31) Pyrene-d10	29.600	212	524731m	250.63		0.03
73) Benzo(a)pyrene-d12	38.348	264	371260m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.766	136	406480m	13.74		0.03
21) Acenaphthene-d10	19.588	164	241363m	13.93		0.00
32) Phenanthrene-d10	24.683	188	412884m	16.30		0.00
66) Chrysene-d12	33.770	240	462540m	15.16		0.04
88) Perylene-d12	38.658	264	93195m	3.52		0.04
90) 5(b)H-Cholane	34.158	217	159401m	35.05		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	620456m	19.55		
9) 2-Methylnaphthalene	16.051	142	610198m	28.86		
10) 1-Methylnaphthalene	16.385	142	324091m	16.43		
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	1709791m	53.87		
14) C3-Naphthalenes	20.786	170	1774808m	55.92		
15) C4-Naphthalenes	22.764	184	1165377m	36.72		
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	87701m	2.77		
24) Acenaphthene	19.700	154	37420m	2.00		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.483	166	277171m	11.78		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.436	180	303283m	12.89		
29) C2-Fluorenes	25.479	194	1109447m	47.17		
30) C3-Fluorenes	27.245	208	748908m	31.84		
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.337	184	402223m	13.79		
35) 4-Methyldibenzothiophene	25.826	198	386781m	15.81		
36) 2/3-Methyldibenzothiop...	26.137	198	336541m	13.75		
37) 1-Methyldibenzothiophene	26.484	198	180922m	7.39		
38) C2-Dibenzothiophenes	27.557	212	1717985m	58.91		
39) C3-Dibenzothiophenes	28.769	226	2758905m	94.61		
40) C4-Dibenzothiophenes	30.812	240	2608118m	89.44		
41) Phenanthrene	24.752	178	1048123m	31.06		
42) Anthracene	24.925	178	142825m	4.47		
43) 3-Methylphenanthrene	26.414	192	263957m	10.22		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1799.D
Acq On : 3 Sep 2013 11:16 pm
Operator : YM
Sample : SED-DA-049 (0.5-1.0)
Misc :
ALS Vial : 28 Sample Multiplier: 0.06645

Quant Time: Sep 10 11:20:08 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.518	192	356999m	13.82		
45) 2-Methylanthracene	26.691	192	131786m	5.10		
46) 4/9-Methylphenanthrene	26.795	192	292184m	11.31		
47) 1-Methylphenanthrene	26.899	192	218749m	8.47		
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	2172385m	64.38		
51) C3-Phenanthrenes/Anthr...	29.877	220	2450120m	72.61		
52) C4-Phenanthrenes/Anthr...	31.712	234	2043652m	60.56		
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	672896m	18.66		
59) Pyrene	29.635	202	592546m	15.38		
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	905416m	25.11		
63) C2-Fluoranthenes/Pyrenes	32.528	230	1472072m	40.83		
64) C3-Fluoranthenes/Pyrenes	34.080	244	1483917m	41.16		
65) C4-Fluoranthenes/Pyrenes	35.322	258	2055264m	57.00		
67) Benz(a)anthracene	33.731	228	237417m	6.39		
68) Chrysene/Triphenylene	33.847	228	838982m	26.19		
69) C1-Chrysenes	35.516	242	3287500m	102.63		
70) C2-Chrysenes	36.253	256	1995592m	62.30		
71) C3-Chrysenes	37.455	270	1767556m	55.18		
72) C4-Chrysenes	39.279	284	978121m	30.53		
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	37.261	252	1056979m	31.32		
78) Benzo(k,j)fluoranthene	37.300	252	280984m	8.91		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.231	252	608271m	17.89		
81) Benzo(a)pyrene	38.425	252	149466m	4.60		
82) Indeno(1,2,3-c,d)pyrene	43.225	276	483988m	13.24		
83) Dibenzo(a,h)anthracene	43.262	278	96698m	3.36		
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	44.700	276	532053m	16.69		
89) Perylene	38.736	252	2640488m	81.33		
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 : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1799.D
Acq On : 3 Sep 2013 11:16 pm
Operator : YM
Sample : SED-DA-049 (0.5-1.0)
Misc :
ALS Vial : 28 Sample Multiplier: 0.06645

Quant Time: Sep 10 11:20:08 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

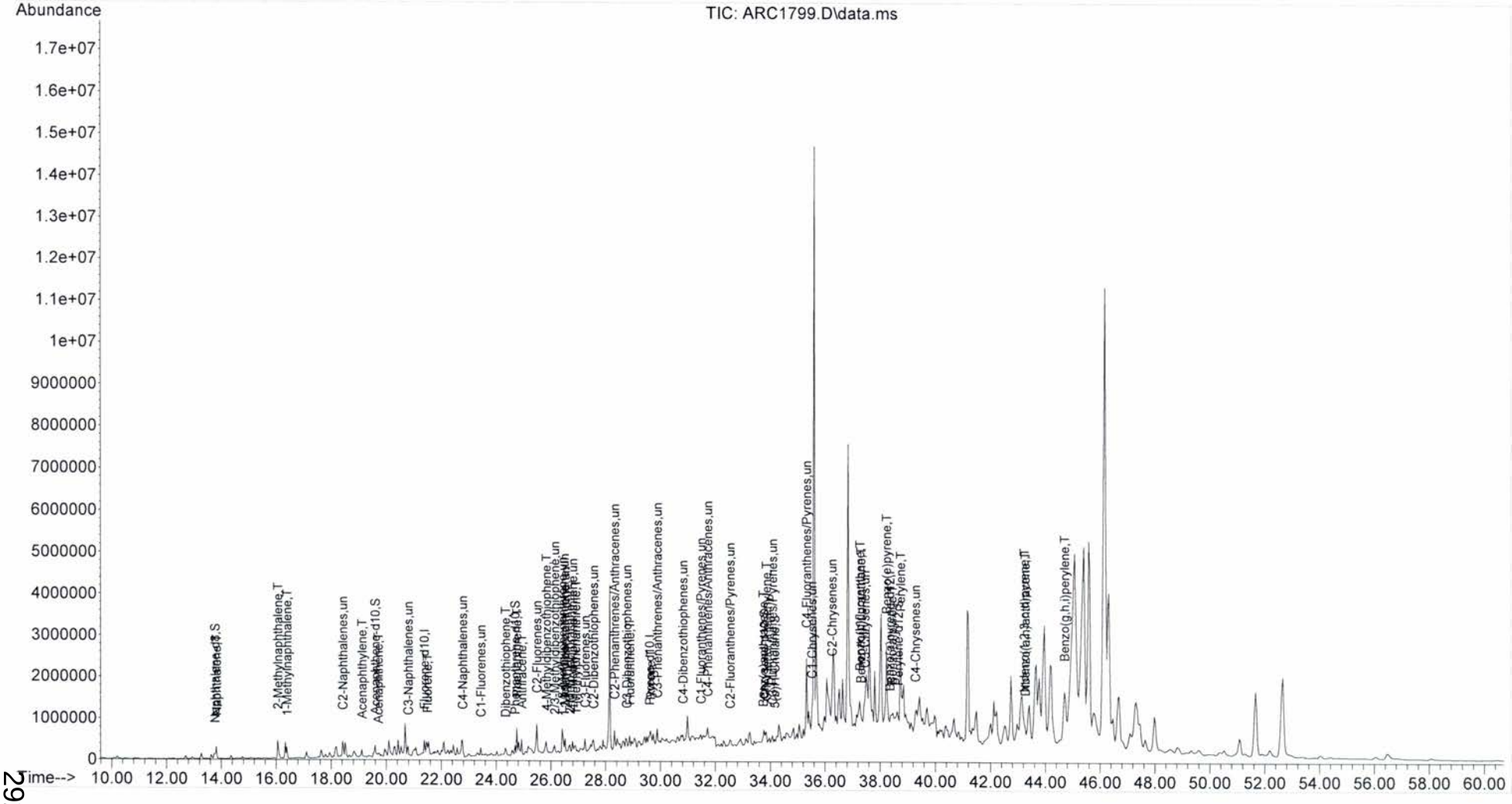
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1799.D
Acq On : 3 Sep 2013 11:16 pm
Operator : YM
Sample : SED-DA-049 (0.5-1.0)
Misc :
ALS Vial : 28 Sample Multiplier: 0.06645

Quant Time: Sep 10 11:20:08 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	ARC1800.D
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS70062\
Operator	YM
Date Acquired	9/4/2013 1:33
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-049 (1.0-1.5)
Misc Info	0
Instrument Name	GCMSD
Vial Number	30
Sample Multiplier	0.06596
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

ARC1800.D
SED-DA-049 (1.0-1.5)
9/4/2013
PAH-2012.M
15.16070346

#	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	213113	7.0156	7.0421
9)+10)	C1-Naphthalenes	16.22	186604	6.1430	6.1662
13)	C2-Naphthalenes	18.42	273453	9.0021	9.0361
14)	C3-Naphthalenes	20.09	286235	9.4228	9.4584
15)	C4-Naphthalenes	22.74	272749	8.9789	9.0128
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	7597	0.2507	0.2517
24)	Acenaphthene	19.70	11357	0.6338	0.6361
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.48	140677	6.2489	6.2725
28)	C1-Fluorenes	23.44	55903	2.4832	2.4926
29)	C2-Fluorenes	25.31	104893	4.6594	4.6769
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.75	521837	17.5336	17.5997
41)	Phenanthrene	24.75	522993	16.6444	16.7072
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.65	175136	5.5738	5.5948
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	29471	1.0853	1.0894
35)+36)+37)	C1-Dibenzothiophenes	26.14	31087	1.1449	1.1492
38)	C2-Dibenzothiophenes	27.56	35283	1.2994	1.3043
39)	C3-Dibenzothiophenes	29.43	34741	1.2794	1.2842
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.87	85468	2.5457	2.5553
59)	Pyrene	29.63	65008	1.8127	1.8195
62)	C1-Fluoranthenes/Pyrenes	30.78	39517	1.1770	1.1815
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	33.73	13677	0.3953	0.3968
68)	Chrysene/Triphenylene	33.85	33814	1.1337	1.1380
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	58999	1.4565	1.4620
78)	Benzo(k,j)fluoranthene	37.34	11060	0.2923	0.2934
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	38.70	5458230	140.0608	140.5896
82)	Indeno(1,2,3-c,d)pyrene	43.08	28198	0.6428	0.6452
83)	Dibenzo(a,h)anthracene	43.15	5803	0.1682	0.1689
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	14791	0.3864	0.3879
# Compound Name	**Ret Time (minute)**	**Target Response (area)**	**Concentration**	**Su. Corrected Concentration**
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	126286	6.2400	6.2635
10) 1-Methylnaphthalene	16.39	60318	3.1953	3.2074
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	12577	0.5520	0.5541
36) 2/3-Methyldibenzothiophene	26.14	12302	0.5399	0.5420
37) 1-Methyldibenzothiophene	26.45	6208	0.2725	0.2735
43) 3-Methylphenanthrene	26.41	36909	1.5341	1.5399
44) 2-Methylphenanthrene	26.52	37807	1.5714	1.5773
45) 2-Methylanthracene	26.66	60768	2.5258	2.5353
46) 4/9-Methylphenanthrene	26.80	21036	0.8743	0.8776
47) 1-Methylphenanthrene	26.86	18616	0.7738	0.7767
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	370266	13.07	79.25
21) Acenaphthene-d10	19.59	221275	13.34	80.86
32) Phenanthrene-d10	24.68	387838	16.44	99.62
66) Chrysene-d12	33.77	379962	13.37	81.07
88) Perylene-d12	38.62	187873	5.91	35.82
90) 5(b)H-Cholane	34.16	96891	17.75	107.62
Internal Standards				
1) Fluorene-d10	21.37	283380	16.56	
31) Pyrene-d10	29.57	484990	16.53	
73) Benzo(a)pyrene-d12	38.31	442366	16.51	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1800.D
Acq On : 4 Sep 2013 1:33 am
Operator : YM
Sample : SED-DA-049 (1.0-1.5)
Misc :
ALS Vial : 30 Sample Multiplier: 0.06596

Quant Time: Sep 09 20:27:40 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.371	176	283380m	251.05		0.00
31) Pyrene-d10	29.566	212	484990m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	442366m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.767	136	370266m	13.07		0.03
21) Acenaphthene-d10	19.589	164	221275m	13.34		0.00
32) Phenanthrene-d10	24.683	188	387838m	16.44		0.00
66) Chrysene-d12	33.770	240	379962m	13.37		0.04
88) Perylene-d12	38.619	264	187873m	5.91		0.00
90) 5(b)H-Cholane	34.158	217	96891m	17.75		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	213113m	7.02		
9) 2-Methylnaphthalene	16.051	142	126286m	6.24		
10) 1-Methylnaphthalene	16.385	142	60318m	3.20		
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	273453m	9.00		
14) C3-Naphthalenes	20.090	170	286235m	9.42		
15) C4-Naphthalenes	22.736	184	272749m	8.98		
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	7597m	0.25		
24) Acenaphthene	19.700	154	11357m	0.63		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.483	166	140677m	6.25		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.437	180	55903m	2.48		
29) C2-Fluorenes	25.306	194	104893m	4.66		
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.337	184	29471m	1.09		
35) 4-Methyldibenzothiophene	25.826	198	12577m	0.55		
36) 2/3-Methyldibenzothiop...	26.137	198	12302m	0.54		
37) 1-Methyldibenzothiophene	26.449	198	6208m	0.27		
38) C2-Dibenzothiophenes	27.557	212	35283m	1.30		
39) C3-Dibenzothiophenes	29.427	226	34741m	1.28		
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.752	178	522993m	16.64		
42) Anthracene	24.752	178	521837m	17.53		
43) 3-Methylphenanthrene	26.415	192	36909m	1.53		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1800.D
Acq On : 4 Sep 2013 1:33 am
Operator : YM
Sample : SED-DA-049 (1.0-1.5)
Misc :
ALS Vial : 30 Sample Multiplier: 0.06596

Quant Time: Sep 09 20:27:40 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.518	192	37807m	1.57		
45)	2-Methylanthracene	26.657	192	60768m	2.53		
46)	4/9-Methylphenanthrene	26.795	192	21036m	0.87		
47)	1-Methylphenanthrene	26.865	192	18616m	0.77		
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	28.873	202	85468m	2.55		
59)	Pyrene	29.635	202	65008m	1.81		
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	39517m	1.18		
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	33.731	228	13677m	0.40		
68)	Chrysene/Triphenylene	33.848	228	33814m	1.13		
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	0.000		0	N.D.	d	
77)	Benzo(b)fluoranthene	37.262	252	58999m	1.46		
78)	Benzo(k,j)fluoranthene	37.339	252	11060m	0.29		
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	43.078	276	28198m	0.64		
83)	Dibenzo(a,h)anthracene	43.152	278	5803m	0.17		
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	14791m	0.39		
89)	Perylene	38.697	252	5458229m	140.06		
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 : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1800.D
Acq On : 4 Sep 2013 1:33 am
Operator : YM
Sample : SED-DA-049 (1.0-1.5)
Misc :
ALS Vial : 30 Sample Multiplier: 0.06596

Quant Time: Sep 09 20:27:40 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

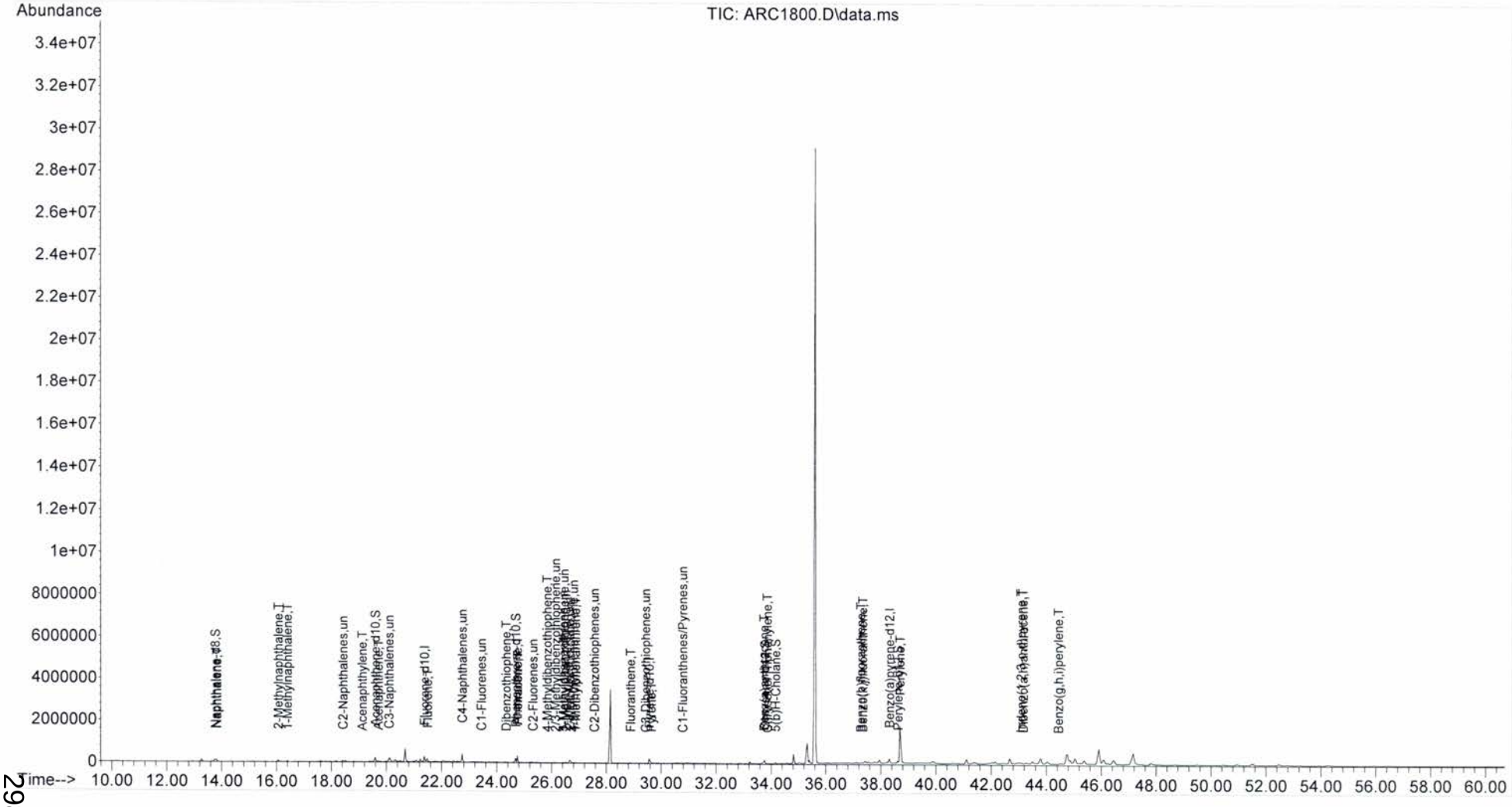
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1800.D
Acq On : 4 Sep 2013 1:33 am
Operator : YM
Sample : SED-DA-049 (1.0-1.5)
Misc :
ALS Vial : 30 Sample Multiplier: 0.06596

Quant Time: Sep 09 20:27:40 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	ARC1801.D
Data File Path	C:\GCMS7\MS70062\
Operator	YM
Date Acquired	9/4/2013 2:42
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-043 (0-0.5)
Misc Info	0
Instrument Name	GCMSD
Vial Number	31
Sample Multiplier	0.33311
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

ARC1801.D
SED-DA-043 (0-0.5)
9/4/2013
PAH-2012.M
3.002011348

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.12	8299	7.1944	6.6375
4)	C1-Decalins	12.62	16958	14.7010	13.5630
5)	C2-Decalins	14.66	103119	89.3944	82.4742
6)	C3-Decalins	16.61	463702	401.9838	370.8656
7)	C4-Decalins	18.03	686489	595.1210	549.0518
8)	Naphthalene	13.82	111403	15.2748	14.0923
9)+10)	C1-Naphthalenes	16.22	700279	96.0171	88.5843
13)	C2-Naphthalenes	18.42	4480990	614.3981	566.8366
14)	C3-Naphthalenes	20.70	8720710	1195.7183	1103.1559
15)	C4-Naphthalenes	22.76	10746900	1473.5287	1359.4606
16)	Benzothiophene	13.99	19388	3.3131	3.0566
17)	C1-Benzothiophenes	16.36	259223	44.2966	40.8676
18)	C2-Benzothiophenes	18.56	748512	127.9076	118.0061
19)	C3-Benzothiophenes	20.26	2124690	363.0732	334.9672
20)	C4-Benzothiophenes	21.57	3299300	563.7920	520.1480
22)	Biphenyl	17.64	101799	16.4586	15.1845
23)	Acenaphthylene	19.11	70928	9.7505	8.9957
24)	Acenaphthene	19.70	32750	7.6118	7.0225
25)	Dibenzofuran	20.31	172074	24.6956	22.7839
26)	Fluorene	21.48	249134	46.0924	42.5243
28)	C1-Fluorenes	23.44	1162880	215.1454	198.4907
29)	C2-Fluorenes	25.27	3394020	627.9323	579.3231
30)	C3-Fluorenes	27.25	4971840	919.8466	848.6399
33)	Carbazole	25.51	55960	8.6844	8.0121
42)	Anthracene	24.89	50649	6.3138	5.8250
41)	Phenanthrene	24.75	1909510	225.4662	208.0125
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.66	7037662	830.9748	766.6478
50)	C2-Phenanthrenes/Anthracenes	28.35	13295700	1569.8941	1448.3662
51)	C3-Phenanthrenes/Anthracenes	30.99	14699900	1735.6930	1601.3303
52)	C4-Phenanthrenes/Anthracenes	31.71	10110800	1193.8363	1101.4196
34)	Dibenzothiophene	24.34	1923630	262.8325	242.4862
35)+36)+37)	C1-Dibenzothiophenes	26.16	6686720	913.6305	842.9050
38)	C2-Dibenzothiophenes	27.25	13193500	1802.6714	1663.1239
39)	C3-Dibenzothiophenes	28.77	16571000	2264.1553	2088.8836
40)	C4-Dibenzothiophenes	30.81	11249000	1536.9829	1418.0027
58)	Fluoranthene	28.87	465048	51.3915	47.4132
59)	Pyrene	29.67	975739	100.9427	93.1285
62)	C1-Fluoranthenes/Pyrenes	31.16	3213390	355.1053	327.6160
63)	C2-Fluoranthenes/Pyrenes	32.53	4303710	475.5945	438.7780
64)	C3-Fluoranthenes/Pyrenes	33.96	4297330	474.8883	438.1265
65)	C4-Fluoranthenes/Pyrenes	35.32	3334040	368.4396	339.9182
53)	Naphthobenzothiophene	32.92	2377730	255.6156	235.8280
54)	C1-Naphthobenzothiophenes	34.66	6332400	680.7569	628.0585
55)	C2-Naphthobenzothiophenes	35.75	9374590	1007.8043	929.7886
56)	C3-Naphthobenzothiophenes	37.15	7279390	782.5620	721.9827
57)	C4-Naphthobenzothiophenes	38.15	3930470	422.5400	389.8306
67)	Benz(a)anthracene	33.73	205164	22.0010	20.2979
68)	Chrysene/Triphenylene	33.85	1227560	152.6940	140.8737
69)	C1-Chrysenes	35.09	2695630	335.3052	309.3487
70)	C2-Chrysenes	36.87	3893230	484.2720	446.7838
71)	C3-Chrysenes	37.96	3269450	406.6807	375.1989
72)	C4-Chrysenes	39.36	1321250	164.3471	151.6248
77)	Benzo(b)fluoranthene	37.26	601062	53.8646	49.6948
78)	Benzo(k,j)fluoranthene	37.30	165474	15.8736	14.6448
79)	Benzo(a)fluoranthene	37.49	127693	12.2493	11.3011
80)	Benzo(e)pyrene	38.23	599982	53.3589	49.2283
81)	Benzo(a)pyrene	38.43	228566	21.2688	19.6224
89)	Perylene	38.74	167355	15.5891	14.3823
82)	Indeno(1,2,3-c,d)pyrene	43.11	210235	17.3965	16.0498
83)	Dibenzo(a,h)anthracene	43.19	93369	9.8252	9.0646
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	44.48	473757	44.9332	41.4549
#	**Compound Name**	**Ret Time (minute)**	**Target Response (area)**	**Concentration**	**Su. Corrected Concentration**
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	433880	89.2925	82.3802
10)	1-Methylnaphthalene	16.39	266399	58.7779	54.2278
11)	2,6-Dimethylnaphthalene	18.20	1134620	267.1396	246.4599
12)	1,6,7-Trimethylnaphthalene	21.01	724281	184.0193	169.7741
27)	1-Methylfluorene	23.44	512174	151.5484	139.8168
35)	4-Methyldibenzothiophene	25.86	2739970	446.1642	411.6260
36)	2/3-Methyldibenzothiophene	26.14	2263970	368.6528	340.1149
37)	1-Methyldibenzothiophene	26.48	1682780	274.0153	252.8033
43)	3-Methylphenanthrene	26.41	1351590	208.4246	192.2901
44)	2-Methylphenanthrene	26.52	1864440	287.5096	265.2530
45)	2-Methylanthracene	26.69	108832	16.7826	15.4834
46)	4/9-Methylphenanthrene	26.80	2500960	385.6648	355.8099
47)	1-Methylphenanthrene	26.90	1211840	186.8737	172.4075
48)	3,6-Dimethylphenanthrene	27.97	526802	100.0389	92.2948
49)	Retene	30.64	285336	131.8103	121.6067
60)	2-Methylfluoranthene	30.43	193786	35.3726	32.6344
61)	Benzo(b)fluorene	31.02	153245	27.7584	25.6096
74)	C29-Hopane	40.68	2939590	908.0179	837.7268
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	41.97	3959540	1223.0733	1128.3934
91)	C20-TAS	33.30	632916	50.9938	47.0463
92)	C21-TAS	34.39	689394	55.5444	51.2446
93)	C26(20S)-TAS	38.50	679517	54.7486	50.5105
94)	C26(20R)/C27(20S)-TAS	39.40	2103970	169.5163	156.3938
95)	C28(20S)-TAS	40.17	1733810	139.6930	128.8792
96)	C27(20R)-TAS	40.61	1484210	119.5828	110.3257
97)	C28(20R)-TAS	41.75	1493930	120.3656	111.0479
	Surrogate Standards				
2)	Naphthalene-d8	13.74	485714	71.44	85.74
21)	Acenaphthene-d10	19.59	303493	76.22	91.47
32)	Phenanthrene-d10	24.68	574379	90.34	108.39
66)	Chrysene-d12	33.77	685640	89.52	107.48
88)	Perylene-d12	38.66	589284	67.27	80.77
90)	5(b)H-Cholane	34.16	170950	113.66	136.48
	Internal Standards				
1)	Fluorene-d10	21.37	343604	83.63	
31)	Pyrene-d10	29.60	660167	83.49	
73)	Benzo(a)pyrene-d12	38.35	615419	83.39	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1801.D
Acq On : 4 Sep 2013 2:42 am
Operator : YM
Sample : SED-DA-043 (0-0.5)
Misc :
ALS Vial : 31 Sample Multiplier: 0.33311

Quant Time: Sep 09 12:31:50 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.371	176	343604m	251.05		0.00
31) Pyrene-d10	29.600	212	660167m	250.63		0.03
73) Benzo(a)pyrene-d12	38.348	264	615419m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.739	136	485714m	71.44		0.00
21) Acenaphthene-d10	19.589	164	303493m	76.23		0.00
32) Phenanthrene-d10	24.683	188	574379m	90.33		0.00
66) Chrysene-d12	33.770	240	685640m	89.52		0.04
88) Perylene-d12	38.658	264	589284m	67.27		0.04
90) 5(b)H-Cholane	34.158	217	170950m	113.66		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.120	138	8299m	7.19		
4) C1-Decalins	12.624	152	16958m	14.70		
5) C2-Decalins	14.658	166	103119m	89.39		
6) C3-Decalins	16.608	180	463702m	401.99		
7) C4-Decalins	18.029	194	686489m	595.12		
8) Naphthalene	13.822	128	111403m	15.27		
9) 2-Methylnaphthalene	16.051	142	433880m	89.29		
10) 1-Methylnaphthalene	16.385	142	266399m	58.78		
11) 2,6-Dimethylnaphthalene	18.196	156	1134620m	267.14		
12) 1,6,7-Trimethylnaphtha...	21.009	170	724281m	184.02		
13) C2-Naphthalenes	18.419	156	4480988m	614.40		
14) C3-Naphthalenes	20.703	170	8720713m	1195.72		
15) C4-Naphthalenes	22.764	184	10746856m	1473.53		
16) Benzothiophene	13.989	134	19388m	3.31		
17) C1-Benzothiophenes	16.357	148	259223m	44.30		
18) C2-Benzothiophenes	18.558	162	748512m	127.91		
19) C3-Benzothiophenes	20.257	176	2124693m	363.07		
20) C4-Benzothiophenes	21.566	190	3299302m	563.79		
22) Biphenyl	17.639	154	101799m	16.46		
23) Acenaphthylene	19.115	152	70928m	9.75		
24) Acenaphthene	19.700	154	32750m	7.61		
25) Dibenzofuran	20.313	168	172074m	24.70		
26) Fluorene	21.483	166	249134m	46.09		
27) 1-Methylfluorene	23.436	180	512174m	151.55		
28) C1-Fluorenes	23.436	180	1162880m	215.15		
29) C2-Fluorenes	25.272	194	3394020m	627.93		
30) C3-Fluorenes	27.246	208	4971840m	919.85		
33) Carbazole	25.514	167	55960m	8.68		
34) Dibenzothiophene	24.337	184	1923631m	262.83		
35) 4-Methyldibenzothiophene	25.860	198	2739973m	446.16		
36) 2/3-Methyldibenzothiop...	26.137	198	2263966m	368.65		
37) 1-Methyldibenzothiophene	26.484	198	1682778m	274.02		
38) C2-Dibenzothiophenes	27.246	212	13193482m	1802.67		
39) C3-Dibenzothiophenes	28.769	226	16571008m	2264.15		
40) C4-Dibenzothiophenes	30.812	240	11248953m	1536.98		
41) Phenanthrene	24.752	178	1909513m	225.47		
42) Anthracene	24.891	178	50649m	6.31		
43) 3-Methylphenanthrene	26.414	192	1351593m	208.42		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1801.D
Acq On : 4 Sep 2013 2:42 am
Operator : YM
Sample : SED-DA-043 (0-0.5)
Misc :
ALS Vial : 31 Sample Multiplier: 0.33311

Quant Time: Sep 09 12:31:50 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.518	192	1864444m	287.51		
45) 2-Methylanthracene	26.691	192	108832m	16.78		
46) 4/9-Methylphenanthrene	26.795	192	2500963m	385.66		
47) 1-Methylphenanthrene	26.899	192	1211841m	186.87		
48) 3,6-Dimethylphenanthrene	27.973	206	526802m	100.04		
49) Retene	30.639	234	285336m	131.81		
50) C2-Phenanthrenes/Anthr...	28.354	206	13295709m	1569.89		
51) C3-Phenanthrenes/Anthr...	30.985	220	14699874m	1735.69		
52) C4-Phenanthrenes/Anthr...	31.712	234	10110804m	1193.84		
53) Naphthobenzothiophene	32.916	234	2377731m	255.62		
54) C1-Naphthobenzothiophenes	34.662	248	6332399m	680.76		
55) C2-Naphthobenzothiophenes	35.748	262	9374590m	1007.81		
56) C3-Naphthobenzothiophenes	37.145	276	7279391m	782.56		
57) C4-Naphthobenzothiophenes	38.154	290	3930467m	422.54		
58) Fluoranthene	28.873	202	465048m	51.39		
59) Pyrene	29.669	202	975739m	100.94		
60) 2-Methylfluoranthene	30.431	216	193786m	35.37		
61) Benzo(b)fluorene	31.020	216	153245m	27.76		
62) C1-Fluoranthenes/Pyrenes	31.158	216	3213387m	355.10		
63) C2-Fluoranthenes/Pyrenes	32.528	230	4303706m	475.59		
64) C3-Fluoranthenes/Pyrenes	33.964	244	4297329m	474.89		
65) C4-Fluoranthenes/Pyrenes	35.322	258	3334044m	368.44		
67) Benz(a)anthracene	33.731	228	205164m	22.00		
68) Chrysene/Triphenylene	33.847	228	1227562m	152.69		
69) C1-Chrysenes	35.089	242	2695628m	335.30		
70) C2-Chrysenes	36.873	256	3893229m	484.27		
71) C3-Chrysenes	37.960	270	3269451m	406.68		
72) C4-Chrysenes	39.356	284	1321245m	164.35		
74) C29-Hopane	40.681	191	2939591m	908.02		
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	41.972	191	3959535m	1223.07		
77) Benzo(b)fluoranthene	37.261	252	601062m	53.86		
78) Benzo(k,j)fluoranthene	37.300	252	165474m	15.87		
79) Benzo(a)fluoranthene	37.494	252	127693m	12.25		
80) Benzo(e)pyrene	38.231	252	599982m	53.36		
81) Benzo(a)pyrene	38.425	252	228566m	21.27		
82) Indeno(1,2,3-c,d)pyrene	43.115	276	210235m	17.40		
83) Dibenzo(a,h)anthracene	43.189	278	93369m	9.83		
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	44.479	276	473757m	44.93		
89) Perylene	38.736	252	167355m	15.59		
91) C20-TAS	33.304	231	632916m	50.99		
92) C21-TAS	34.391	231	689394m	55.54		
93) C26(20S)-TAS	38.503	231	679517m	54.75		
94) C26(20R)/C27(20S)-TAS	39.395	231	2103969m	169.52		
95) C28(20S)-TAS	40.165	231	1733814m	139.69		
96) C27(20R)-TAS	40.608	231	1484213m	119.58		
97) C28(20R)-TAS	41.751	231	1493929m	120.37		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1801.D
Acq On : 4 Sep 2013 2:42 am
Operator : YM
Sample : SED-DA-043 (0-0.5)
Misc :
ALS Vial : 31 Sample Multiplier: 0.33311

Quant Time: Sep 09 12:31:50 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

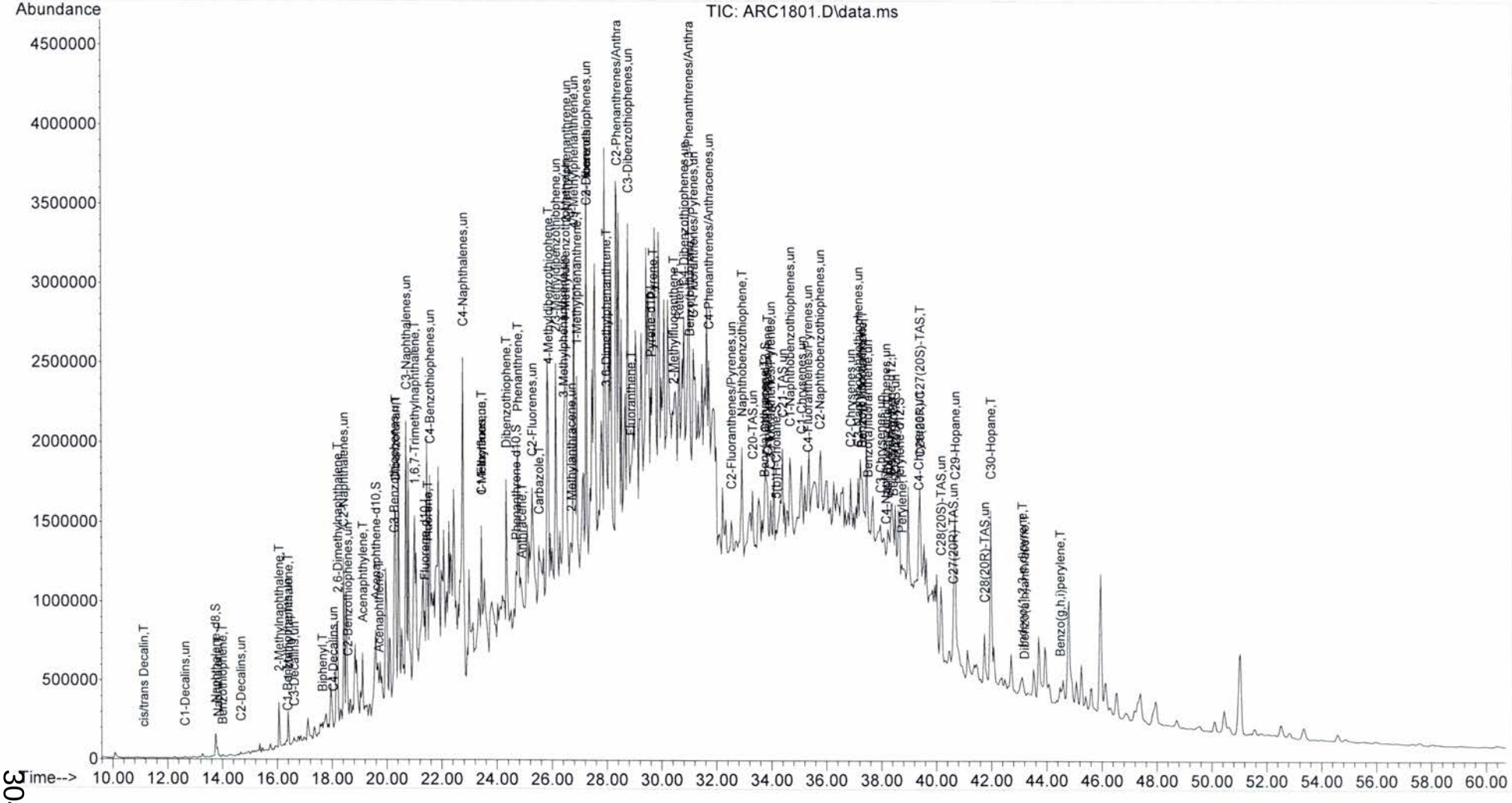
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1801.D
Acq On : 4 Sep 2013 2:42 am
Operator : YM
Sample : SED-DA-043 (0-0.5)
Misc :
ALS Vial : 31 Sample Multiplier: 0.33311

Quant Time: Sep 09 12:31:50 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	ARC1802.D
Data File Path	C:\GCMS7\MS70062\
Operator	YM
Date Acquired	9/4/2013 3:51
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-043 (0.5-1.0)
Misc Info	0
Instrument Name	GCMSD
Vial Number	32
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

ARC1802.D
SED-DA-043 (0.5-1.0)
9/4/2013
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	375756	12.2186	11.3248
9)+10)	C1-Naphthalenes	16.22	719475	23.3954	21.6841
13)	C2-Naphthalenes	18.42	1959200	63.7077	59.0478
14)	C3-Naphthalenes	20.79	3102930	100.8987	93.5183
15)	C4-Naphthalenes	22.76	2993310	97.3340	90.2144
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	34653	1.1298	1.0471
24)	Acenaphthene	19.70	22910	1.2628	1.1704
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.48	195688	8.5862	7.9581
28)	C1-Fluorenes	23.44	471397	20.6833	19.1704
29)	C2-Fluorenes	25.27	1464060	64.2380	59.5393
30)	C3-Fluorenes	27.25	1634270	71.7067	66.4616
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	0.00	0	0.0000	0.0000
41)	Phenanthrene	24.75	1161100	39.6312	36.7323
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.66	2268455	77.4280	71.7644
50)	C2-Phenanthrenes/Anthracenes	28.32	4053690	138.3626	128.2419
51)	C3-Phenanthrenes/Anthracenes	29.88	4238130	144.6577	134.0765
52)	C4-Phenanthrenes/Anthracenes	31.71	3135190	107.0114	99.1839
34)	Dibenzothiophene	24.34	588944	23.2616	21.5601
35)+36)+37)	C1-Dibenzothiophenes	26.14	2003102	79.1167	73.3297
38)	C2-Dibenzothiophenes	27.25	3715780	146.7623	136.0272
39)	C3-Dibenzothiophenes	29.43	4373290	172.7318	160.0972
40)	C4-Dibenzothiophenes	29.74	2966870	117.1828	108.6113
58)	Fluoranthene	28.87	352750	11.2686	10.4443
59)	Pyrene	29.63	417644	12.4898	11.5762
62)	C1-Fluoranthenes/Pyrenes	31.47	981488	31.3536	29.0602
63)	C2-Fluoranthenes/Pyrenes	32.53	1577310	50.3871	46.7015
64)	C3-Fluoranthenes/Pyrenes	33.96	1250900	39.9599	37.0370
65)	C4-Fluoranthenes/Pyrenes	35.09	1163830	37.1784	34.4589
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	42174	1.3074	1.2117
68)	Chrysene/Triphenylene	33.85	432709	15.5590	14.4209
69)	C1-Chrysenes	35.05	970846	34.9090	32.3556
70)	C2-Chrysenes	36.52	1081210	38.8773	36.0336
71)	C3-Chrysenes	37.92	793739	28.5407	26.4531
72)	C4-Chrysenes	39.40	469636	16.8868	15.6516
77)	Benzo(b)fluoranthene	37.26	342127	9.7730	9.0582
78)	Benzo(k,j)fluoranthene	37.34	79890	2.4428	2.2642
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.23	240517	6.8183	6.3195
81)	Benzo(a)pyrene	38.43	90718	2.6908	2.4940
89)	Perylene	38.74	1004760	29.8334	27.6512
82)	Indeno(1,2,3-c,d)pyrene	43.08	100430	2.6490	2.4552
83)	Dibenzo(a,h)anthracene	43.15	35893	1.2039	1.1159
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	157321	4.7562	4.4083
# Compound Name	**Ret Time (minute)**	**Target Response (area)**	**Concentration**	**Su. Corrected Concentration**
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	460029	22.4526	20.8103
10) 1-Methylnaphthalene	16.38	259446	13.5758	12.5828
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	846680	39.8543	36.9391
36) 2/3-Methyldibenzothiophene	26.14	688972	32.4309	30.0587
37) 1-Methyldibenzothiophene	26.45	467450	22.0035	20.3940
43) 3-Methylphenanthrene	26.41	497373	22.1714	20.5497
44) 2-Methylphenanthrene	26.52	584700	26.0642	24.1577
45) 2-Methylanthracene	26.69	86950	3.8760	3.5925
46) 4/9-Methylphenanthrene	26.80	710342	31.6649	29.3487
47) 1-Methylphenanthrene	26.90	389090	17.3445	16.0758
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	362143	12.63	75.85
21) Acenaphthene-d10	19.59	215647	12.84	77.12
32) Phenanthrene-d10	24.68	395315	17.97	107.89
66) Chrysene-d12	33.77	438462	16.55	99.40
88) Perylene-d12	38.62	169456	6.17	37.04
90) 5(b)H-Cholane	34.16	116193	24.63	147.94
Internal Standards				
1) Fluorene-d10	21.37	289586	16.71	
31) Pyrene-d10	29.60	456459	16.69	
73) Benzo(a)pyrene-d12	38.31	385894	16.67	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1802.D
Acq On : 4 Sep 2013 3:51 am
Operator : YM
Sample : SED-DA-043 (0.5-1.0)
Misc :
ALS Vial : 32 Sample Multiplier: 0.06658

Quant Time: Sep 09 20:31:52 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.371	176	289586m	251.05		0.00
31) Pyrene-d10	29.600	212	456459m	250.63		0.03
73) Benzo(a)pyrene-d12	38.309	264	385894m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.766	136	362143m	12.63		0.03
21) Acenaphthene-d10	19.588	164	215647m	12.84		0.00
32) Phenanthrene-d10	24.683	188	395315m	17.97		0.00
66) Chrysene-d12	33.770	240	438462m	16.55		0.04
88) Perylene-d12	38.619	264	169456m	6.17		0.00
90) 5(b)H-Cholane	34.158	217	116193m	24.63		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	375756m	12.22		
9) 2-Methylnaphthalene	16.051	142	460029m	22.45		
10) 1-Methylnaphthalene	16.385	142	259446m	13.58		
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	1959197m	63.71		
14) C3-Naphthalenes	20.786	170	3102931m	100.90		
15) C4-Naphthalenes	22.764	184	2993308m	97.33		
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	34653m	1.13		
24) Acenaphthene	19.700	154	22910m	1.26		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.483	166	195688m	8.59		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.436	180	471397m	20.68		
29) C2-Fluorenes	25.272	194	1464057m	64.24		
30) C3-Fluorenes	27.245	208	1634270m	71.71		
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.337	184	588944m	23.26		
35) 4-Methyldibenzothiophene	25.826	198	846680m	39.85		
36) 2/3-Methyldibenzothiop...	26.137	198	688972m	32.43		
37) 1-Methyldibenzothiophene	26.449	198	467450m	22.00		
38) C2-Dibenzothiophenes	27.245	212	3715776m	146.76		
39) C3-Dibenzothiophenes	29.427	226	4373285m	172.73		
40) C4-Dibenzothiophenes	29.739	240	2966867m	117.18		
41) Phenanthrene	24.752	178	1161102m	39.63		
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	26.414	192	497373m	22.17		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1802.D
Acq On : 4 Sep 2013 3:51 am
Operator : YM
Sample : SED-DA-043 (0.5-1.0)
Misc :
ALS Vial : 32 Sample Multiplier: 0.06658

Quant Time: Sep 09 20:31:52 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.518	192	584700m	26.06		
45)	2-Methylanthracene	26.691	192	86950m	3.88		
46)	4/9-Methylphenanthrene	26.795	192	710342m	31.66		
47)	1-Methylphenanthrene	26.899	192	389090m	17.34		
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	4053694m	138.36		
51)	C3-Phenanthrenes/Anthr...	29.877	220	4238125m	144.66		
52)	C4-Phenanthrenes/Anthr...	31.712	234	3135188m	107.01		
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	352750m	11.27		
59)	Pyrene	29.635	202	417644m	12.49		
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	981488m	31.35		
63)	C2-Fluoranthenes/Pyrenes	32.528	230	1577310m	50.39		
64)	C3-Fluoranthenes/Pyrenes	33.964	244	1250901m	39.96		
65)	C4-Fluoranthenes/Pyrenes	35.089	258	1163829m	37.18		
67)	Benz(a)anthracene	33.731	228	42174m	1.31		
68)	Chrysene/Triphenylene	33.847	228	432709m	15.56		
69)	C1-Chrysenes	35.050	242	970846m	34.91		
70)	C2-Chrysenes	36.524	256	1081208m	38.88		
71)	C3-Chrysenes	37.921	270	793739m	28.54		
72)	C4-Chrysenes	39.395	284	469636m	16.89		
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	37.261	252	342127m	9.77		
78)	Benzo(k,j)fluoranthene	37.339	252	79890m	2.44		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.231	252	240517m	6.82		
81)	Benzo(a)pyrene	38.425	252	90718m	2.69		
82)	Indeno(1,2,3-c,d)pyrene	43.078	276	100430m	2.65		
83)	Dibenzo(a,h)anthracene	43.152	278	35893m	1.20		
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	157321m	4.76		
89)	Perylene	38.736	252	1004757m	29.83		
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 : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1802.D
Acq On : 4 Sep 2013 3:51 am
Operator : YM
Sample : SED-DA-043 (0.5-1.0)
Misc :
ALS Vial : 32 Sample Multiplier: 0.06658

Quant Time: Sep 09 20:31:52 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

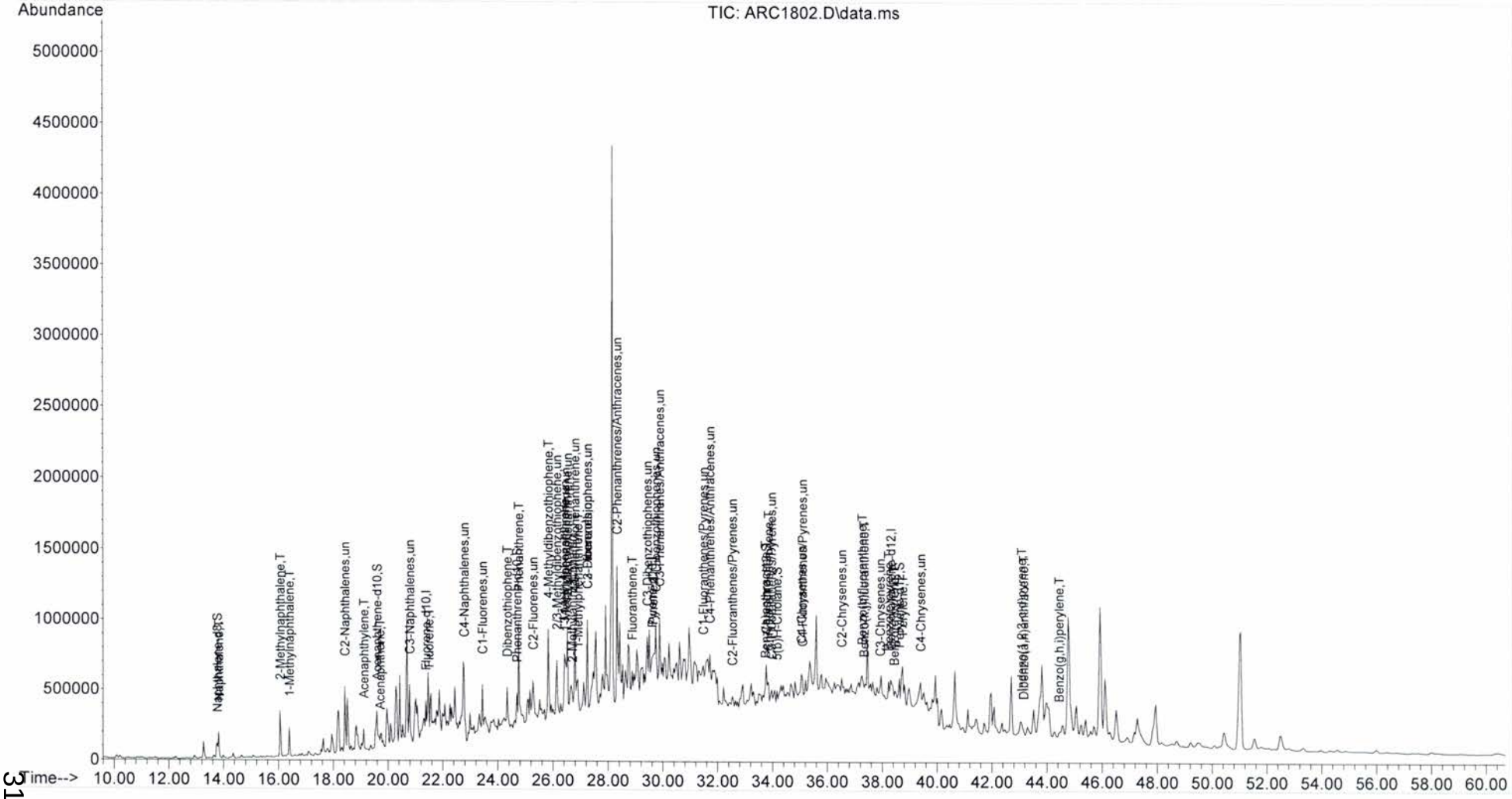
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1802.D
Acq On : 4 Sep 2013 3:51 am
Operator : YM
Sample : SED-DA-043 (0.5-1.0)
Misc :
ALS Vial : 32 Sample Multiplier: 0.06658

Quant Time: Sep 09 20:31:52 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	ARC1803.D
Data File Path	C:\GCMS7\MS70062\
Operator	YM
Date Acquired	9/4/2013 4:59
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-043 (1.0-1.5)
Misc Info	0
Instrument Name	GCMSD
Vial Number	33
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

ARC1803.D
SED-DA-043 (1.0-1.5)
9/4/2013
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	117776	3.6481	3.7196
9)+10)	C1-Naphthalenes	16.22	115945	3.5914	3.6618
13)	C2-Naphthalenes	18.42	199586	6.1821	6.3034
14)	C3-Naphthalenes	21.37	270446	8.3770	8.5413
15)	C4-Naphthalenes	21.48	256521	7.9457	8.1015
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	4144	0.1287	0.1312
24)	Acenaphthene	19.64	1670	0.0877	0.0894
25)	Dibenzofuran	20.31	77992	2.5286	2.5782
26)	Fluorene	21.48	79035	3.3033	3.3681
28)	C1-Fluorenes	23.44	50708	2.1194	2.1609
29)	C2-Fluorenes	25.27	155298	6.4908	6.6181
30)	C3-Fluorenes	26.69	155546	6.5011	6.6286
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	0.00	0	0.0000	0.0000
41)	Phenanthrene	24.75	346143	9.9754	10.1711
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.65	232409	6.6978	6.8291
50)	C2-Phenanthrenes/Anthracenes	28.15	360051	10.3762	10.5798
51)	C3-Phenanthrenes/Anthracenes	29.88	350556	10.1026	10.3008
52)	C4-Phenanthrenes/Anthracenes	31.71	227095	6.5446	6.6730
34)	Dibenzothiophene	24.34	46471	1.5497	1.5801
35)+36)+37)	C1-Dibenzothiophenes	26.14	142252	4.7439	4.8369
38)	C2-Dibenzothiophenes	27.90	257018	8.5712	8.7393
39)	C3-Dibenzothiophenes	29.43	316996	10.5713	10.7787
40)	C4-Dibenzothiophenes	29.74	215658	7.1918	7.3329
58)	Fluoranthene	28.87	61867	1.6687	1.7014
59)	Pyrene	29.63	52681	1.3302	1.3563
62)	C1-Fluoranthenes/Pyrenes	31.12	62544	1.6869	1.7200
63)	C2-Fluoranthenes/Pyrenes	32.53	111344	3.0032	3.0621
64)	C3-Fluoranthenes/Pyrenes	33.96	81749	2.2049	2.2482
65)	C4-Fluoranthenes/Pyrenes	35.98	125479	3.3844	3.4508
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	33.77	11517	0.3014	0.3074
68)	Chrysene/Triphenylene	33.85	31261	0.9491	0.9677
69)	C1-Chrysenes	35.05	84083	2.5527	2.6028
70)	C2-Chrysenes	36.52	99098	3.0086	3.0676
71)	C3-Chrysenes	37.92	83499	2.5350	2.5847
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.26	32585	0.7836	0.7990
78)	Benzo(k,j)fluoranthene	37.34	6809	0.1753	0.1787
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.23	25219	0.6019	0.6137
81)	Benzo(a)pyrene	38.39	5321	0.1329	0.1355
89)	Perylene	38.70	89607	2.2400	2.2839
82)	Indeno(1,2,3-c,d)pyrene	43.08	10986	0.2440	0.2487
83)	Dibenzo(a,h)anthracene	43.11	3938	0.1112	0.1134
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	15023	0.3824	0.3899
# Compound Name	**Ret Time (minute)**	**Target Response (area)**	**Concentration**	**Su. Corrected Concentration**
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	79328	3.6881	3.7605
10) 1-Methylnaphthalene	16.38	36617	1.8251	1.8609
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	67452	2.6808	2.7334
36) 2/3-Methyldibenzothiophene	26.14	42613	1.6936	1.7268
37) 1-Methyldibenzothiophene	26.45	32187	1.2792	1.3043
43) 3-Methylphenanthrene	26.41	44855	1.6882	1.7213
44) 2-Methylphenanthrene	26.52	46862	1.7638	1.7984
45) 2-Methylanthracene	26.66	61260	2.3057	2.3509
46) 4/9-Methylphenanthrene	26.80	44653	1.6806	1.7136
47) 1-Methylphenanthrene	26.86	34779	1.3090	1.3347
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	401807	13.35	80.27
21) Acenaphthene-d10	19.59	236958	13.44	80.83
32) Phenanthrene-d10	24.68	425032	16.32	98.08
66) Chrysene-d12	33.77	418070	13.32	80.13
88) Perylene-d12	38.62	38970	1.19	7.18
90) 5(b)H-Cholane	34.16	108828	19.42	116.82
Internal Standards				
1) Fluorene-d10	21.37	303595	16.69	
31) Pyrene-d10	29.57	539889	16.66	
73) Benzo(a)pyrene-d12	38.31	457743	16.64	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1803.D
Acq On : 4 Sep 2013 4:59 am
Operator : YM
Sample : SED-DA-043 (1.0-1.5)
Misc :
ALS Vial : 33 Sample Multiplier: 0.06649

Quant Time: Sep 09 20:32:56 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.371	176	303595m	251.05		0.00
31) Pyrene-d10	29.565	212	539889m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	457743m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.766	136	401807m	13.35		0.03
21) Acenaphthene-d10	19.588	164	236958m	13.44		0.00
32) Phenanthrene-d10	24.683	188	425032m	16.32		0.00
66) Chrysene-d12	33.770	240	418070m	13.32		0.04
88) Perylene-d12	38.619	264	38970m	1.19		0.00
90) 5(b)H-Cholane	34.158	217	108828m	19.42		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	117776m	3.65		
9) 2-Methylnaphthalene	16.051	142	79328m	3.69		
10) 1-Methylnaphthalene	16.385	142	36617m	1.83		
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	199586m	6.18		
14) C3-Naphthalenes	21.371	170	270446m	8.38		
15) C4-Naphthalenes	21.483	184	256521m	7.95		
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	4144m	0.13		
24) Acenaphthene	19.644	154	1670m	0.09		
25) Dibenzofuran	20.313	168	77992m	2.53		
26) Fluorene	21.483	166	79035m	3.30		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.436	180	50708m	2.12		
29) C2-Fluorenes	25.272	194	155298m	6.49		
30) C3-Fluorenes	26.691	208	155546m	6.50		
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.337	184	46471m	1.55		
35) 4-Methyldibenzothiophene	25.826	198	67452m	2.68		
36) 2/3-Methyldibenzothiop...	26.137	198	42613m	1.69		
37) 1-Methyldibenzothiophene	26.449	198	32187m	1.28		
38) C2-Dibenzothiophenes	27.903	212	257018m	8.57		
39) C3-Dibenzothiophenes	29.427	226	316996m	10.57		
40) C4-Dibenzothiophenes	29.739	240	215658m	7.19		
41) Phenanthrene	24.752	178	346143m	9.98		
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	26.414	192	44855m	1.69		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1803.D
Acq On : 4 Sep 2013 4:59 am
Operator : YM
Sample : SED-DA-043 (1.0-1.5)
Misc :
ALS Vial : 33 Sample Multiplier: 0.06649

Quant Time: Sep 09 20:32:56 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.518	192	46862m	1.76		
45)	2-Methylanthracene	26.657	192	61260m	2.31		
46)	4/9-Methylphenanthrene	26.795	192	44653m	1.68		
47)	1-Methylphenanthrene	26.865	192	34779m	1.31		
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	360051m	10.38		
51)	C3-Phenanthrenes/Anthr...	29.877	220	350556m	10.10		
52)	C4-Phenanthrenes/Anthr...	31.712	234	227095m	6.54		
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	61867m	1.67		
59)	Pyrene	29.635	202	52681m	1.33		
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	62544m	1.69		
63)	C2-Fluoranthenes/Pyrenes	32.528	230	111344m	3.00		
64)	C3-Fluoranthenes/Pyrenes	33.964	244	81749m	2.20		
65)	C4-Fluoranthenes/Pyrenes	35.981	258	125479m	3.38		
67)	Benz(a)anthracene	33.770	228	11517m	0.30		
68)	Chrysene/Triphenylene	33.847	228	31261m	0.95		
69)	C1-Chrysenes	35.050	242	84083m	2.55		
70)	C2-Chrysenes	36.524	256	99098m	3.01		
71)	C3-Chrysenes	37.921	270	83499m	2.54		
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	37.261	252	32585m	0.78		
78)	Benzo(k,j)fluoranthene	37.339	252	6809m	0.18		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.231	252	25219m	0.60		
81)	Benzo(a)pyrene	38.386	252	5321m	0.13		
82)	Indeno(1,2,3-c,d)pyrene	43.078	276	10986m	0.24		
83)	Dibenzo(a,h)anthracene	43.115	278	3938m	0.11		
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	44.442	276	15023m	0.38		
89)	Perylene	38.697	252	89607m	2.24		
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	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 : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1803.D
Acq On : 4 Sep 2013 4:59 am
Operator : YM
Sample : SED-DA-043 (1.0-1.5)
Misc :
ALS Vial : 33 Sample Multiplier: 0.06649

Quant Time: Sep 09 20:32:56 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

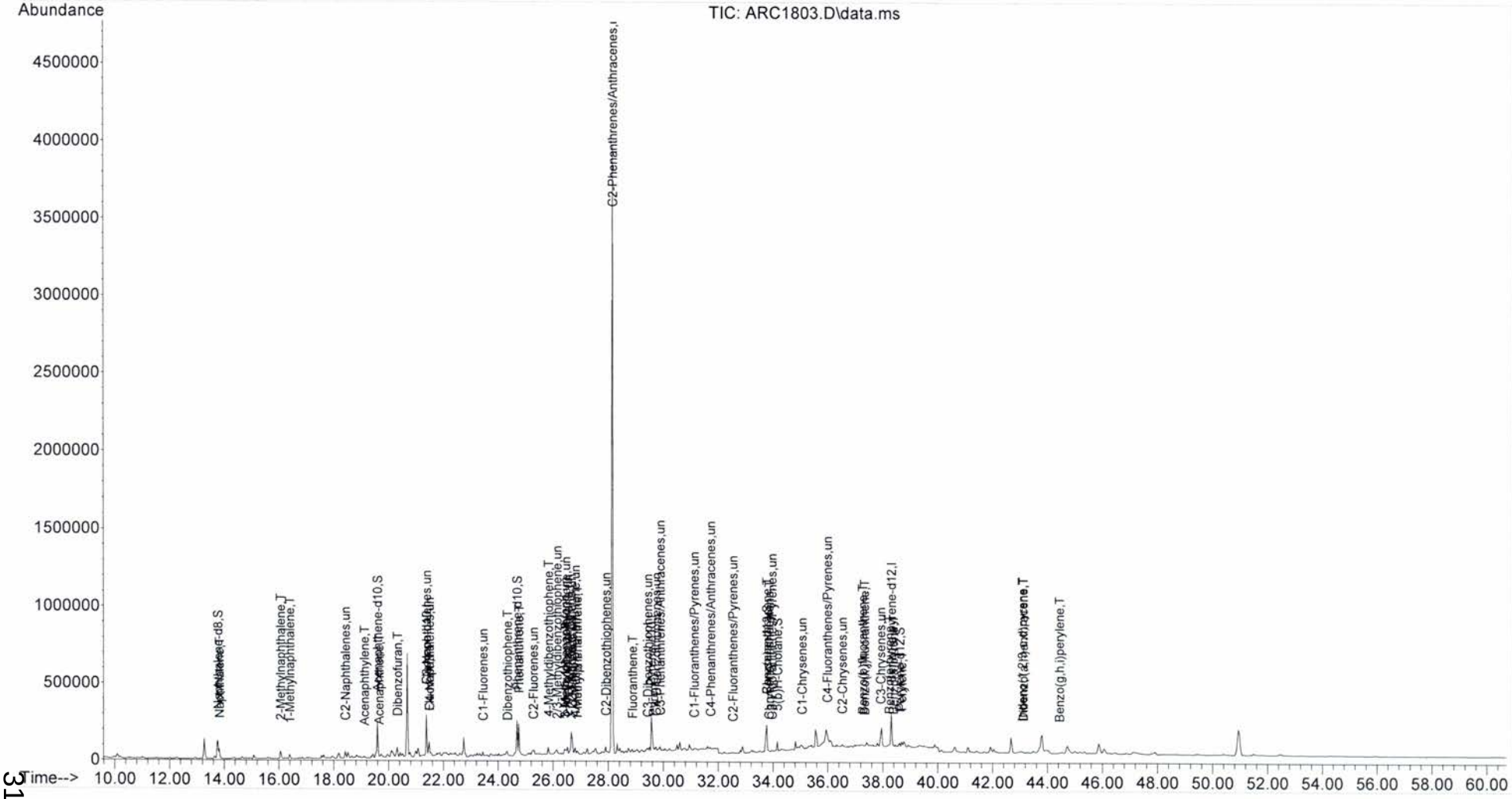
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1803.D
Acq On : 4 Sep 2013 4:59 am
Operator : YM
Sample : SED-DA-043 (1.0-1.5)
Misc :
ALS Vial : 33 Sample Multiplier: 0.06649

Quant Time: Sep 09 20:32:56 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	ARC1804.D
Data File Path	P:\2013\J13034\PAH\MSDChemstation\MS70062\
Operator	YM
Date Acquired	9/4/2013 6:08
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-044 (0-0.5)
Misc Info	0
Instrument Name	GCMSD
Vial Number	34
Sample Multiplier	0.33135
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

ARC1804.D
SED-DA-044 (0-0.5)
9/4/2013
PAH-2012.M
3.017956843

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	10.95	9583	7.4603	6.6620
4)	C1-Decalins	12.62	17717	13.7925	12.3167
5)	C2-Decalins	14.66	61999	48.2658	43.1012
6)	C3-Decalins	16.61	289716	225.5410	201.4077
7)	C4-Decalins	18.56	487814	379.7569	339.1223
8)	Naphthalene	13.82	118712	14.6168	13.0528
9)+10)	C1-Naphthalenes	16.22	381161	46.9318	41.9100
13)	C2-Naphthalenes	18.42	2046630	251.9983	225.0340
14)	C3-Naphthalenes	20.79	4795600	590.4756	527.2937
15)	C4-Naphthalenes	22.76	5662150	697.1737	622.5749
16)	Benzothiophene	13.99	13398	2.0560	1.8360
17)	C1-Benzothiophenes	16.33	116552	17.8854	15.9717
18)	C2-Benzothiophenes	17.67	104614	16.0535	14.3358
19)	C3-Benzothiophenes	20.26	774900	118.9119	106.1881
20)	C4-Benzothiophenes	21.57	1622290	248.9482	222.3103
22)	Biphenyl	17.64	68649	9.9670	8.9006
23)	Acenaphthylene	19.12	52228	6.4475	5.7576
24)	Acenaphthene	19.70	16635	3.4720	3.1005
25)	Dibenzofuran	20.31	97831	12.6085	11.2594
26)	Fluorene	21.48	99593	16.5466	14.7761
28)	C1-Fluorenes	23.44	539624	89.6544	80.0612
29)	C2-Fluorenes	25.27	1889120	313.8620	280.2782
30)	C3-Fluorenes	27.25	3017230	501.2895	447.6506
33)	Carbazole	25.51	50890	8.2651	7.3807
42)	Anthracene	0.00	0	0.0000	0.0000
41)	Phenanthrene	24.75	1299710	160.6063	143.4212
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.66	4172968	515.6574	460.4812
50)	C2-Phenanthrenes/Anthracenes	28.32	8160340	1008.3776	900.4794
51)	C3-Phenanthrenes/Anthracenes	29.88	8805490	1088.1004	971.6717
52)	C4-Phenanthrenes/Anthracenes	31.71	6131980	757.7312	676.6526
34)	Dibenzothiophene	24.34	1008470	144.2042	128.7741
35)+36)+37)	C1-Dibenzothiophenes	26.15	3984618	569.7726	508.8059
38)	C2-Dibenzothiophenes	27.25	8793900	1257.4600	1122.9096
39)	C3-Dibenzothiophenes	29.43	10861800	1553.1567	1386.9663
40)	C4-Dibenzothiophenes	29.74	8327110	1190.7129	1063.3045
58)	Fluoranthene	28.87	407232	47.0968	42.0573
59)	Pyrene	29.63	603706	65.3618	58.3679
62)	C1-Fluoranthenes/Pyrenes	31.47	1739100	201.1285	179.6074
63)	C2-Fluoranthenes/Pyrenes	32.53	2933260	339.2328	302.9343
64)	C3-Fluoranthenes/Pyrenes	33.96	2996440	346.5424	309.4618
65)	C4-Fluoranthenes/Pyrenes	35.09	3150750	364.3889	325.3987
53)	Naphthobenzothiophene	32.92	1626110	182.9489	163.3731
54)	C1-Naphthobenzothiophenes	34.66	4162630	468.3268	418.2150
55)	C2-Naphthobenzothiophenes	35.75	6357930	715.3118	638.7721
56)	C3-Naphthobenzothiophenes	37.15	5019160	564.6900	504.2672
57)	C4-Naphthobenzothiophenes	38.12	2876460	323.6226	288.9944
67)	Benz(a)anthracene	33.73	138474	15.5405	13.8777
68)	Chrysene/Triphenylene	33.85	864983	112.6010	100.5525
69)	C1-Chrysenes	35.21	1812940	236.0030	210.7503
70)	C2-Chrysenes	36.87	2491460	324.3317	289.6276
71)	C3-Chrysenes	37.96	1948690	253.6749	226.5313
72)	C4-Chrysenes	39.36	963234	125.3911	111.9741
77)	Benzo(b)fluoranthene	37.26	490474	46.7028	41.7055
78)	Benzo(k,j)fluoranthene	37.30	145095	14.7891	13.2067
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.23	463120	43.7631	39.0803
81)	Benzo(a)pyrene	38.43	179376	17.7354	15.8377
89)	Perylene	38.74	252002	24.9420	22.2731
82)	Indeno(1,2,3-c,d)pyrene	43.11	159201	13.9974	12.4997
83)	Dibenzo(a,h)anthracene	43.15	64809	7.2463	6.4710
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	44.48	325452	32.7977	29.2883
# Compound Name	**Ret Time (minute)**	**Target Response (area)**	**Concentration**	**Su. Corrected Concentration**
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	231585	42.7995	38.2199
10) 1-Methylnaphthalene	16.39	149576	29.6363	26.4652
11) 2,6-Dimethylnaphthalene	18.17	512000	108.2530	96.6698
12) 1,6,7-Trimethylnaphthalene	21.01	362106	82.6178	73.7776
27) 1-Methylfluorene	23.44	231913	61.6228	55.0291
35) 4-Methyldibenzothiophene	25.83	1682960	286.7997	256.1116
36) 2/3-Methyldibenzothiophene	26.14	1374900	234.3012	209.2306
37) 1-Methyldibenzothiophene	26.48	926758	157.9320	141.0330
43) 3-Methylphenanthrene	26.41	812769	131.1672	117.1321
44) 2-Methylphenanthrene	26.52	1130190	182.3933	162.8769
45) 2-Methylanthracene	26.69	56082	9.0507	8.0823
46) 4/9-Methylphenanthrene	26.80	1411750	227.8333	203.4547
47) 1-Methylphenanthrene	26.90	762177	123.0028	109.8412
48) 3,6-Dimethylphenanthrene	27.97	384337	76.3818	68.2088
49) Retene	30.64	208806	100.9464	90.1450
60) 2-Methylfluoranthene	30.43	134978	25.7849	23.0258
61) Benzo(b)fluorene	31.02	91363	17.3195	15.4663
74) C29-Hopane	40.68	2222180	729.3411	651.3003
75) 18a-Oleanane	0.00	0	0.0000	0.0000
76) C30-Hopane	41.97	3154400	1035.3064	924.5268
91) C20-TAS	33.30	430753	36.8759	32.9302
92) C21-TAS	34.39	465147	39.8206	35.5598
93) C26(20S)-TAS	38.50	544200	46.5881	41.6031
94) C26(20R)/C27(20S)-TAS	39.40	1509140	129.1954	115.3712
95) C28(20S)-TAS	40.17	1236660	105.8683	94.5402
96) C27(20R)-TAS	41.12	610333	52.2496	46.6588
97) C28(20R)-TAS	41.75	1026370	87.8661	78.4642
Surrogate Standards				
2) Naphthalene-d8	13.77	513063	67.76	81.76
21) Acenaphthene-d10	19.59	295790	66.71	80.48
32) Phenanthrene-d10	24.68	564027	92.84	111.98
66) Chrysene-d12	33.77	689471	94.21	113.71
88) Perylene-d12	38.66	554587	67.27	81.19
90) 5(b)H-Cholane	34.16	181643	128.32	154.91
Internal Standards				
1) Fluorene-d10	21.37	380606	83.19	
31) Pyrene-d10	29.60	627476	83.04	
73) Benzo(a)pyrene-d12	38.35	576137	82.95	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1804.D
Acq On : 4 Sep 2013 6:08 am
Operator : YM
Sample : SED-DA-044 (0-0.5)
Misc :
ALS Vial : 34 Sample Multiplier: 0.33135

Quant Time: Sep 09 19:54:08 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.371	176	380606m	251.05		0.00
31) Pyrene-d10	29.600	212	627476m	250.63		0.03
73) Benzo(a)pyrene-d12	38.348	264	576137m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.766	136	513063m	67.76		0.03
21) Acenaphthene-d10	19.589	164	295790m	66.71		0.00
32) Phenanthrene-d10	24.683	188	564027m	92.84		0.00
66) Chrysene-d12	33.770	240	689471m	94.21		0.04
88) Perylene-d12	38.658	264	554587m	67.27		0.04
90) 5(b)H-Cholane	34.158	217	181643m	128.32		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	10.953	138	9583m	7.46		
4) C1-Decalins	12.624	152	17717m	13.79		
5) C2-Decalins	14.658	166	61999m	48.27		
6) C3-Decalins	16.608	180	289716m	225.54		
7) C4-Decalins	18.558	194	487814m	379.76		
8) Naphthalene	13.822	128	118712m	14.62		
9) 2-Methylnaphthalene	16.051	142	231585m	42.80		
10) 1-Methylnaphthalene	16.385	142	149576m	29.64		
11) 2,6-Dimethylnaphthalene	18.168	156	512000m	108.25		
12) 1,6,7-Trimethylnaphtha...	21.009	170	362106m	82.62		
13) C2-Naphthalenes	18.419	156	2046625m	252.00		
14) C3-Naphthalenes	20.786	170	4795597m	590.48		
15) C4-Naphthalenes	22.764	184	5662146m	697.17		
16) Benzothiophene	13.989	134	13398m	2.06		
17) C1-Benzothiophenes	16.329	148	116552m	17.89		
18) C2-Benzothiophenes	17.666	162	104614m	16.05		
19) C3-Benzothiophenes	20.257	176	774900m	118.91		
20) C4-Benzothiophenes	21.566	190	1622292m	248.95		
22) Biphenyl	17.639	154	68649m	9.97		
23) Acenaphthylene	19.115	152	52228m	6.45		
24) Acenaphthene	19.700	154	16635m	3.47		
25) Dibenzofuran	20.313	168	97831m	12.61		
26) Fluorene	21.483	166	99593m	16.55		
27) 1-Methylfluorene	23.436	180	231913m	61.62		
28) C1-Fluorenes	23.436	180	539624m	89.65		
29) C2-Fluorenes	25.272	194	1889120m	313.86		
30) C3-Fluorenes	27.246	208	3017231m	501.29		
33) Carbazole	25.514	167	50890m	8.27		
34) Dibenzothiophene	24.337	184	1008473m	144.20		
35) 4-Methyldibenzothiophene	25.826	198	1682962m	286.80		
36) 2/3-Methyldibenzothiop...	26.137	198	1374898m	234.30		
37) 1-Methyldibenzothiophene	26.484	198	926758m	157.93		
38) C2-Dibenzothiophenes	27.246	212	8793896m	1257.46		
39) C3-Dibenzothiophenes	29.427	226	10861811m	1553.16		
40) C4-Dibenzothiophenes	29.739	240	8327111m	1190.71		
41) Phenanthrene	24.752	178	1299713m	160.61		
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	26.414	192	812769m	131.17		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1804.D
Acq On : 4 Sep 2013 6:08 am
Operator : YM
Sample : SED-DA-044 (0-0.5)
Misc :
ALS Vial : 34 Sample Multiplier: 0.33135

Quant Time: Sep 09 19:54:08 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.518	192	1130186m	182.39		
45)	2-Methylanthracene	26.692	192	56082m	9.05		
46)	4/9-Methylphenanthrene	26.795	192	1411752m	227.83		
47)	1-Methylphenanthrene	26.899	192	762177m	123.00		
48)	3,6-Dimethylphenanthrene	27.973	206	384337m	76.38		
49)	Retene	30.639	234	208806m	100.95		
50)	C2-Phenanthrenes/Anthr...	28.319	206	8160343m	1008.38		
51)	C3-Phenanthrenes/Anthr...	29.877	220	8805488m	1088.10		
52)	C4-Phenanthrenes/Anthr...	31.713	234	6131975m	757.73		
53)	Naphthobenzothiophene	32.916	234	1626108m	182.95		
54)	C1-Naphthobenzothiophenes	34.662	248	4162625m	468.33		
55)	C2-Naphthobenzothiophenes	35.748	262	6357931m	715.31		
56)	C3-Naphthobenzothiophenes	37.145	276	5019155m	564.69		
57)	C4-Naphthobenzothiophenes	38.115	290	2876459m	323.62		
58)	Fluoranthene	28.873	202	407232m	47.10		
59)	Pyrene	29.635	202	603706m	65.36		
60)	2-Methylfluoranthene	30.431	216	134978m	25.78		
61)	Benzo(b)fluorene	31.020	216	91363m	17.32		
62)	C1-Fluoranthenes/Pyrenes	31.470	216	1739096m	201.13		
63)	C2-Fluoranthenes/Pyrenes	32.529	230	2933255m	339.23		
64)	C3-Fluoranthenes/Pyrenes	33.964	244	2996443m	346.54		
65)	C4-Fluoranthenes/Pyrenes	35.089	258	3150748m	364.39		
67)	Benz(a)anthracene	33.731	228	138474m	15.54		
68)	Chrysene/Triphenylene	33.848	228	864983m	112.60		
69)	C1-Chrysenes	35.205	242	1812938m	236.00		
70)	C2-Chrysenes	36.874	256	2491464m	324.33		
71)	C3-Chrysenes	37.960	270	1948689m	253.67		
72)	C4-Chrysenes	39.356	284	963234m	125.39		
74)	C29-Hopane	40.681	191	2222177m	729.34		
75)	18a-Oleanane	0.000		0	N.D.	d	
76)	C30-Hopane	41.972	191	3154395m	1035.31		
77)	Benzo(b)fluoranthene	37.261	252	490474m	46.70		
78)	Benzo(k,j)fluoranthene	37.300	252	145095m	14.79		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.231	252	463120m	43.76		
81)	Benzo(a)pyrene	38.425	252	179376m	17.74		
82)	Indeno(1,2,3-c,d)pyrene	43.115	276	159201m	14.00		
83)	Dibenzo(a,h)anthracene	43.152	278	64809m	7.25		
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	44.479	276	325452m	32.80		
89)	Perylene	38.736	252	252002m	24.94		
91)	C20-TAS	33.304	231	430753m	36.88		
92)	C21-TAS	34.391	231	465147m	39.82		
93)	C26(20S)-TAS	38.503	231	544200m	46.59		
94)	C26(20R)/C27(20S)-TAS	39.395	231	1509143m	129.20		
95)	C28(20S)-TAS	40.165	231	1236657m	105.87		
96)	C27(20R)-TAS	41.124	231	610333m	52.25		
97)	C28(20R)-TAS	41.751	231	1026372m	87.87		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1804.D
Acq On : 4 Sep 2013 6:08 am
Operator : YM
Sample : SED-DA-044 (0-0.5)
Misc :
ALS Vial : 34 Sample Multiplier: 0.33135

Quant Time: Sep 09 19:54:08 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

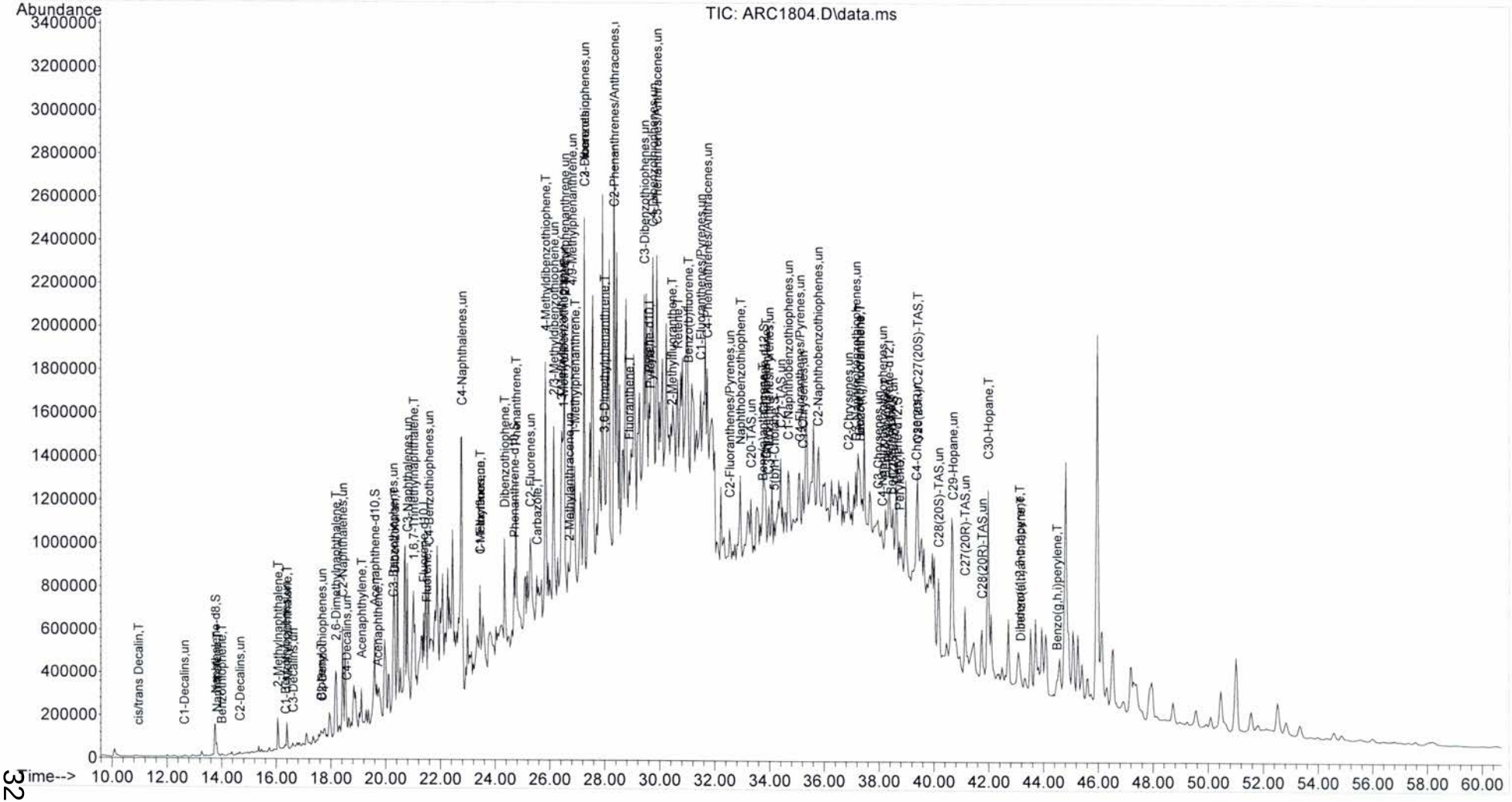
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1804.D
Acq On : 4 Sep 2013 6:08 am
Operator : YM
Sample : SED-DA-044 (0-0.5)
Misc :
ALS Vial : 34 Sample Multiplier: 0.33135

Quant Time: Sep 09 19:54:08 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	ARC1805.D	**Surrogate/Internal Multiplier Factor:**	1.00		
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS70062\	**AR-WKSU-2500-001:**	**(ng/mL)**		
Operator	YM	Naphthalene-d8	250.125		
Date Acquired	9/4/2013 7:17	Acenaphthene-d10	250.163	***Copy data below***	
Acq. Method File	PAH-2012.M	Phenanthrene-d10	250.194	***to Spread Sheet***	
Sample Name	SED-DA-044 (0.5-1.0)	Chrysene-d12	250.038		
Misc Info	0	Perylene-d12	250.031	ARC1805.D	
Instrument Name	GCMSD	5(b)H-Cholane	250.000	SED-DA-044 (0.5-1.0)	
Vial Number	35			9/4/2013	
Sample Multiplier	0.06649			PAH-2012.M	
Sample Amount	0			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	196508	7.2538	7.4181
9)+10)	C1-Naphthalenes	16.22	153841	5.6788	5.8075
13)	C2-Naphthalenes	18.42	251715	9.2916	9.5022
14)	C3-Naphthalenes	20.09	343632	12.6846	12.9720
15)	C4-Naphthalenes	21.48	280937	10.3704	10.6053
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	10166	0.3762	0.3848
24)	Acenaphthene	19.70	4647	0.2908	0.2974
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.48	80991	4.0341	4.1255
28)	C1-Fluorenes	23.44	50233	2.5020	2.5587
29)	C2-Fluorenes	25.27	155256	7.7331	7.9083
30)	C3-Fluorenes	26.69	245623	12.2342	12.5113
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.93	7240	0.2580	0.2639
41)	Phenanthrene	24.75	338468	11.4256	11.6844
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.65	268886	9.0767	9.2824
50)	C2-Phenanthrenes/Anthracenes	28.32	425911	14.3773	14.7031
51)	C3-Phenanthrenes/Anthracenes	29.88	482377	16.2835	16.6524
52)	C4-Phenanthrenes/Anthracenes	30.64	317467	10.7167	10.9595
34)	Dibenzothiophene	24.34	46473	1.8153	1.8565
35)+36)+37)	C1-Dibenzothiophenes	26.14	155886	6.0893	6.2272
38)	C2-Dibenzothiophenes	27.90	335537	13.1068	13.4038
39)	C3-Dibenzothiophenes	29.43	390572	15.2567	15.6023
40)	C4-Dibenzothiophenes	29.74	296691	11.5894	11.8520
58)	Fluoranthene	28.87	104276	3.2944	3.3691
59)	Pyrene	29.63	87787	2.5964	2.6552
62)	C1-Fluoranthenes/Pyrenes	31.12	106471	3.3638	3.4400
63)	C2-Fluoranthenes/Pyrenes	32.53	161891	5.1147	5.2305
64)	C3-Fluoranthenes/Pyrenes	33.96	102097	3.2256	3.2987
65)	C4-Fluoranthenes/Pyrenes	35.59	194346	6.1400	6.2791
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	35.59	225422	8.0164	8.1980
70)	C2-Chrysenes	36.52	136487	4.8537	4.9636
71)	C3-Chrysenes	38.70	112064	3.9852	4.0754
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.26	117601	3.1580	3.2296
78)	Benzo(k,j)fluoranthene	37.34	23284	0.6693	0.6845
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.23	55717	1.4848	1.5185
81)	Benzo(a)pyrene	38.39	28121	0.7841	0.8019
89)	Perylene	38.70	3887660	108.5163	110.9750
82)	Indeno(1,2,3-c,d)pyrene	43.08	36038	0.8936	0.9138
83)	Dibenzo(a,h)anthracene	43.15	10876	0.3430	0.3507
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	32807	0.9324	0.9535
# Compound Name	**Ret Time (minute)**	**Target Response (area)**	**Concentration**	**Su. Corrected Concentration**
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	103782	5.7501	5.8804
10) 1-Methylnaphthalene	16.38	50059	2.9735	3.0409
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	70916	3.3014	3.3762
36) 2/3-Methyldibenzothiophene	26.14	49442	2.3017	2.3538
37) 1-Methyldibenzothiophene	26.45	35528	1.6539	1.6914
43) 3-Methylphenanthrene	26.41	58439	2.5764	2.6347
44) 2-Methylphenanthrene	26.52	57317	2.5269	2.5841
45) 2-Methylanthracene	26.66	56783	2.5033	2.5601
46) 4/9-Methylphenanthrene	26.80	55480	2.4459	2.5013
47) 1-Methylphenanthrene	26.86	40867	1.8017	1.8425
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	350527	13.88	83.45
21) Acenaphthene-d10	19.59	208375	14.09	84.71
32) Phenanthrene-d10	24.68	361780	16.27	97.78
66) Chrysene-d12	33.77	353027	13.18	79.26
88) Perylene-d12	38.62	86958	2.97	17.89
90) 5(b)H-Cholane	34.16	81081	16.15	97.18
Internal Standards				
1) Fluorene-d10	21.37	254753	16.69	
31) Pyrene-d10	29.57	460916	16.66	
73) Benzo(a)pyrene-d12	38.31	409935	16.64	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1805.D
Acq On : 4 Sep 2013 7:17 am
Operator : YM
Sample : SED-DA-044 (0.5-1.0)
Misc :
ALS Vial : 35 Sample Multiplier: 0.06649

Quant Time: Sep 09 17:06:20 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.371	176	254753m	251.05	0.00
31) Pyrene-d10	29.566	212	460916m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	409935m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.766	136	350527m	13.88	0.03
21) Acenaphthene-d10	19.588	164	208375m	14.09	0.00
32) Phenanthrene-d10	24.683	188	361780m	16.27	0.00
66) Chrysene-d12	33.770	240	353027m	13.18	0.04
88) Perylene-d12	38.619	264	86958m	2.97	0.00
90) 5(b)H-Cholane	34.158	217	81081m	16.15	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	196508m	7.25	
9) 2-Methylnaphthalene	16.051	142	103782m	5.75	
10) 1-Methylnaphthalene	16.385	142	50059m	2.97	
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	251715m	9.29	
14) C3-Naphthalenes	20.090	170	343632m	12.68	
15) C4-Naphthalenes	21.483	184	280937m	10.37	
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	10166m	0.38	
24) Acenaphthene	19.700	154	4647m	0.29	
25) Dibenzofuran	0.000		0	N.D. d	
26) Fluorene	21.483	166	80991m	4.03	
27) 1-Methylfluorene	0.000		0	N.D. d	
28) C1-Fluorenes	23.436	180	50233m	2.50	
29) C2-Fluorenes	25.272	194	155256m	7.73	
30) C3-Fluorenes	26.691	208	245623m	12.23	
33) Carbazole	0.000		0	N.D. d	
34) Dibenzothiophene	24.337	184	46473m	1.82	
35) 4-Methyldibenzothiophene	25.826	198	70916m	3.30	
36) 2/3-Methyldibenzothiop...	26.137	198	49442m	2.30	
37) 1-Methyldibenzothiophene	26.449	198	35528m	1.65	
38) C2-Dibenzothiophenes	27.903	212	335537m	13.11	
39) C3-Dibenzothiophenes	29.427	226	390572m	15.26	
40) C4-Dibenzothiophenes	29.739	240	296691m	11.59	
41) Phenanthrene	24.752	178	338468m	11.43	
42) Anthracene	24.925	178	7240m	0.26	
43) 3-Methylphenanthrene	26.414	192	58439m	2.58	

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1805.D
Acq On : 4 Sep 2013 7:17 am
Operator : YM
Sample : SED-DA-044 (0.5-1.0)
Misc :
ALS Vial : 35 Sample Multiplier: 0.06649

Quant Time: Sep 09 17:06:20 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.518	192	57317m	2.53		
45)	2-Methylanthracene	26.657	192	56783m	2.50		
46)	4/9-Methylphenanthrene	26.795	192	55480m	2.45		
47)	1-Methylphenanthrene	26.865	192	40867m	1.80		
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	425911m	14.38		
51)	C3-Phenanthrenes/Anthr...	29.877	220	482377m	16.28		
52)	C4-Phenanthrenes/Anthr...	30.639	234	317467m	10.72		
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	104276m	3.29		
59)	Pyrene	29.635	202	87787m	2.60		
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	106471m	3.36		
63)	C2-Fluoranthenes/Pyrenes	32.528	230	161891m	5.11		
64)	C3-Fluoranthenes/Pyrenes	33.964	244	102097m	3.23		
65)	C4-Fluoranthenes/Pyrenes	35.593	258	194346m	6.14		
67)	Benz(a)anthracene	0.000		0	N.D.	d	
68)	Chrysene/Triphenylene	0.000		0	N.D.	d	
69)	C1-Chrysenes	35.593	242	225422m	8.02		
70)	C2-Chrysenes	36.524	256	136487m	4.85		
71)	C3-Chrysenes	38.697	270	112064m	3.99		
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	37.261	252	117601m	3.16		
78)	Benzo(k,j)fluoranthene	37.339	252	23284m	0.67		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.231	252	55717m	1.48		
81)	Benzo(a)pyrene	38.386	252	28121m	0.78		
82)	Indeno(1,2,3-c,d)pyrene	43.078	276	36038m	0.89		
83)	Dibenzo(a,h)anthracene	43.152	278	10876m	0.34		
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	44.442	276	32807m	0.93		
89)	Perylene	38.697	252	3887659m	108.52		
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 : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1805.D
Acq On : 4 Sep 2013 7:17 am
Operator : YM
Sample : SED-DA-044 (0.5-1.0)
Misc :
ALS Vial : 35 Sample Multiplier: 0.06649

Quant Time: Sep 09 17:06:20 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

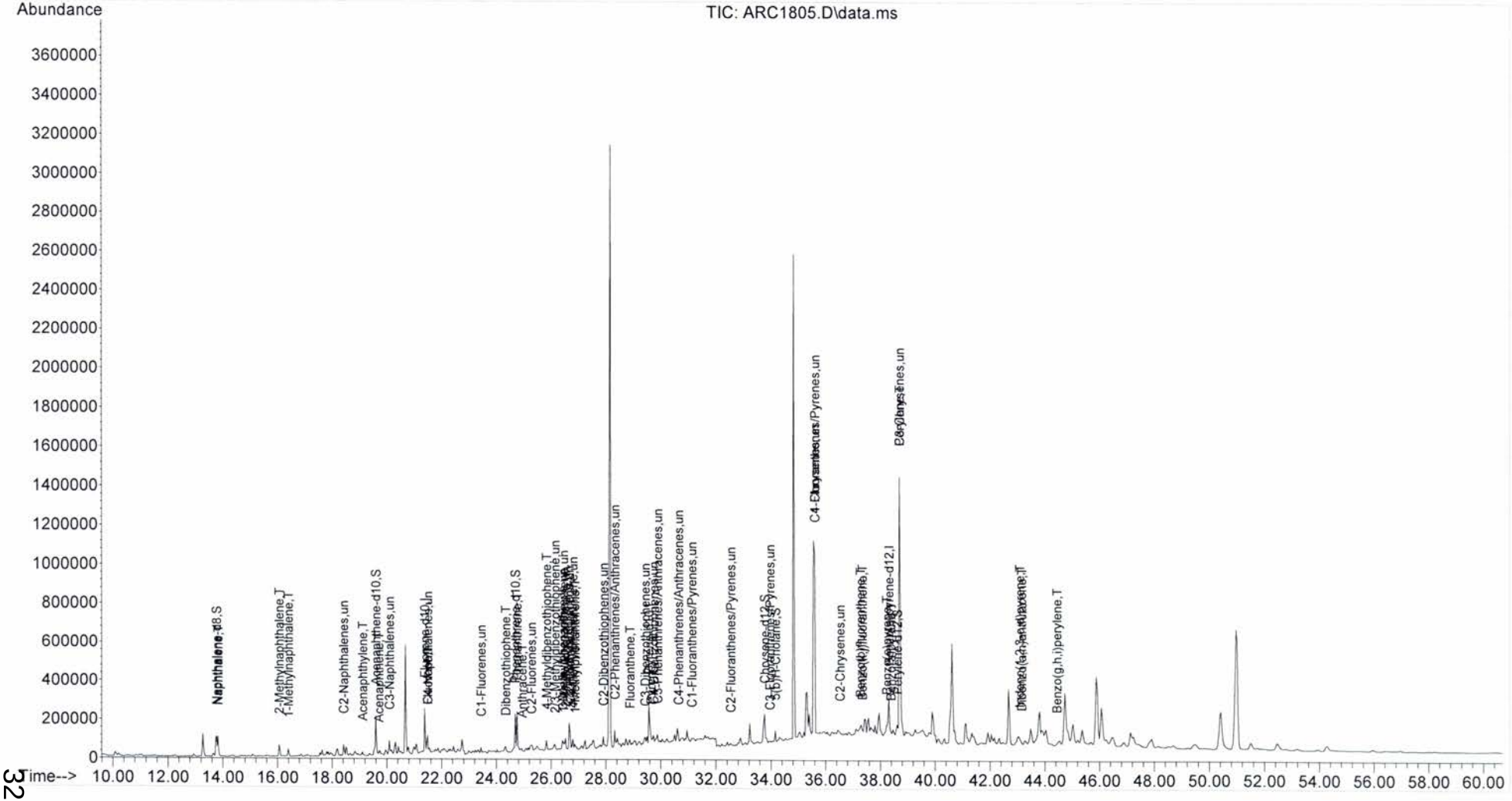
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1805.D
Acq On : 4 Sep 2013 7:17 am
Operator : YM
Sample : SED-DA-044 (0.5-1.0)
Misc :
ALS Vial : 35 Sample Multiplier: 0.06649

Quant Time: Sep 09 17:06:20 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	ARC1806.D
Data File Path	C:\GCMS7\MS70062\
Operator	YM
Date Acquired	9/4/2013 8:26
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-044 (1.0-1.5)
Misc Info	0
Instrument Name	GCMSD
Vial Number	36
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

ARC1806.D
SED-DA-044 (1.0-1.5)
9/4/2013
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	165388	5.7968	6.2338
9)+10)	C1-Naphthalenes	16.22	154549	5.4169	5.8252
13)	C2-Naphthalenes	18.42	234429	8.2167	8.8361
14)	C3-Naphthalenes	20.09	206744	7.2464	7.7925
15)	C4-Naphthalenes	21.48	129380	4.5348	4.8766
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	2439	0.0857	0.0922
24)	Acenaphthene	19.70	3729	0.2216	0.2383
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.48	98792	4.6723	5.0244
28)	C1-Fluorenes	23.44	44981	2.1273	2.2877
29)	C2-Fluorenes	25.27	56698	2.6815	2.8836
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	351241	11.2165	12.0619
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.65	126487	4.0392	4.3437
50)	C2-Phenanthrenes/Anthracenes	28.15	125620	4.0115	4.3139
51)	C3-Phenanthrenes/Anthracenes	29.88	27365	0.8739	0.9397
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	20839	0.7701	0.8281
35)+36)+37)	C1-Dibenzothiophenes	26.14	21602	0.7983	0.8584
38)	C2-Dibenzothiophenes	27.56	30778	1.1373	1.2231
39)	C3-Dibenzothiophenes	29.43	28225	1.0430	1.1216
40)	C4-Dibenzothiophenes	31.44	16378	0.6052	0.6508
58)	Fluoranthene	28.87	48011	1.4349	1.5431
59)	Pyrene	29.63	38665	1.0818	1.1634
62)	C1-Fluoranthenes/Pyrenes	30.74	25484	0.7617	0.8191
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	35.59	135295	4.5515	4.8946
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	13908	0.3502	0.3766
78)	Benzo(k,j)fluoranthene	37.30	2209	0.0595	0.0640
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	38.70	7536300	197.2299	212.0956
82)	Indeno(1,2,3-c,d)pyrene	0.00	0	0.0000	0.0000
83)	Dibenzo(a,h)anthracene	43.19	8714	0.2576	0.2770
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	6548	0.1745	0.1876
# Compound Name	**Ret Time (minute)**	**Target Response (area)**	**Concentration**	**Su. Corrected Concentration**
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	103153	5.4267	5.8357
10) 1-Methylnaphthalene	16.38	51396	2.8988	3.1173
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	10283	0.4529	0.4870
36) 2/3-Methyldibenzothiophene	26.14	6258	0.2756	0.2964
37) 1-Methyldibenzothiophene	26.45	5061	0.2229	0.2397
43) 3-Methylphenanthrene	26.41	21928	0.9145	0.9835
44) 2-Methylphenanthrene	26.52	21036	0.8773	0.9434
45) 2-Methylanthracene	26.66	56074	2.3386	2.5149
46) 4/9-Methylphenanthrene	26.80	14837	0.6188	0.6654
47) 1-Methylphenanthrene	26.86	12612	0.5260	0.5656
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	347846	13.08	78.42
21) Acenaphthene-d10	19.59	212744	13.66	81.90
32) Phenanthrene-d10	24.68	364668	15.51	92.99
66) Chrysene-d12	33.77	367119	12.96	77.76
88) Perylene-d12	38.62	116825	3.75	22.48
90) 5(b)H-Cholane	34.16	90942	16.99	101.92
Internal Standards				
1) Fluorene-d10	21.37	269024	16.74	
31) Pyrene-d10	29.57	488543	16.71	
73) Benzo(a)pyrene-d12	38.31	438411	16.69	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1806.D
Acq On : 4 Sep 2013 8:26 am
Operator : YM
Sample : SED-DA-044 (1.0-1.5)
Misc :
ALS Vial : 36 Sample Multiplier: 0.06667

Quant Time: Sep 09 20:00:46 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.371	176	269024m	251.05		0.00
31) Pyrene-d10	29.565	212	488543m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	438411m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.766	136	347846m	13.08		0.03
21) Acenaphthene-d10	19.588	164	212744m	13.66		0.00
32) Phenanthrene-d10	24.683	188	364668m	15.51		0.00
66) Chrysene-d12	33.770	240	367119m	12.96		0.04
88) Perylene-d12	38.619	264	116825m	3.75		0.00
90) 5(b)H-Cholane	34.158	217	90942m	16.99		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	165388m	5.80		
9) 2-Methylnaphthalene	16.051	142	103153m	5.43		
10) 1-Methylnaphthalene	16.385	142	51396m	2.90		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.418	156	234429m	8.22		
14) C3-Naphthalenes	20.090	170	206744m	7.25		
15) C4-Naphthalenes	21.483	184	129380m	4.53		
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	2439m	0.09		
24) Acenaphthene	19.700	154	3729m	0.22		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.483	166	98792m	4.67		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.436	180	44981m	2.13		
29) C2-Fluorenes	25.272	194	56698m	2.68		
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.337	184	20839m	0.77		
35) 4-Methyldibenzothiophene	25.826	198	10283m	0.45		
36) 2/3-Methyldibenzothiop...	26.137	198	6258m	0.28		
37) 1-Methyldibenzothiophene	26.449	198	5061m	0.22		
38) C2-Dibenzothiophenes	27.557	212	30778m	1.14		
39) C3-Dibenzothiophenes	29.427	226	28225m	1.04		
40) C4-Dibenzothiophenes	31.435	240	16378m	0.61		
41) Phenanthrene	24.752	178	351241m	11.22		
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	26.414	192	21928m	0.91		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1806.D
Acq On : 4 Sep 2013 8:26 am
Operator : YM
Sample : SED-DA-044 (1.0-1.5)
Misc :
ALS Vial : 36 Sample Multiplier: 0.06667

Quant Time: Sep 09 20:00:46 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.518	192	21036m	0.88		
45) 2-Methylanthracene	26.657	192	56074m	2.34		
46) 4/9-Methylphenanthrene	26.795	192	14837m	0.62		
47) 1-Methylphenanthrene	26.865	192	12612m	0.53		
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	125620m	4.01		
51) C3-Phenanthrenes/Anthr...	29.877	220	27365m	0.87		
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	28.873	202	48011m	1.43		
59) Pyrene	29.635	202	38665m	1.08		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	30.743	216	25484m	0.76		
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	35.593	242	135295m	4.55		
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	37.261	252	13908m	0.35		
78) Benzo(k,j)fluoranthene	37.300	252	2209m	0.06		
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	43.189	278	8714m	0.26		
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	44.442	276	6548m	0.17		
89) Perylene	38.697	252	7536303m	197.23		
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 : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1806.D
Acq On : 4 Sep 2013 8:26 am
Operator : YM
Sample : SED-DA-044 (1.0-1.5)
Misc :
ALS Vial : 36 Sample Multiplier: 0.06667

Quant Time: Sep 09 20:00:46 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

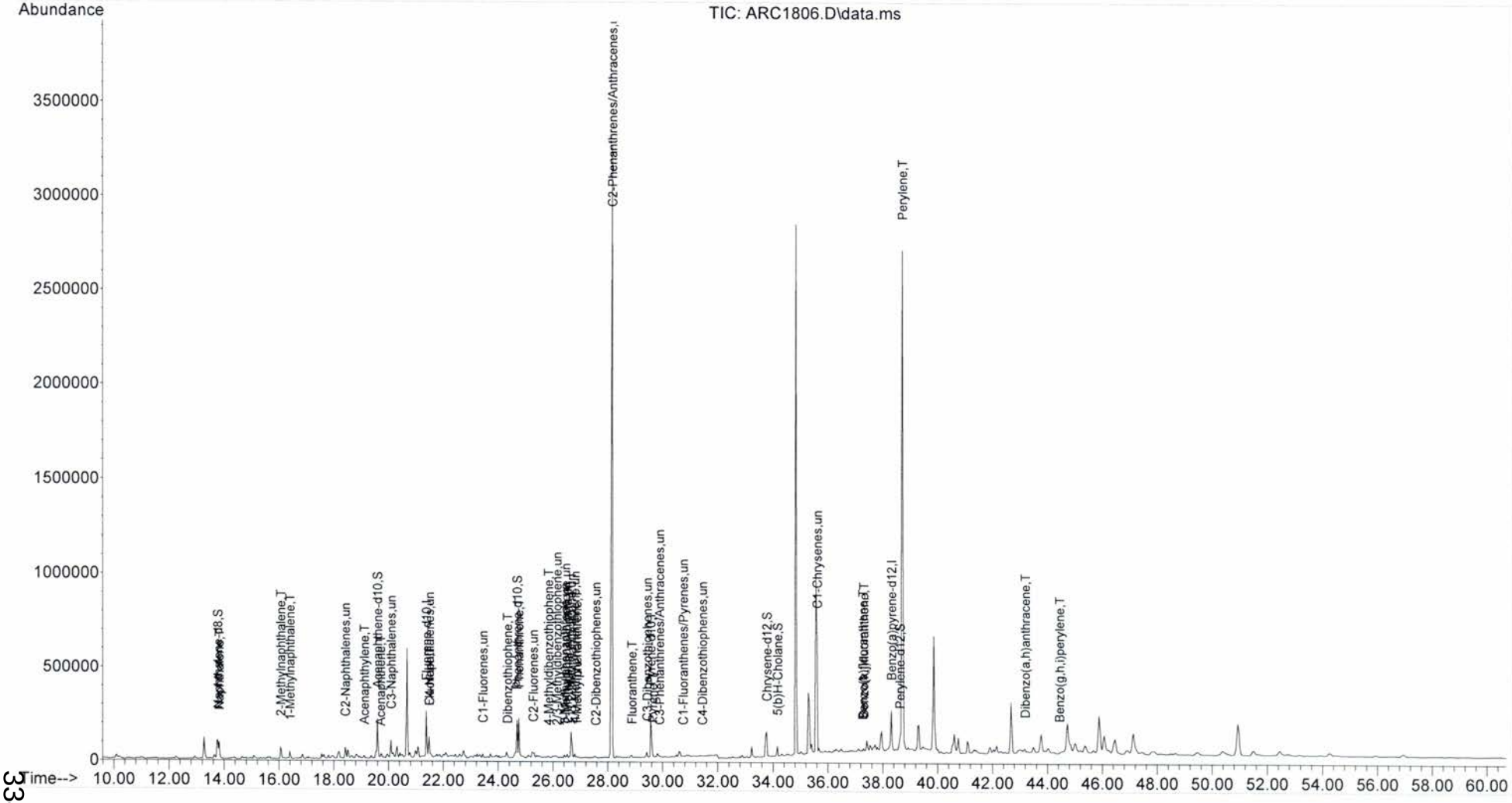
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1806.D
Acq On : 4 Sep 2013 8:26 am
Operator : YM
Sample : SED-DA-044 (1.0-1.5)
Misc :
ALS Vial : 36 Sample Multiplier: 0.06667

Quant Time: Sep 09 20:00:46 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



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

Data File Name	ARC1808.D
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS70062\
Operator	YM
Date Acquired	9/4/2013 9:34
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-047 (0.5-1.0)
Misc Info	0
Instrument Name	GCMSD
Vial Number	37
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

ARC1808.D
SED-DA-047 (0.5-1.0)
9/4/2013
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	235819	8.2557	8.8786
9)+10)	C1-Naphthalenes	16.22	209152	7.3221	7.8746
13)	C2-Naphthalenes	18.42	336948	11.7960	12.6861
14)	C3-Naphthalenes	20.09	398293	13.9436	14.9958
15)	C4-Naphthalenes	22.74	362366	12.6858	13.6431
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	6461	0.2268	0.2439
24)	Acenaphthene	19.70	8542	0.5069	0.5452
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.48	131253	6.2001	6.6680
28)	C1-Fluorenes	23.44	52776	2.4930	2.6812
29)	C2-Fluorenes	25.31	92024	4.3470	4.6751
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.93	4909	0.1655	0.1780
41)	Phenanthrene	24.75	482078	15.3919	16.5534
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.65	165440	5.2822	5.6808
50)	C2-Phenanthrenes/Anthracenes	28.15	197157	6.2949	6.7699
51)	C3-Phenanthrenes/Anthracenes	29.88	76356	2.4379	2.6219
52)	C4-Phenanthrenes/Anthracenes	31.71	63134	2.0157	2.1679
34)	Dibenzothiophene	24.34	33650	1.2432	1.3371
35)+36)+37)	C1-Dibenzothiophenes	26.14	46001	1.6996	1.8278
38)	C2-Dibenzothiophenes	27.56	57160	2.1119	2.2712
39)	C3-Dibenzothiophenes	29.43	63828	2.3582	2.5362
40)	C4-Dibenzothiophenes	30.54	39014	1.4414	1.5502
58)	Fluoranthene	28.87	55378	1.6548	1.7797
59)	Pyrene	29.63	33871	0.9475	1.0190
62)	C1-Fluoranthenes/Pyrenes	30.78	32397	0.9681	1.0411
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	37.26	47298	1.2145	1.3062
78)	Benzo(k,j)fluoranthene	37.34	9243	0.2541	0.2732
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	38.70	6687040	178.4810	191.9492
82)	Indeno(1,2,3-c,d)pyrene	43.08	19132	0.4536	0.4879
83)	Dibenzo(a,h)anthracene	43.19	13466	0.4060	0.4367
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	9502	0.2582	0.2777
# Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	141008	7.4094	7.9685
10) 1-Methylnaphthalene	16.39	68144	3.8389	4.1285
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	18910	0.8326	0.8955
36) 2/3-Methyldibenzothiophene	26.14	18485	0.8139	0.8753
37) 1-Methyldibenzothiophene	26.45	8606	0.3789	0.4075
43) 3-Methylphenanthrene	26.41	32266	1.3454	1.4470
44) 2-Methylphenanthrene	26.52	34340	1.4319	1.5400
45) 2-Methylanthracene	26.66	56523	2.3569	2.5348
46) 4/9-Methylphenanthrene	26.80	22856	0.9531	1.0250
47) 1-Methylphenanthrene	26.86	19455	0.8112	0.8725
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	367355	13.79	82.84
21) Acenaphthene-d10	19.59	213366	13.68	82.15
32) Phenanthrene-d10	24.68	364211	15.49	92.98
66) Chrysene-d12	33.77	360717	12.73	76.50
88) Perylene-d12	38.62	290796	9.51	57.14
90) 5(b)H-Cholane	34.16	77226	14.71	88.39
Internal Standards				
1) Fluorene-d10	21.37	268980	16.71	
31) Pyrene-d10	29.57	487972	16.69	
73) Benzo(a)pyrene-d12	38.31	429291	16.67	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1808.D
Acq On : 4 Sep 2013 9:34 am
Operator : YM
Sample : SED-DA-047 (0.5-1.0)
Misc :
ALS Vial : 37 Sample Multiplier: 0.06658

Quant Time: Sep 09 20:07:36 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.371	176	268980m	251.05		0.00
31) Pyrene-d10	29.566	212	487972m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	429291m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.766	136	367355m	13.79		0.03
21) Acenaphthene-d10	19.589	164	213366m	13.68		0.00
32) Phenanthrene-d10	24.683	188	364211m	15.49		0.00
66) Chrysene-d12	33.770	240	360717m	12.73		0.04
88) Perylene-d12	38.619	264	290796m	9.51		0.00
90) 5(b)H-Cholane	34.158	217	77226m	14.71		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	235819m	8.26		
9) 2-Methylnaphthalene	16.051	142	141008m	7.41		
10) 1-Methylnaphthalene	16.385	142	68144m	3.84		
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	336948m	11.80		
14) C3-Naphthalenes	20.090	170	398293m	13.94		
15) C4-Naphthalenes	22.736	184	362366m	12.69		
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	6461m	0.23		
24) Acenaphthene	19.700	154	8542m	0.51		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.483	166	131253m	6.20		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.437	180	52776m	2.49		
29) C2-Fluorenes	25.306	194	92024m	4.35		
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.337	184	33650m	1.24		
35) 4-Methyldibenzothiophene	25.826	198	18910m	0.83		
36) 2/3-Methyldibenzothiop...	26.137	198	18485m	0.81		
37) 1-Methyldibenzothiophene	26.449	198	8606m	0.38		
38) C2-Dibenzothiophenes	27.557	212	57160m	2.11		
39) C3-Dibenzothiophenes	29.427	226	63828m	2.36		
40) C4-Dibenzothiophenes	30.535	240	39014m	1.44		
41) Phenanthrene	24.752	178	482078m	15.39		
42) Anthracene	24.926	178	4909m	0.17		
43) 3-Methylphenanthrene	26.415	192	32266m	1.35		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1808.D
Acq On : 4 Sep 2013 9:34 am
Operator : YM
Sample : SED-DA-047 (0.5-1.0)
Misc :
ALS Vial : 37 Sample Multiplier: 0.06658

Quant Time: Sep 09 20:07:36 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.518	192	34340m	1.43		
45) 2-Methylanthracene	26.657	192	56523m	2.36		
46) 4/9-Methylphenanthrene	26.795	192	22856m	0.95		
47) 1-Methylphenanthrene	26.865	192	19455m	0.81		
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	197157m	6.29		
51) C3-Phenanthrenes/Anthr...	29.877	220	76356m	2.44		
52) C4-Phenanthrenes/Anthr...	31.713	234	63134m	2.02		
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	55378m	1.65		
59) Pyrene	29.635	202	33871m	0.95		
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	32397m	0.97		
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	37.261	252	47298m	1.21		
78) Benzo(k,j)fluoranthene	37.339	252	9243m	0.25		
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	43.078	276	19132m	0.45		
83) Dibenzo(a,h)anthracene	43.189	278	13466m	0.41		
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	9502m	0.26		
89) Perylene	38.697	252	6687041m	178.48		
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	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 : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1808.D
Acq On : 4 Sep 2013 9:34 am
Operator : YM
Sample : SED-DA-047 (0.5-1.0)
Misc :
ALS Vial : 37 Sample Multiplier: 0.06658

Quant Time: Sep 09 20:07:36 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

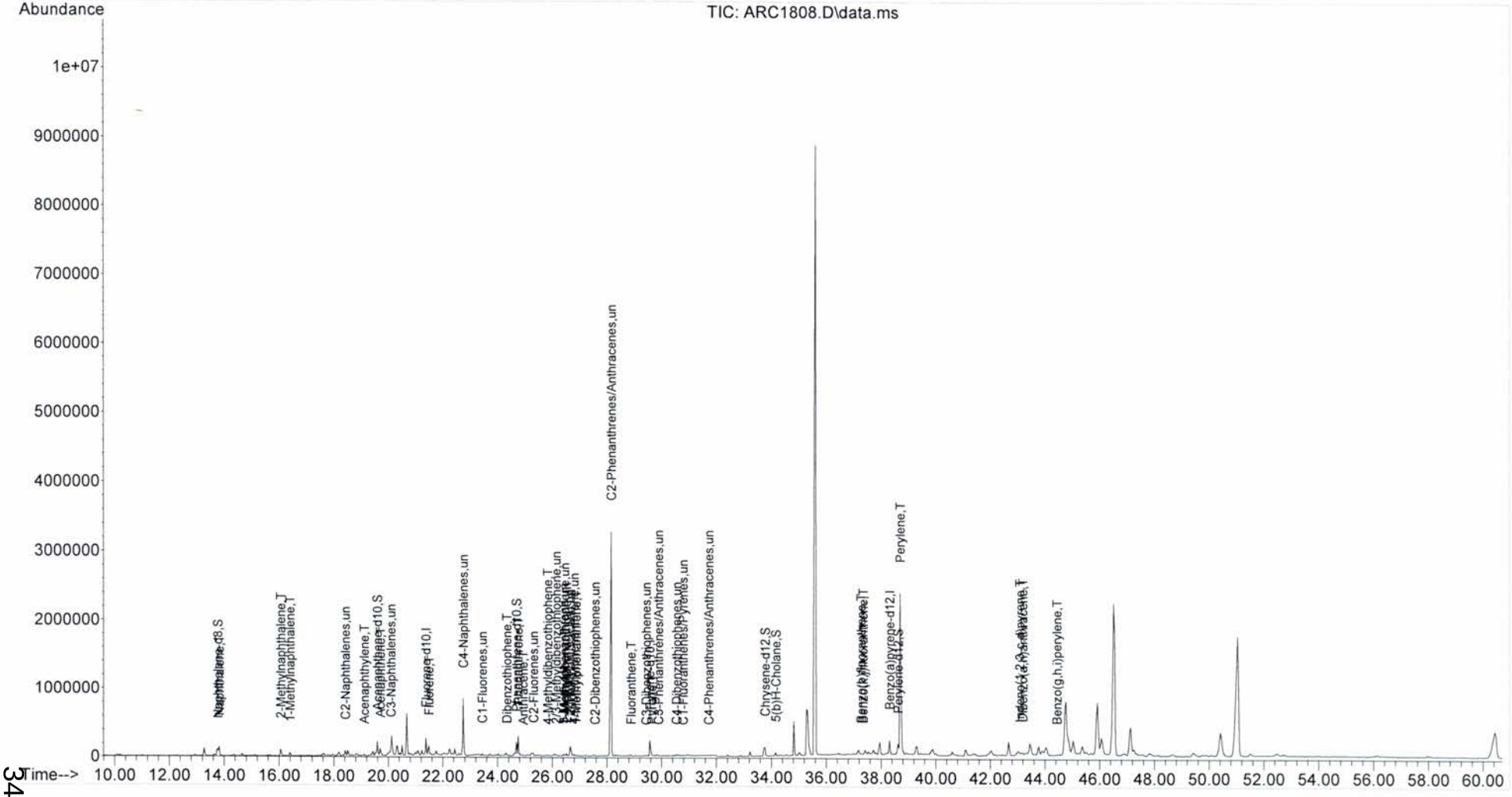
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70062\
Data File : ARC1808.D
Acq On : 4 Sep 2013 9:34 am
Operator : YM
Sample : SED-DA-047 (0.5-1.0)
Misc :
ALS Vial : 37 Sample Multiplier: 0.06658

Quant Time: Sep 09 20:07:36 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



Aliphatic Hydrocarbons/
Total Petroleum Hydrocarbons/
Initial Calibration Data
and
Initial Calibration Verification Data

TPH/Aliphatic
ICAL
FID3C08FRONT082713.M

GC/FID-3 FRONT

Calibration Status Report HP5890

Method Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\
Method File : FID3C08FRONT082713.M
Title : C8 - C40 aliphatic
Last Update : Tue Aug 27 14:52:56 2013
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	1	1	50	P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID30048C.D
2	2	10	50	P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID30048D.D
3	3	25	50	P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID30048E.D
4	4	40	50	P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID30048F.D
5	5	50	50	P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID30048G.D
6	6	100	50	P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID30048H.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1	Aug 27 14:05 2013	Aug 27 14:05 2013	20-Aug-2013, 21:37:34
2	2	Aug 27 14:12 2013	Aug 27 14:12 2013	20-Aug-2013, 22:48:09
3	3	Aug 27 14:21 2013	Aug 27 14:20 2013	20-Aug-2013, 23:58:46
4	4	Aug 27 14:30 2013	Aug 27 14:30 2013	21-Aug-2013, 01:08:50
5	5	Aug 27 14:36 2013	Aug 27 14:36 2013	21-Aug-2013, 02:19:20
6	6	Aug 27 14:42 2013	Aug 27 14:42 2013	21-Aug-2013, 03:29:24

'ID3C08FRONT082713.M Tue Aug 27 15:14:56 2013

Response Factor Report HP5890

Method Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\
Method File : FID3C08FRONT082713.M
Title : C8 - C40 aliphatic
Last Update : Tue Aug 27 14:52:56 2013
Response Via : Initial Calibration

9/2013

Calibration Files
1 =FID30048C.D 2 =FID30048D.D 3 =FID30048E.D
4 =FID30048F.D 5 =FID30048G.D 6 =FID30048H.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	n-hexadecane-d34	ISTD							
2)		n-C8	0.972	1.034	1.028	1.104	1.063	0.897	1.016	7.15
3)		n-C9	1.050	1.097	1.085	1.182	1.126	0.953	1.082	7.16
4)		n-C10	1.116	1.164	1.148	1.212	1.178	1.010	1.138	6.18
5)		n-C11	1.129	1.163	1.148	1.182	1.167	1.012	1.134	5.49
6)	S	n-dodecane-d26	1.061	1.070	1.061	1.107	1.065	0.945	1.052	5.23
7)		n-C12	1.169	1.204	1.191	1.189	1.204	1.047	1.167	5.16
8)		i-13	1.163	1.193	1.179	1.192	1.187	1.034	1.158	5.32
9)		i-14	1.199	1.221	1.207	1.210	1.213	1.058	1.185	5.28
10)		n-C13	1.161	1.193	1.179	1.192	1.187	1.034	1.158	5.32
11)		i-15	1.232	1.225	1.213	1.214	1.216	1.060	1.193	5.51
12)		n-C14	1.199	1.221	1.207	1.210	1.213	1.058	1.185	5.28
13)		i-16	1.240	1.235	1.216	1.212	1.218	1.060	1.197	5.67
14)		n-C15	1.232	1.225	1.213	1.214	1.216	1.060	1.193	5.51
15)		n-C16	1.240	1.235	1.216	1.212	1.218	1.060	1.197	5.67
16)	I	5a-androstane	ISTD							
17)		i-18	0.979	0.997	0.991	0.994	0.993	0.863	0.969	5.44
18)		n-C17	1.013	1.013	1.008	0.998	1.009	0.878	0.986	5.39
19)		Pristane	0.987	1.008	1.003	0.994	1.005	0.876	0.979	5.22
20)		n-C18	0.979	0.997	0.991	0.994	0.993	0.863	0.969	5.44
21)		Phytane	1.000	1.016	1.009	1.008	1.011	0.881	0.988	5.31
22)		n-C19	0.979	0.996	0.987	0.991	0.992	0.859	0.967	5.51
23)	S	n-eicosane-d42	0.789	0.787	0.786	0.813	0.788	0.691	0.776	5.51
24)		n-C20	0.985	0.996	0.992	0.999	0.997	0.863	0.972	5.52
25)		n-C21	1.013	1.009	1.002	1.001	1.008	0.870	0.984	5.67
26)		n-C22	1.018	1.009	1.001	1.013	1.008	0.868	0.986	5.88
27)		n-C23	1.030	1.015	1.006	1.008	1.014	0.873	0.991	5.90
28)		n-C24	1.031	1.016	1.004	1.005	1.013	0.871	0.990	5.98
29)		n-C25	1.039	1.016	1.002	1.012	1.012	0.870	0.992	6.16
30)		n-C26	1.033	1.014	1.004	1.018	1.012	0.869	0.992	6.12
31)		n-C27	1.010	0.990	0.976	0.990	0.986	0.846	0.966	6.21
32)		n-C28	1.022	1.002	0.991	1.002	1.000	0.858	0.979	6.13
33)		n-C29	1.043	1.008	0.996	1.009	1.005	0.861	0.987	6.46
34)	S	n-triacontane...	0.806	0.773	0.767	0.799	0.770	0.671	0.764	6.31
35)		n-C30	1.031	1.002	0.989	0.996	0.999	0.853	0.979	6.45
36)		n-C31	0.994	0.987	0.978	0.989	0.988	0.843	0.963	6.14
37)		n-C32	1.006	0.986	0.973	0.971	0.985	0.837	0.960	6.39
38)		n-C33	0.979	0.962	0.955	0.963	0.964	0.815	0.939	6.56
39)		n-C34	1.003	0.981	0.970	0.982	0.984	0.823	0.957	6.96
40)		n-C35	1.001	0.967	0.960	0.972	0.968	0.800	0.945	7.64
41)		n-C36	1.067	1.051	1.046	1.038	1.057	0.853	1.019	8.03
42)		n-C37	0.965	0.964	0.955	0.968	0.966	0.759	0.930	8.99
43)		n-C38	0.946	0.961	0.956	0.967	0.966	0.740	0.923	9.74
44)		n-C39	0.903	0.927	0.923	0.937	0.936	0.707	0.889	10.12
45)		n-C40	0.830	0.863	0.866	0.877	0.878	0.646	0.827	10.93
46)		TPH	0.970	0.975	0.968	0.983	0.978	0.829	0.951	6.28
47)		TRH1	0.970	0.975	0.968	0.983	0.978	0.829	0.951	6.28
48)		TRH2	0.970	0.975	0.968	0.983	0.978	0.829	0.951	6.28
49)		TRH3	0.970	0.975	0.968	0.983	0.978	0.829	0.951	6.28
50)		TRH4	0.970	0.975	0.968	0.983	0.978	0.829	0.951	6.28
51)		TRH5	0.970	0.975	0.968	0.983	0.978	0.829	0.951	6.28
52)		TRH6	0.970	0.975	0.968	0.983	0.978	0.829	0.951	6.28

53)	GRO	0.970	0.975	0.968	0.983	0.978	0.829	0.951	6.28
54)	DRO	0.970	0.975	0.968	0.983	0.978	0.829	0.951	6.28
55)	RRO	0.970	0.975	0.968	0.983	0.978	0.829	0.951	6.28

(#) = Out of Range

FID3C08FRONT082713.M Tue Aug 27 14:53:06 2013

Area for TPH Calculations

Last Calibration Update Tue Aug 27 14:42:47 2013
Quant Method FID1C08FRONT082713.M

	Level 1 FID30048C.D	Level 2 FID30048D.D	Level 3 FID30048E.D	Level 4 FID30048F.D	Level 5 FID30048G.D	Level 6 FID30048H.D
n-C8	7981	63992	159730	288760	330396	648203
n-C9	8610	67778	168485	309215	349805	687464
n-C10	9152	71953	178290	316994	366101	728878
n-C11	9274	71963	178566	309152	363072	731019
n-C12	9422	73130	181804	311056	367575	742610
n-C13	9539	73914	183367	311830	369361	748058
n-C14	9782	75043	186389	316440	374773	759016
n-C15	10054	75320	187462	317435	375958	761181
n-C16	10071	75571	186942	316906	374587	757390
n-C17	10314	76737	190064	322244	380304	768304
Pristane	10082	76626	189697	321019	380133	768191
n-C18	10099	76497	189291	321139	379385	764408
Phytane	10289	77649	192045	325625	384912	777935
n-C19	10086	76292	188189	320084	378330	759957
n-C20	10167	76550	189670	322568	381253	765556
n-C21	10349	76678	189458	323245	381255	763366
n-C22	10506	77483	191198	327215	385214	769455
n-C23	10506	77063	190000	325544	382936	764694
n-C24	10511	76962	189437	324653	382184	762051
n-C25	10681	77558	190635	326771	384637	766993
n-C26	10670	77927	191879	328682	386642	771145
n-C27	10425	75881	186430	319836	376387	748954
n-C28	10535	76816	189063	323677	381588	759949
n-C29	10760	77339	190252	325832	384028	762844
n-C30	10590	76554	188022	321536	379769	752158
n-C31	10249	75662	186693	319365	377170	746059
n-C32	10235	74621	183362	313707	370922	731300
n-C33	10090	73737	182212	310958	367714	721185
n-C34	10325	75041	184657	317244	374948	727115
n-C35	10315	74163	183263	313875	369357	708332
n-C36	10775	79012	195585	335072	395396	739896
n-C37	9961	73980	182453	312484	369044	672777
n-C38	9772	73740	182750	312204	369061	655413
n-C39	9310	71046	176188	302684	357262	625816
n-C40	8538	66057	164961	283266	334452	570368
Average Area (use for TPH, TRPH, GRO, DRO, RRO)	10001	74752	184814	317095	373312	733944
Average of n-C38 & n-C40	9155	69899	173856	297735	351757	612891
n-C36/n-C20	1.06	1.03	1.03	1.04	1.04	0.97

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 3\FID30048\
Data File : FID30048C.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 21:37:34
Operator : Meghan Dailey
Sample : AL-WKC1-1.25-019
Misc :
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 14:05:10 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 09:17:24 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	12.531	328101	50.000	ug/mlm
16)	I 5a-androstane	17.580	412952	50.072	ug/mlm
	System Monitoring Compounds				
6)	S n-dodecane-d26	8.279	8702	1.314	ug/mlm
23)	S n-eicosane-d42	17.039	8191	1.305	ug/mlm
34)	S n-triacontane-d62	28.857	8315	1.302	ug/mlm
	Target Compounds				
2)	n-C8	3.202	7981	1.265	ug/mlm
3)	n-C9	4.484	8610	1.296	ug/mlm
4)	n-C10	5.880	9152	1.301	ug/mlm
5)	n-C11	7.227	9274	1.310	ug/mlm
7)	n-C12	8.483	9422	1.277	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	9.652	9539	1.289	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.744	9782	1.278	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.771	10054	1.292	ug/mlm
15)	n-C16	12.770	10071	1.282	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.832	10314	1.310	ug/mlm
19)	Pristane	13.944	10082	1.288	ug/mlm
20)	n-C18	14.971	10099	1.298	ug/mlm
21)	Phytane	15.126	10289	1.298	ug/mlm
22)	n-C19	16.176	10086	1.295	ug/mlm
24)	n-C20	17.428	10167	1.297	ug/mlm
25)	n-C21	18.708	10349	1.299	ug/mlm
26)	n-C22	19.994	10506	1.312	ug/mlm
27)	n-C23	21.269	10506	1.300	ug/mlm
28)	n-C24	22.524	10510	1.294	ug/mlm
29)	n-C25	23.752	10680	1.307	ug/mlm
30)	n-C26	24.947	10670	1.299	ug/mlm
31)	n-C27	26.109	10425	1.298	ug/mlm
32)	n-C28	27.237	10535	1.287	ug/mlm
33)	n-C29	28.329	10760	1.306	ug/mlm
35)	n-C30	29.390	10590	1.293	ug/mlm
36)	n-C31	30.417	10249	1.264	ug/mlm
37)	n-C32	31.412	10235	1.270	ug/mlm
38)	n-C33	32.380	10090	1.283	ug/mlm
39)	n-C34	33.321	10325	1.291	ug/mlm
40)	n-C35	34.255	10315	1.318	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\
Data File : FID30048C.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 21:37:34
Operator : Meghan Dailey
Sample : AL-WKC1-1.25-019
Misc :
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 14:05:10 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 09:17:24 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
41)	n-C36	35.294	10775	1.279 ug/mlm
42)	n-C37	36.488	9961	1.306 ug/mlm
43)	n-C38	37.869	9772	1.299 ug/mlm
44)	n-C39	39.490	9310	1.303 ug/mlm
45)	n-C40	41.403	8538	1.283 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

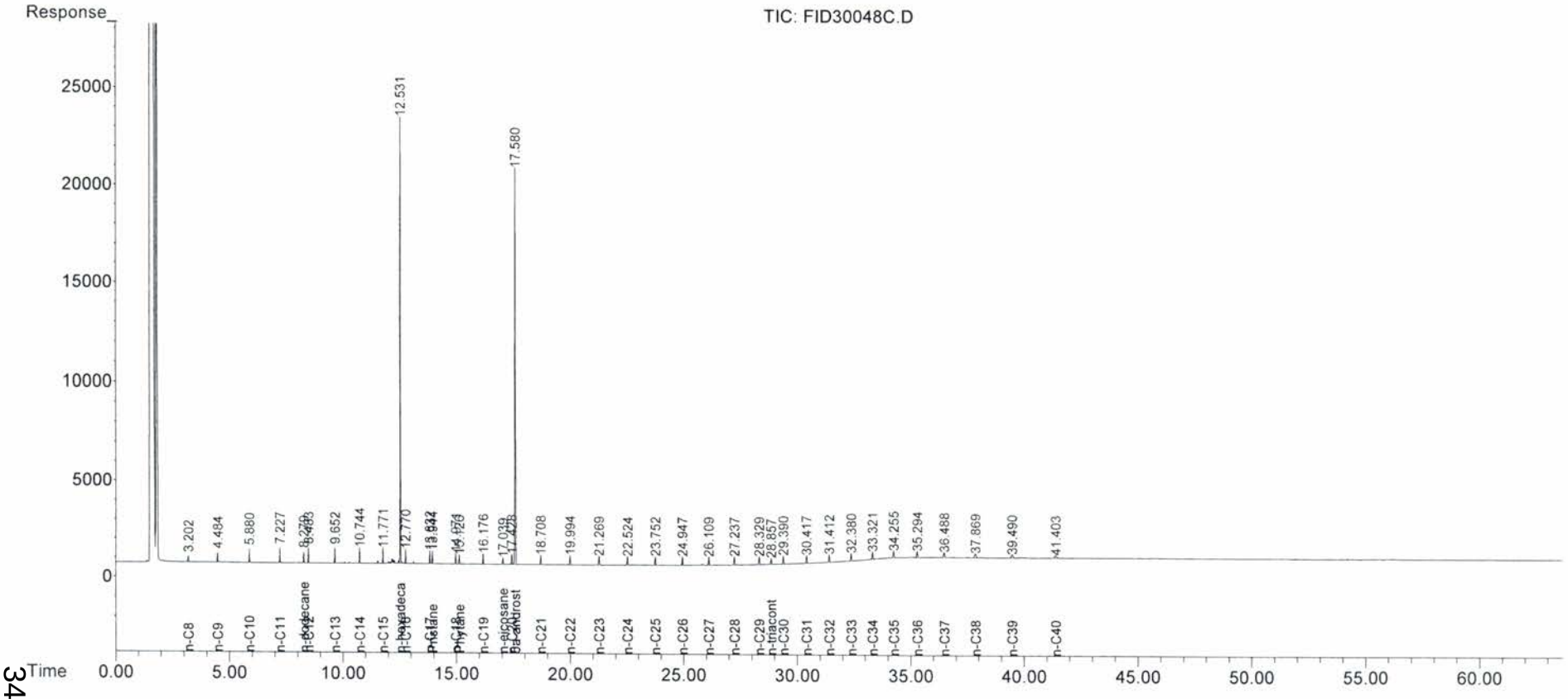
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\
Data File : FID30048C.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 21:37:34
Operator : Meghan Dailey
Sample : AL-WKC1-1.25-019
Misc :
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 14:05:10 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 09:17:24 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 3\FID30048\
Data File : FID30048D.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 22:48:09
Operator : Meghan Dailey
Sample : AL-WKC2-10-019
Misc :
ALS Vial : 4 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 14:12:35 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:05:19 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	12.531	309064	50.000	ug/mlm
16)	I 5a-androstane	17.578	383949	50.072	ug/mlm
	System Monitoring Compounds				
6)	S n-dodecane-d26	8.279	66159	10.530	ug/mlm
23)	S n-eicosane-d42	17.040	60732	10.381	ug/mlm
34)	S n-triacontane-d62	28.856	59330	9.917	ug/mlm
	Target Compounds				
2)	n-C8	3.202	63992	10.770	ug/mlm
3)	n-C9	4.483	67778	10.761	ug/mlm
4)	n-C10	5.879	71953	10.794	ug/mlm
5)	n-C11	7.226	71963	10.720	ug/mlm
7)	n-C12	8.483	73130	10.468	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	9.652	73914	10.565	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.745	75042	10.385	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.771	75320	10.268	ug/mlm
15)	n-C16	12.771	75571	10.207	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.832	76737	10.439	ug/mlm
19)	Pristane	13.945	76626	10.507	ug/mlm
20)	n-C18	14.971	76497	10.544	ug/mlm
21)	Phytane	15.126	77649	10.502	ug/mlm
22)	n-C19	16.176	76292	10.491	ug/mlm
24)	n-C20	17.428	76550	10.444	ug/mlm
25)	n-C21	18.707	76678	10.296	ug/mlm
26)	n-C22	19.995	77483	10.347	ug/mlm
27)	n-C23	21.269	77063	10.194	ug/mlm
28)	n-C24	22.524	76962	10.139	ug/mlm
29)	n-C25	23.753	77558	10.155	ug/mlm
30)	n-C26	24.949	77927	10.161	ug/mlm
31)	n-C27	26.110	75881	10.113	ug/mlm
32)	n-C28	27.237	76816	10.066	ug/mlm
33)	n-C29	28.330	77339	10.038	ug/mlm
35)	n-C30	29.390	76554	10.016	ug/mlm
36)	n-C31	30.418	75662	10.037	ug/mlm
37)	n-C32	31.416	74620	9.949	ug/mlm
38)	n-C33	32.381	73737	10.051	ug/mlm
39)	n-C34	33.325	75041	10.056	ug/mlm
40)	n-C35	34.255	74163	10.131	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\
Data File : FID30048D.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 22:48:09
Operator : Meghan Dailey
Sample : AL-WKC2-10-019
Misc :
ALS Vial : 4 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 14:12:35 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:05:19 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.296	79012	10.020	ug/mlm
42)	n-C37	36.488	73980	10.357	ug/mlm
43)	n-C38	37.868	73740	10.527	ug/mlm
44)	n-C39	39.491	71046	10.583	ug/mlm
45)	n-C40	41.400	66057	10.599	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

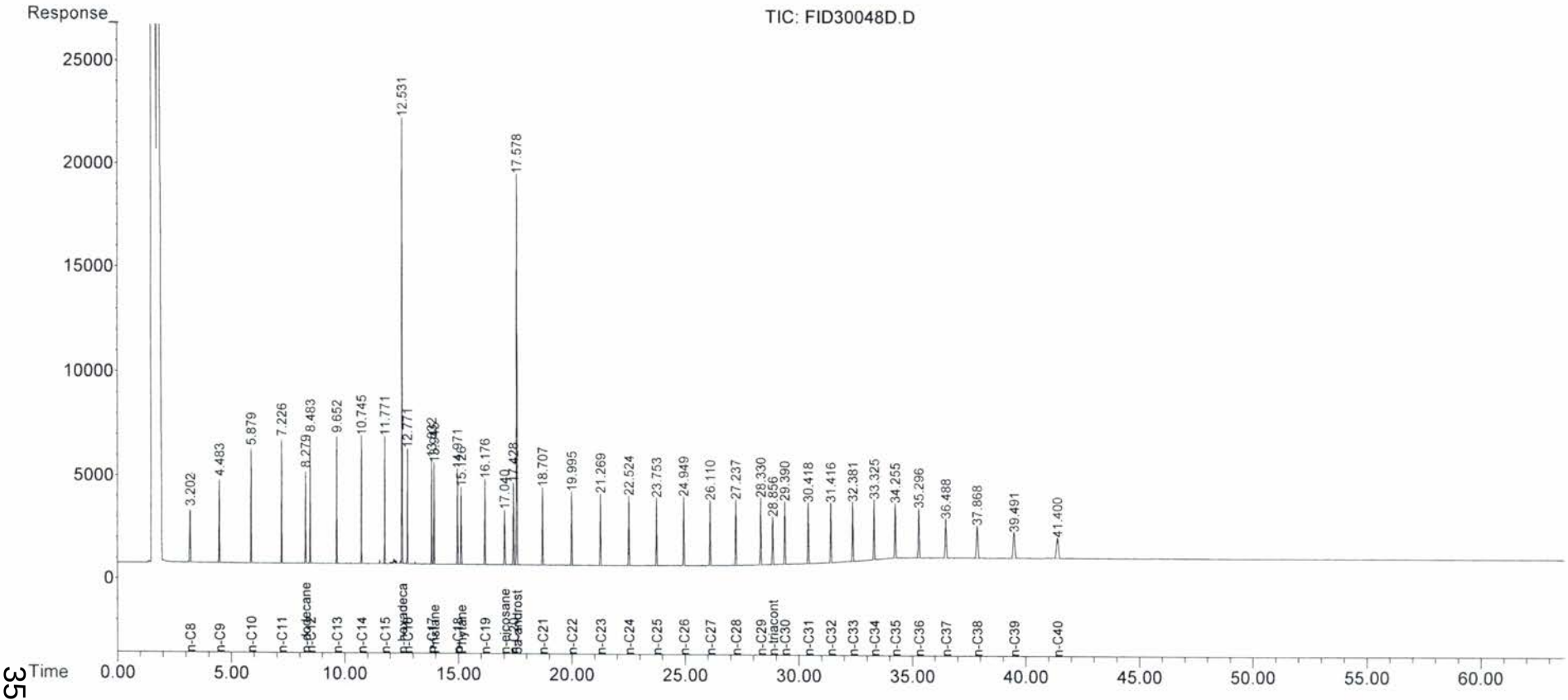
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\
Data File : FID30048D.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 22:48:09
Operator : Meghan Dailey
Sample : AL-WKC2-10-019
Misc :
ALS Vial : 4 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 14:12:35 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:05:19 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 3\FID30048\
Data File : FID30048E.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 23:58:46
Operator : Meghan Dailey
Sample : AL-WKC3-25-019
Misc :
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 14:20:49 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:12:42 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	12.530	310604	50.000	ug/mlm
16)	I 5a-androstane	17.579	382243	50.072	ug/mlm
	System Monitoring Compounds				
6)	S n-dodecane-d26	8.280	164835	25.876	ug/mlm
23)	S n-eicosane-d42	17.042	151077	25.869	ug/mlm
34)	S n-triacontane-d62	28.859	146620	24.680	ug/mlm
	Target Compounds				
2)	n-C8	3.204	159730	26.423	ug/mlm
3)	n-C9	4.485	168485	26.270	ug/mlm
4)	n-C10	5.881	178290	26.272	ug/mlm
5)	n-C11	7.228	178566	26.178	ug/mlm
7)	n-C12	8.485	181804	25.676	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	9.654	183367	25.914	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.746	186389	25.575	ug/mlm
13)	i-16	0.000	0	N.D.	ug/ml
14)	n-C15	11.773	187462	25.399	ug/mlm
15)	n-C16	12.772	186942	25.112	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.835	190064	25.830	ug/mlm
19)	Pristane	13.947	189697	25.982	ug/mlm
20)	n-C18	14.973	189291	26.086	ug/mlm
21)	Phytane	15.129	192045	25.971	ug/mlm
22)	n-C19	16.178	188189	25.892	ug/mlm
24)	n-C20	17.431	189670	25.918	ug/mlm
25)	n-C21	18.711	189458	25.489	ug/mlm
26)	n-C22	19.997	191198	25.595	ug/mlm
27)	n-C23	21.273	190000	25.210	ug/mlm
28)	n-C24	22.527	189437	25.047	ug/mlm
29)	n-C25	23.754	190635	25.064	ug/mlm
30)	n-C26	24.951	191879	25.140	ug/mlm
31)	n-C27	26.112	186430	24.980	ug/mlm
32)	n-C28	27.239	189063	24.923	ug/mlm
33)	n-C29	28.334	190252	24.848	ug/mlm
35)	n-C30	29.394	188022	24.756	ug/mlm
36)	n-C31	30.422	186693	24.948	ug/mlm
37)	n-C32	31.418	183362	24.600	ug/mlm
38)	n-C33	32.387	182212	25.009	ug/mlm
39)	n-C34	33.326	184657	24.909	ug/mlm
40)	n-C35	34.259	183263	25.164	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\
Data File : FID30048E.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 23:58:46
Operator : Meghan Dailey
Sample : AL-WKC3-25-019
Misc :
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 14:20:49 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:12:42 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.300	195585	24.921	ug/mlm
42)	n-C37	36.496	182453	25.602	ug/mlm
43)	n-C38	37.875	182750	26.135	ug/mlm
44)	n-C39	39.499	176188	26.235	ug/mlm
45)	n-C40	41.408	164961	26.478	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

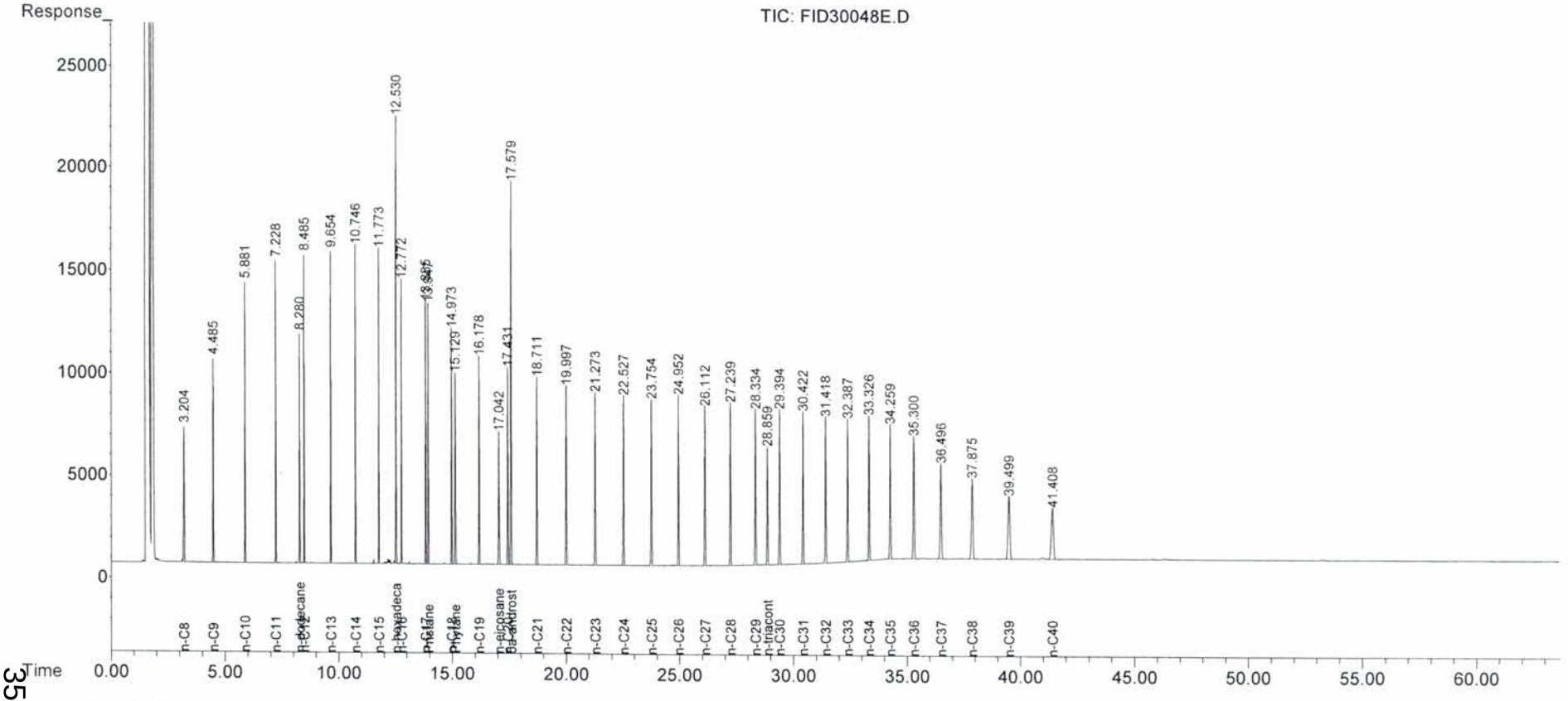
SemiQuant Compounds - Not Calibrated on this Instrument

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

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\
Data File : FID30048E.D
Signal(s) : FID1A.CH
Acq On : 20-Aug-2013, 23:58:46
Operator : Meghan Dailey
Sample : AL-WKC3-25-019
Misc :
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 14:20:49 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:12:42 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 3\FID30048\
Data File : FID30048F.D
Signal(s) : FID1A.CH
Acq On : 21-Aug-2013, 01:08:50
Operator : Meghan Dailey
Sample : AL-WKC4-40-019
Misc :
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 14:30:13 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:21:03 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	12.530	326708	50.000	ug/mlm
16)	I 5a-androstane	17.577	403976	50.072	ug/mlm
	System Monitoring Compounds				
6)	S n-dodecane-d26	8.279	289397	42.946	ug/mlm
23)	S n-eicosane-d42	17.043	264124	42.630	ug/mlm
34)	S n-triacontane-d62	28.861	258083	41.279	ug/mlm
	Target Compounds				
2)	n-C8	3.193	288760	45.079	ug/mlm
3)	n-C9	4.478	309215	45.464	ug/mlm
4)	n-C10	5.877	316994	44.034	ug/mlm
5)	n-C11	7.227	309152	42.781	ug/mlm
7)	n-C12	8.484	311056	41.526	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	9.654	311830	41.741	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.746	316440	41.184	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.773	317435	40.853	ug/mlm
15)	n-C16	12.773	316906	40.497	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.836	322244	41.187	ug/mlm
19)	Pristane	13.948	321019	41.355	ug/mlm
20)	n-C18	14.974	321139	41.656	ug/mlm
21)	Phytane	15.131	325625	41.455	ug/mlm
22)	n-C19	16.180	320084	41.490	ug/mlm
24)	n-C20	17.434	322568	41.540	ug/mlm
25)	n-C21	18.713	323245	41.028	ug/mlm
26)	n-C22	20.000	327215	41.325	ug/mlm
27)	n-C23	21.275	325544	40.817	ug/mlm
28)	n-C24	22.530	324653	40.603	ug/mlm
29)	n-C25	23.758	326771	40.678	ug/mlm
30)	n-C26	24.954	328682	40.807	ug/mlm
31)	n-C27	26.115	319836	40.651	ug/mlm
32)	n-C28	27.242	323677	40.510	ug/mlm
33)	n-C29	28.335	325832	40.419	ug/mlm
35)	n-C30	29.398	321536	40.208	ug/mlm
36)	n-C31	30.423	319365	40.556	ug/mlm
37)	n-C32	31.421	313707	40.003	ug/mlm
38)	n-C33	32.389	310958	40.547	ug/mlm
39)	n-C34	33.331	317244	40.674	ug/mlm
40)	n-C35	34.266	313875	40.812	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\
Data File : FID30048F.D
Signal(s) : FID1A.CH
Acq On : 21-Aug-2013, 01:08:50
Operator : Meghan Dailey
Sample : AL-WKC4-40-019
Misc :
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 14:30:13 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:21:03 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.307	335072	40.482	ug/mlm
42)	n-C37	36.500	312484	41.395	ug/mlm
43)	n-C38	37.885	312204	41.777	ug/mlm
44)	n-C39	39.506	302684	42.235	ug/mlm
45)	n-C40	41.413	283266	42.556	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

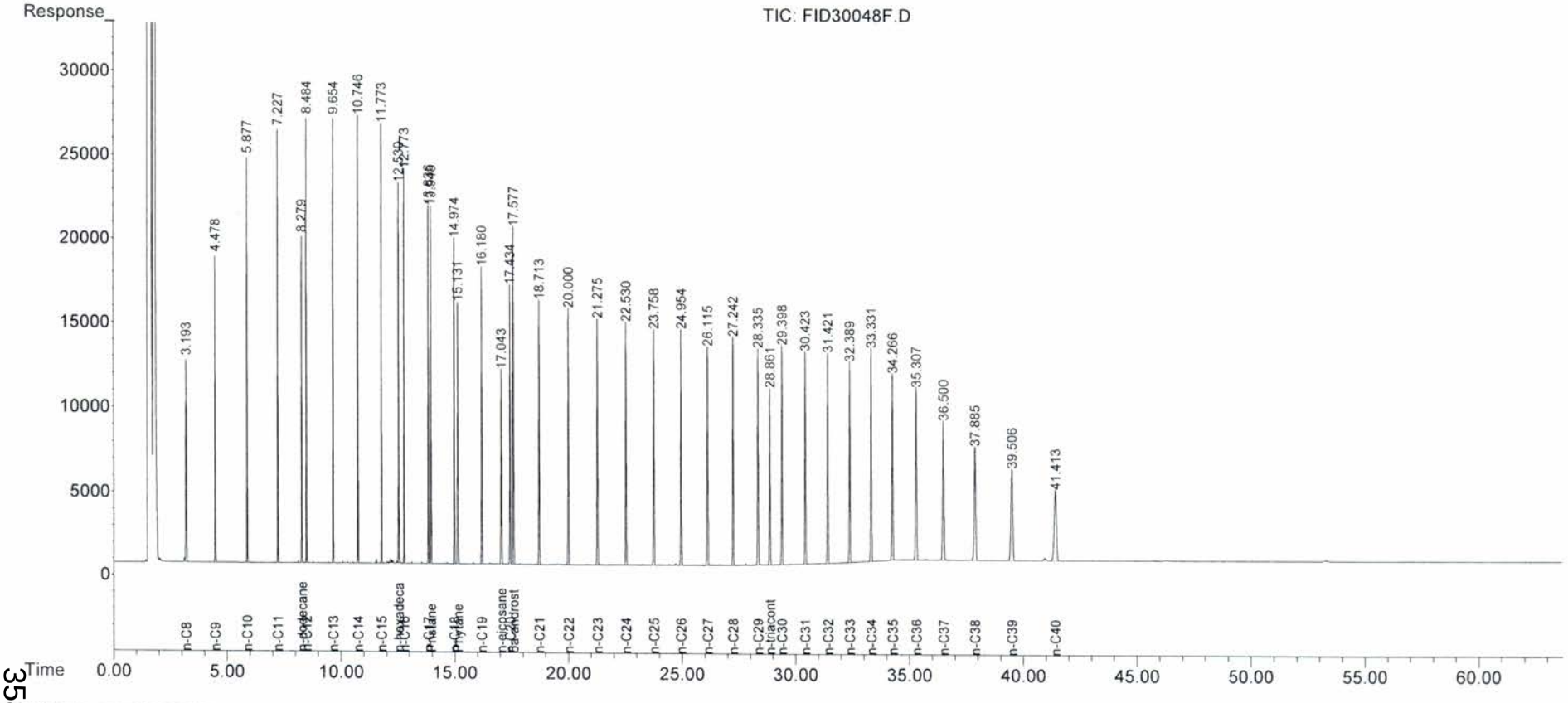
SemiQuant Compounds - Not Calibrated on this Instrument

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

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\
Data File : FID30048F.D
Signal(s) : FID1A.CH
Acq On : 21-Aug-2013, 01:08:50
Operator : Meghan Dailey
Sample : AL-WKC4-40-019
Misc :
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 14:30:13 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:21:03 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 3\FID30048\
Data File : FID30048G.D
Signal(s) : FID1A.CH
Acq On : 21-Aug-2013, 02:19:20
Operator : Meghan Dailey
Sample : AL-WKC5-50-019
Misc :
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 14:36:26 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:30:23 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	12.529	310702	50.000	ug/mlm
16) I	5a-androstane	17.576	382172	50.072	ug/mlm
	System Monitoring Compounds				
6) S	n-dodecane-d26	8.281	330964	51.272	ug/mlm
23) S	n-eicosane-d42	17.043	302517	51.440	ug/mlm
34) S	n-triacontane-d62	28.862	294334	49.871	ug/mlm
	Target Compounds				
2)	n-C8	3.204	330396	53.134	ug/mlm
3)	n-C9	4.485	349805	52.942	ug/mlm
4)	n-C10	5.882	366101	52.648	ug/mlm
5)	n-C11	7.229	363072	52.316	ug/mlm
7)	n-C12	8.486	367575	51.285	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	9.655	369361	51.802	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.747	374773	51.194	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.774	375958	50.857	ug/mlm
15)	n-C16	12.774	374587	50.371	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.837	380304	51.152	ug/mlm
19)	Pristane	13.949	380133	51.556	ug/mlm
20)	n-C18	14.976	379385	51.808	ug/mlm
21)	Phytane	15.132	384912	51.611	ug/mlm
22)	n-C19	16.181	378330	51.661	ug/mlm
24)	n-C20	17.435	381253	51.725	ug/mlm
25)	n-C21	18.713	381255	50.995	ug/mlm
26)	n-C22	20.001	385214	51.273	ug/mlm
27)	n-C23	21.278	382936	50.628	ug/mlm
28)	n-C24	22.533	382184	50.451	ug/mlm
29)	n-C25	23.760	384637	50.581	ug/mlm
30)	n-C26	24.956	386642	50.742	ug/mlm
31)	n-C27	26.119	376387	50.597	ug/mlm
32)	n-C28	27.244	381588	50.561	ug/mlm
33)	n-C29	28.337	384028	50.443	ug/mlm
35)	n-C30	29.398	379769	50.305	ug/mlm
36)	n-C31	30.426	377170	50.738	ug/mlm
37)	n-C32	31.421	370922	50.102	ug/mlm
38)	n-C33	32.389	367714	50.784	ug/mlm
39)	n-C34	33.330	374948	50.841	ug/mlm
40)	n-C35	34.266	369357	50.761	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\
Data File : FID30048G.D
Signal(s) : FID1A.CH
Acq On : 21-Aug-2013, 02:19:20
Operator : Meghan Dailey
Sample : AL-WKC5-50-019
Misc :
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 14:36:26 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:30:23 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.305	395396	50.420	ug/mlm
42)	n-C37	36.499	369044	51.545	ug/mlm
43)	n-C38	37.887	369061	51.998	ug/mlm
44)	n-C39	39.506	357262	52.349	ug/mlm
45)	n-C40	41.419	334452	52.681	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

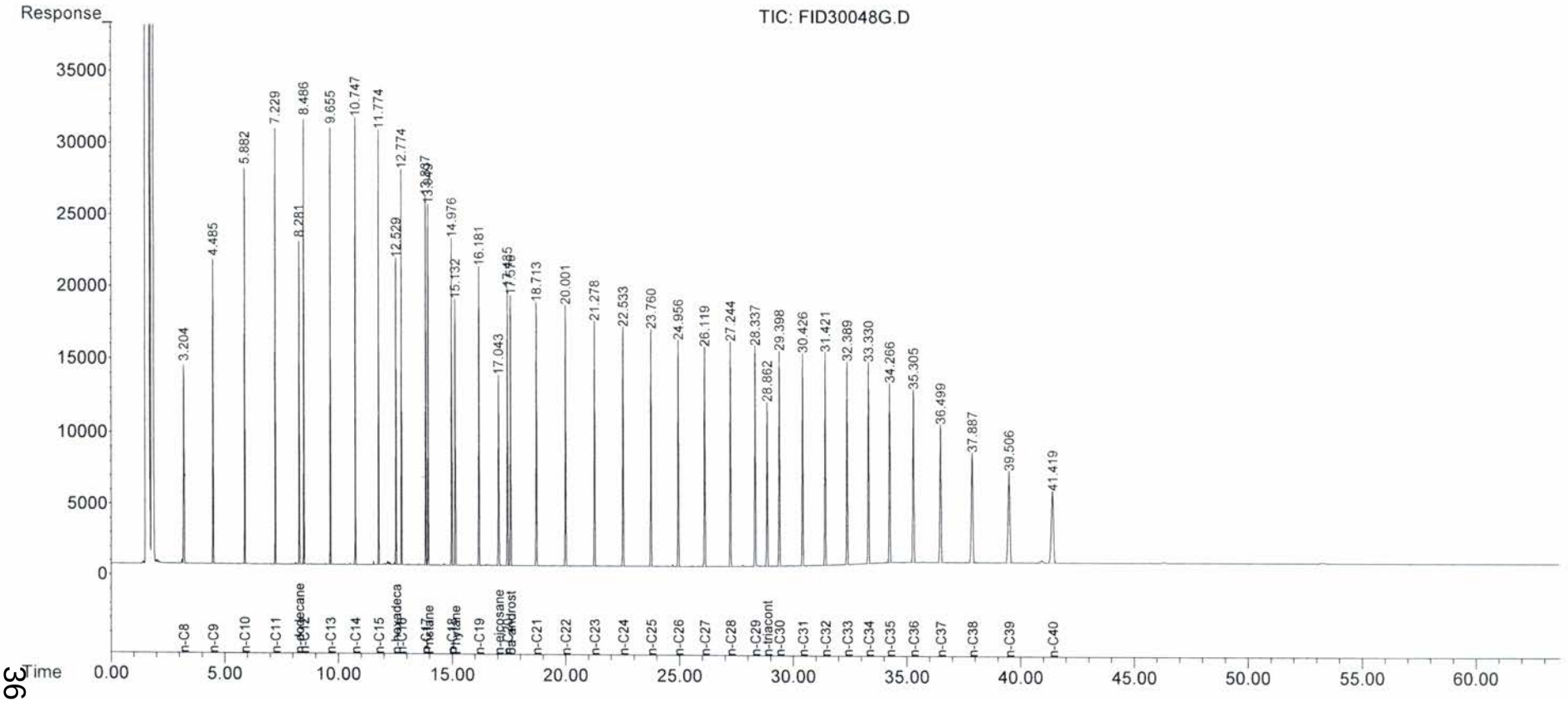
SemiQuant Compounds - Not Calibrated on this Instrument

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

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\
Data File : FID30048G.D
Signal(s) : FID1A.CH
Acq On : 21-Aug-2013, 02:19:20
Operator : Meghan Dailey
Sample : AL-WKC5-50-019
Misc :
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 14:36:26 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:30:23 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 3\FID30048\
Data File : FID30048H.D
Signal(s) : FID1A.CH
Acq On : 21-Aug-2013, 03:29:24
Operator : Meghan Dailey
Sample : AL-WKC6-100-001
Misc :
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 14:42:36 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:36:38 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	12.530	360851	50.000	ug/mlm
16)	I	5a-androstane	17.580	443243	50.072	ug/mlm
System Monitoring Compounds						
6)	S	n-dodecane-d26	8.285	682209	90.448	ug/mlm
23)	S	n-eicosane-d42	17.050	615775	89.885	ug/mlm
34)	S	n-triacontane-d62	28.870	595096	87.644	ug/mlm
Target Compounds						
2)		n-C8	3.207	648203	89.078	ug/mlm
3)		n-C9	4.489	687464	88.722	ug/mlm
4)		n-C10	5.886	728878	89.416	ug/mlm
5)		n-C11	7.233	731019	90.004	ug/mlm
7)		n-C12	8.491	742610	88.691	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	9.659	748058	89.966	ug/mlm
11)		i-15	0.000	0	N.D.	ug/mld
12)		n-C14	10.752	759016	89.073	ug/mlm
13)		i-16	0.000	0	N.D.	ug/mld
14)		n-C15	11.779	761181	88.602	ug/mlm
15)		n-C16	12.779	757390	87.764	ug/mlm
17)		i-18	0.000	0	N.D.	ug/mld
18)		n-C17	13.843	768304	88.493	ug/mlm
19)		Pristane	13.956	768191	89.196	ug/mlm
20)		n-C18	14.983	764408	89.482	ug/mlm
21)		Phytane	15.140	777935	89.432	ug/mlm
22)		n-C19	16.190	759957	89.061	ug/mlm
24)		n-C20	17.444	765556	89.212	ug/mlm
25)		n-C21	18.723	763366	87.809	ug/mlm
26)		n-C22	20.011	769455	88.185	ug/mlm
27)		n-C23	21.288	764694	87.166	ug/mlm
28)		n-C24	22.544	762051	86.863	ug/mlm
29)		n-C25	23.772	766993	87.227	ug/mlm
30)		n-C26	24.966	771145	87.670	ug/mlm
31)		n-C27	26.126	748954	87.317	ug/mlm
32)		n-C28	27.254	759949	87.435	ug/mlm
33)		n-C29	28.349	762844	87.065	ug/mlm
35)		n-C30	29.410	752158	86.588	ug/mlm
36)		n-C31	30.435	746059	87.265	ug/mlm
37)		n-C32	31.433	731300	85.892	ug/mlm
38)		n-C33	32.401	721185	86.564	ug/mlm
39)		n-C34	33.344	727115	85.640	ug/mlm
40)		n-C35	34.274	708332	84.524	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\
Data File : FID30048H.D
Signal(s) : FID1A.CH
Acq On : 21-Aug-2013, 03:29:24
Operator : Meghan Dailey
Sample : AL-WKC6-100-001
Misc :
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 14:42:36 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:36:38 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.321	739896	81.791	ug/mlm
42)	n-C37	36.515	672777	81.313	ug/mlm
43)	n-C38	37.903	655413	79.764	ug/mlm
44)	n-C39	39.521	625816	79.073	ug/mlm
45)	n-C40	41.433	570368	77.314	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

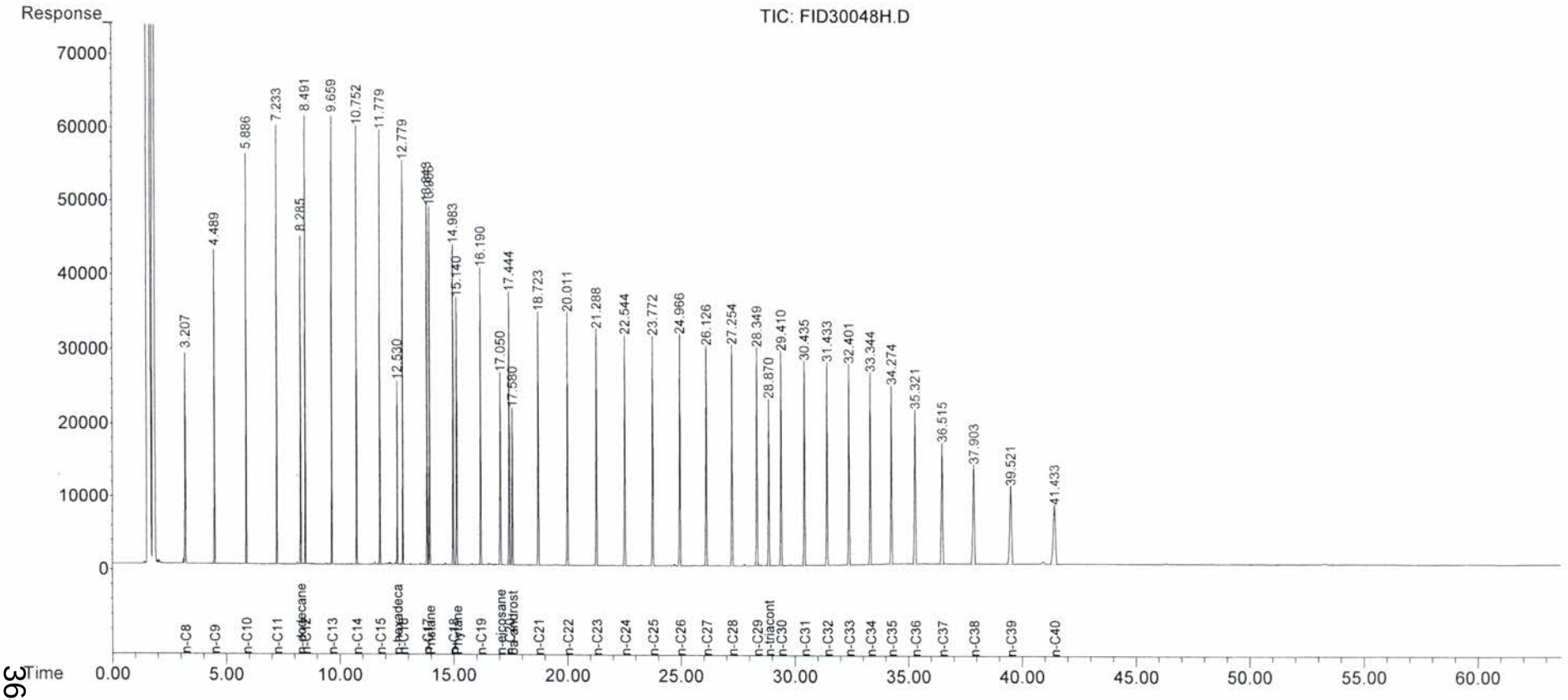
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\
Data File : FID30048H.D
Signal(s) : FID1A.CH
Acq On : 21-Aug-2013, 03:29:24
Operator : Meghan Dailey
Sample : AL-WKC6-100-001
Misc :
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 14:42:36 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:36:38 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 3\FID30048\
Data File : FID30048I.D
Signal(s) : FID1A.CH
Acq On : 21-Aug-2013, 04:39:31
Operator : Meghan Dailey
Sample : AL-WKICV-25-002
Misc :
ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 15:06:25 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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	99	0.00
2		n-C8	1.016	1.022	-0.6	99	0.00
3		n-C9	1.082	1.115	-3.0	102	0.00
4		n-C10	1.138	1.168	-2.6	101	0.00
5		n-C11	1.134	1.189	-4.9	103	0.00
6	S	n-dodecane-d26	1.052	1.023	2.8	96	0.00
7		n-C12	1.167	1.213	-3.9	101	0.00
10		n-C13	1.158	1.199	-3.5	101	0.00
12		n-C14	1.185	1.216	-2.6	100	0.00
14		n-C15	1.193	1.249	-4.7	102	0.00
15		n-C16	1.197	1.277	-6.7	104	0.00
16	I	5a-androstane	1.000	1.000	0.0	102	0.00
18		n-C17	0.986	1.028	-4.3	104	0.00
19		Pristane	0.979	1.010	-3.2	102	0.00
20		n-C18	0.969	1.021	-5.4	105	0.00
21		Phytane	0.988	1.019	-3.1	103	0.00
22		n-C19	0.967	1.035	-7.0	107	0.00
23	S	n-eicosane-d42	0.776	0.779	-0.4	101	0.00
24		n-C20	0.972	1.019	-4.8	104	0.00
25		n-C21	0.984	1.054	-7.1	107	0.00
26		n-C22	0.986	1.035	-5.0	105	0.00
27		n-C23	0.991	1.040	-4.9	105	0.00
28		n-C24	0.990	1.033	-4.3	105	0.00
29		n-C25	0.992	0.945	4.7	96	0.00
30		n-C26	0.992	1.030	-3.8	104	0.00
31		n-C27	0.966	1.021	-5.7	106	0.00
32		n-C28	0.979	1.016	-3.8	104	0.00
33		n-C29	0.987	1.004	-1.7	102	0.00
34	S	n-triacontane-d62	0.764	0.748	2.1	99	-0.01
35		n-C30	0.979	1.007	-2.9	103	0.00
36		n-C31	0.963	0.966	-0.3	100	0.00
37		n-C32	0.960	0.979	-2.0	102	0.00
38		n-C33	0.939	0.970	-3.3	103	0.00
39		n-C34	0.957	1.001	-4.6	105	0.00
40		n-C35	0.945	0.940	0.5	100	0.00
41		n-C36	1.019	1.028	-0.9	100	0.00
42		n-C37	0.930	0.929	0.1	99	0.00
43		n-C38	0.923	0.937	-1.5	100	0.00

44	n-C39	0.889	0.942	-6.0	104	0.00
45	n-C40	0.827	0.913	-10.4	107	0.00

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.019	0.000	100.0#	0#	-8.67#
9	i-14	0.019	0.000	100.0#	0#	-9.37#
11	i-15	0.019	0.000	100.0#	0#	-10.52#
13	i-16	0.019	0.000	100.0#	0#	-11.42#
17	i-18	0.019	0.000	100.0#	0#	-13.31#
46	TPH	0.019	0.000	100.0#	0#	-28.15#
47	TRH1	0.019	0.000	100.0#	0#	-7.51#
48	TRH2	0.019	0.000	100.0#	0#	-15.43#
49	TRH3	0.019	0.000	100.0#	0#	-22.65#
50	TRH4	0.019	0.000	100.0#	0#	-27.52#
51	TRH5	0.019	0.000	100.0#	0#	-32.34#
52	TRH6	0.019	0.000	100.0#	0#	-43.45#
53	GRO	0.019	0.000	100.0#	0#	-5.11#
54	DRO	0.019	0.000	100.0#	0#	-13.86#
55	RRO	0.019	0.000	100.0#	0#	-31.98#

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

FID3C08FRONT082713.M Tue Aug 27 15:06:31 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\
Data File : FID30048I.D
Signal(s) : FID1A.CH
Acq On : 21-Aug-2013, 04:39:31
Operator : Meghan Dailey
Sample : AL-WKICV-25-002
Misc :
ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 15:06:25 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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	12.528	308690	50.000 ug/mlm
16) I	5a-androstane	17.575	388421	50.072 ug/mlm
	System Monitoring Compounds			
6) S	n-dodecane-d26	8.278	157888	24.316 ug/mlm
23) S	n-eicosane-d42	17.038	151989	25.258 ug/mlm
34) S	n-triacontane-d62	28.852	145289	24.503 ug/mlm
	Target Compounds			
2)	n-C8	3.203	157795	25.149 ug/mlm
3)	n-C9	4.484	172160	25.774 ug/mlm
4)	n-C10	5.880	180351	25.670 ug/mlm
5)	n-C11	7.227	183696	26.249 ug/mlm
7)	n-C12	8.483	184031	25.534 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	9.652	185332	25.928 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	10.743	186569	25.504 ug/mlm
13)	i-16	0.000	0	N.D. ug/mld
14)	n-C15	11.770	191803	26.040 ug/mlm
15)	n-C16	12.770	195148	26.415 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	13.832	196908	25.734 ug/mlm
19)	Pristane	13.945	194126	25.567 ug/mlm
20)	n-C18	14.970	198130	26.345 ug/mlm
21)	Phytane	15.127	197088	25.727 ug/mlm
22)	n-C19	16.175	200539	26.723 ug/mlm
24)	n-C20	17.429	197958	26.252 ug/mlm
25)	n-C21	18.708	202677	26.559 ug/mlm
26)	n-C22	19.994	200959	26.268 ug/mlm
27)	n-C23	21.271	199763	25.989 ug/mlm
28)	n-C24	22.525	198013	25.781 ug/mlm
29)	n-C25	23.752	182546	23.729 ug/mlm
30)	n-C26	24.949	199998	25.998 ug/mlm
31)	n-C27	26.109	198037	26.415 ug/mlm
32)	n-C28	27.234	197038	25.940 ug/mlm
33)	n-C29	28.328	194927	25.462 ug/mlm
35)	n-C30	29.389	194554	25.631 ug/mlm
36)	n-C31	30.416	187485	25.095 ug/mlm
37)	n-C32	31.413	187422	25.176 ug/mlm
38)	n-C33	32.380	188162	25.822 ug/mlm
39)	n-C34	33.321	193828	26.104 ug/mlm
40)	n-C35	34.253	182371	24.890 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\
Data File : FID30048I.D
Signal(s) : FID1A.CH
Acq On : 21-Aug-2013, 04:39:31
Operator : Meghan Dailey
Sample : AL-WKICV-25-002
Misc :
ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 15:06:25 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.291	195438	24.735	ug/mlm
42)	n-C37	36.485	180332	25.007	ug/mlm
43)	n-C38	37.871	182018	25.434	ug/mlm
44)	n-C39	39.489	182794	26.513	ug/mlm
45)	n-C40	41.398	176674	27.547	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

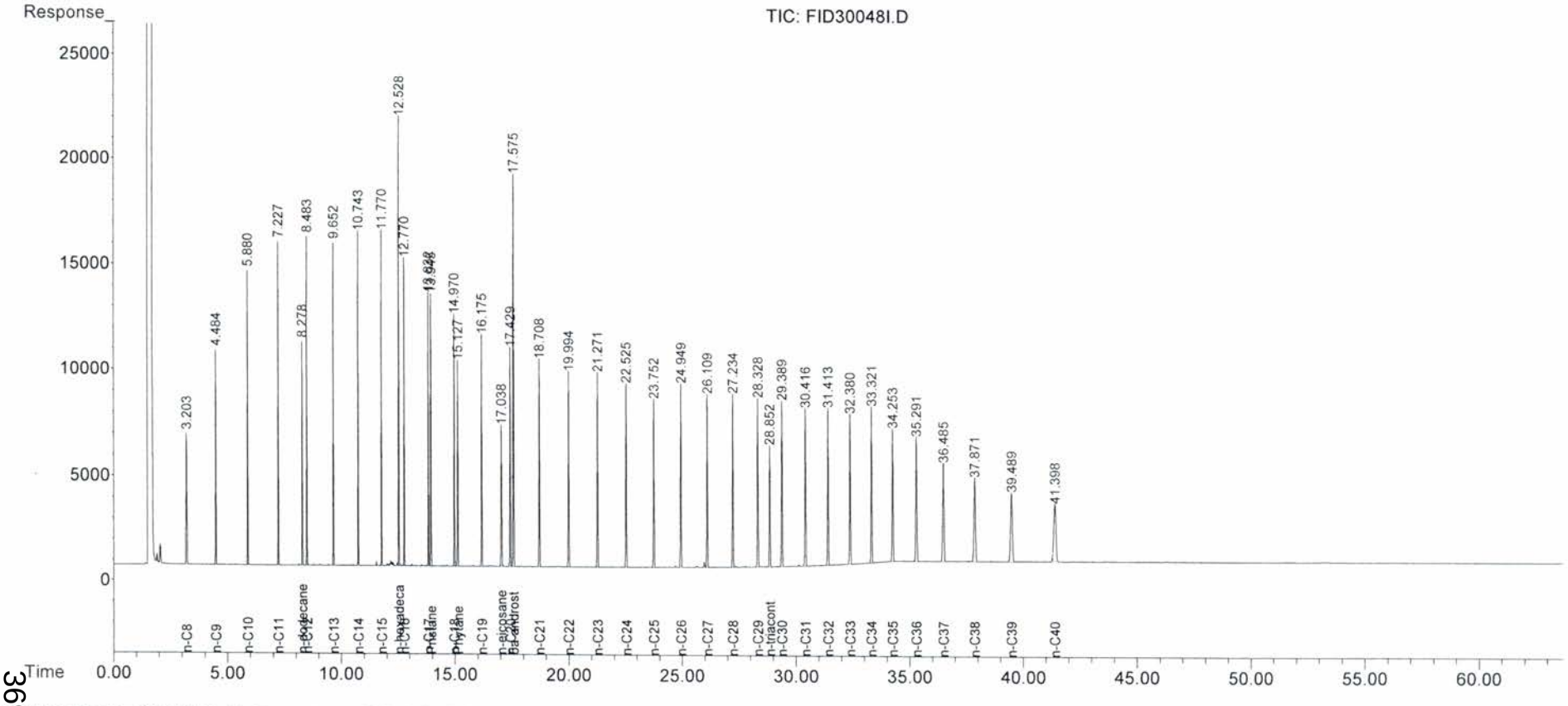
SemiQuant Compounds - Not Calibrated on this Instrument

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

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\
Data File : FID30048I.D
Signal(s) : FID1A.CH
Acq On : 21-Aug-2013, 04:39:31
Operator : Meghan Dailey
Sample : AL-WKICV-25-002
Misc :
ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 15:06:25 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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 3\FID30048\
Data File : FID30048J.D
Signal(s) : FID1A.CH
Acq On : 21-Aug-2013, 05:49:36
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 15:12:58 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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	99	0.00
2		n-C8	1.016	1.038	-2.2	100	0.00
3		n-C9	1.082	1.118	-3.3	102	0.00
4		n-C10	1.138	1.176	-3.3	102	0.00
5		n-C11	1.134	1.163	-2.6	100	0.00
6	S	n-dodecane-d26	1.052	1.065	-1.2	100	0.00
7		n-C12	1.167	1.198	-2.7	100	0.00
10		n-C13	1.158	1.182	-2.1	99	0.00
12		n-C14	1.185	1.209	-2.0	99	0.00
14		n-C15	1.193	1.213	-1.7	99	0.00
15		n-C16	1.197	1.217	-1.7	99	0.00
16	I	5a-androstane	1.000	1.000	0.0	99	-0.01
18		n-C17	0.986	1.009	-2.3	99	0.00
19		Pristane	0.979	1.007	-2.9	99	0.00
20		n-C18	0.969	0.991	-2.3	99	0.00
21		Phytane	0.988	1.010	-2.2	99	0.00
22		n-C19	0.967	0.987	-2.1	99	0.00
23	S	n-eicosane-d42	0.776	0.785	-1.2	98	0.00
24		n-C20	0.972	0.991	-2.0	98	0.00
25		n-C21	0.984	0.998	-1.4	98	0.00
26		n-C22	0.986	0.998	-1.2	98	0.00
27		n-C23	0.991	1.003	-1.2	98	0.00
28		n-C24	0.990	1.002	-1.2	98	0.00
29		n-C25	0.992	1.002	-1.0	98	0.00
30		n-C26	0.992	1.003	-1.1	98	0.00
31		n-C27	0.966	0.977	-1.1	99	0.00
32		n-C28	0.979	0.991	-1.2	99	0.00
33		n-C29	0.987	0.996	-0.9	99	0.00
34	S	n-triacontane-d62	0.764	0.765	-0.1	98	0.00
35		n-C30	0.979	0.989	-1.0	99	0.00
36		n-C31	0.963	0.978	-1.6	99	0.00
37		n-C32	0.960	0.974	-1.5	99	0.00
38		n-C33	0.939	0.952	-1.4	98	0.00
39		n-C34	0.957	0.966	-0.9	98	0.00
40		n-C35	0.945	0.943	0.2	97	0.00
41		n-C36	1.019	1.014	0.5	96	0.00
42		n-C37	0.930	0.909	2.3	94	0.00
43		n-C38	0.923	0.889	3.7	92	0.00

44	n-C39	0.889	0.843	5.2	90	0.00
45	n-C40	0.827	0.776	6.2	88	-0.01

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.019	0.000	100.0#	0#	-8.67#
9	i-14	0.019	0.000	100.0#	0#	-9.37#
11	i-15	0.019	0.000	100.0#	0#	-10.52#
13	i-16	0.019	0.000	100.0#	0#	-11.42#
17	i-18	0.019	0.000	100.0#	0#	-13.31#
46	TPH	0.019	0.000	100.0#	0#	-28.15#
47	TRH1	0.019	0.000	100.0#	0#	-7.51#
48	TRH2	0.019	0.000	100.0#	0#	-15.43#
49	TRH3	0.019	0.000	100.0#	0#	-22.65#
50	TRH4	0.019	0.000	100.0#	0#	-27.52#
51	TRH5	0.019	0.000	100.0#	0#	-32.34#
52	TRH6	0.019	0.000	100.0#	0#	-43.45#
53	GRO	0.019	0.000	100.0#	0#	-5.11#
54	DRO	0.019	0.000	100.0#	0#	-13.86#
55	RRO	0.019	0.000	100.0#	0#	-31.98#

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

FID3C08FRONT082713.M Tue Aug 27 15:13:04 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\
Data File : FID30048J.D
Signal(s) : FID1A.CH
Acq On : 21-Aug-2013, 05:49:36
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 15:12:58 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 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	12.527	307899	50.000 ug/mlm
16) I	5a-androstane	17.572	376704	50.072 ug/mlm
	System Monitoring Compounds			
6) S	n-dodecane-d26	8.278	164033	25.328 ug/mlm
23) S	n-eicosane-d42	17.036	148554	25.456 ug/mlm
34) S	n-triacontane-d62	28.853	144113	25.060 ug/mlm
	Target Compounds			
2)	n-C8	3.204	159977	25.562 ug/mlm
3)	n-C9	4.484	172072	25.826 ug/mlm
4)	n-C10	5.880	181042	25.835 ug/mlm
5)	n-C11	7.226	179327	25.690 ug/mlm
7)	n-C12	8.482	181335	25.225 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	9.651	182321	25.572 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	10.743	185007	25.355 ug/mlm
13)	i-16	0.000	0	N.D. ug/mld
14)	n-C15	11.770	185811	25.291 ug/mlm
15)	n-C16	12.768	185462	25.168 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	13.831	187589	25.278 ug/mlm
19)	Pristane	13.944	187694	25.489 ug/mlm
20)	n-C18	14.969	186624	25.587 ug/mlm
21)	Phytane	15.127	189534	25.510 ug/mlm
22)	n-C19	16.174	185546	25.494 ug/mlm
24)	n-C20	17.427	186676	25.526 ug/mlm
25)	n-C21	18.706	186130	25.149 ug/mlm
26)	n-C22	19.993	187956	25.332 ug/mlm
27)	n-C23	21.269	186753	25.052 ug/mlm
28)	n-C24	22.523	186210	24.999 ug/mlm
29)	n-C25	23.750	187689	25.156 ug/mlm
30)	n-C26	24.945	188927	25.323 ug/mlm
31)	n-C27	26.107	183781	25.276 ug/mlm
32)	n-C28	27.234	186430	25.307 ug/mlm
33)	n-C29	28.328	187576	25.264 ug/mlm
35)	n-C30	29.388	185328	25.175 ug/mlm
36)	n-C31	30.414	183966	25.390 ug/mlm
37)	n-C32	31.410	180918	25.058 ug/mlm
38)	n-C33	32.379	178971	25.325 ug/mlm
39)	n-C34	33.319	181309	25.178 ug/mlm
40)	n-C35	34.253	177399	24.964 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\
Data File : FID30048J.D
Signal(s) : FID1A.CH
Acq On : 21-Aug-2013, 05:49:36
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 15:12:58 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.291	186915	24.392	ug/mlm
42)	n-C37	36.483	171072	24.460	ug/mlm
43)	n-C38	37.868	167450	24.127	ug/mlm
44)	n-C39	39.484	158562	23.714	ug/mlm
45)	n-C40	41.391	145746	23.432	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

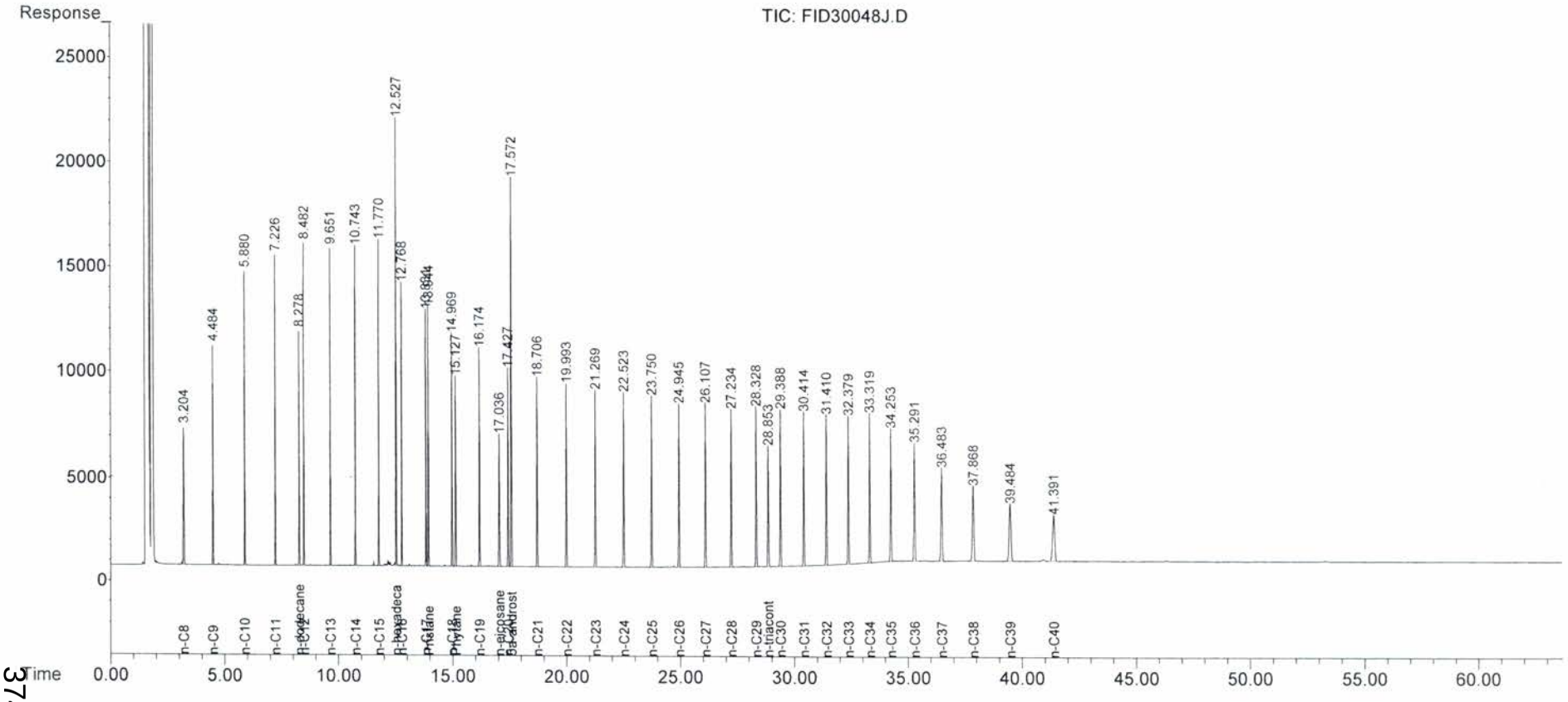
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\
Data File : FID30048J.D
Signal(s) : FID1A.CH
Acq On : 21-Aug-2013, 05:49:36
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 15:12:58 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30048\FID3C08FRONT082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 14:52:56 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Aliphatic Mass Discrimination Ratio

Arcadis-Mayflower AR
Aliphatic Hydrocarbon and Total Petroleum Hydrocarbon Data
Mass Discrimination

File Name	Sample Name	n-C20 (Area)	n-C36 (Area)	n-C36/n-C20 ratio	Q
FID30048C.D	AL-WKC1-1.25-019	10167	10775	1.06	
FID30048D.D	AL-WKC2-10-019	76550	79012	1.03	
FID30048E.D	AL-WKC3-25-019	189670	195585	1.03	
FID30048F.D	AL-WKC4-40-019	322568	335072	1.04	
FID30048G.D	AL-WKC5-50-019	381253	395396	1.04	
FID30048H.D	AL-WKC6-100-001	765556	739896	0.97	
FID30048I.D	AL-WKICV-25-002	197958	195438	0.99	
FID30048J.D	AL-WKCC-25-024	186676	186915	1.00	
FID30054B.D	AL-WKCC-25-024	220091	219230	1.00	
FID30054G.D	AL-WKCC-25-024	214543	217348	1.01	
FID30054H.D	AL-WKCC-25-024	209820	208586	0.99	

Qualifiers (Q): Ratio of n-C36 to n-C20 needs to be > 0.70

Aliphatic Internal Standard Area Data

Arcadis-Mayflower AR
Aliphatic Hydrocarbon and Total Petroleum Hydrocarbon Data
Area of Internal Standards

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)
FID30048E.D	**AL-WKC3-25-019**	**310604**	**155302**	**621208**	**382243**	**191122**	**764486**
FID30048I.D	**AL-WKICV-25-002**	**308690**	**154345**	**617380**	**388421**	**194211**	**776842**
FID30048J.D	**AL-WKCC-25-024**	**307899**	**153950**	**615798**	**376704**	**188352**	**753408**
FID30054B.D	**AL-WKCC-25-024**	**361781**	**180891**	**723562**	**448661**	**224331**	**897322**
FID30054C.D	AL-SRM2779-20-01	345318			504983		
FID30054F.D	AL-WKPem-001	359402			459368		
ENV3092A.D	Procedural Blank	314670			391560		
ENV3092C.D	MS (SED-DA-042 (0-0.5))	274124			353328		
ENV3092D.D	MSD (SED-DA-042 (0-0.5))	312494			392863		
ENV3092E.D	Dupl (SED-DA-043 (0-0.5))	281279			418695		
FID30054G.D	**AL-WKCC-25-024**	**353523**	**176762**	**707046**	**435144**	**217572**	**870288**
ARC1784.D	SED-DA-021 (0-0.5)	276593			365673		
ARC1790.D	SED-DA-042 (0-0.5)	286991			360135		
ARC1795.D	SED-DA-046 (0-0.5)	283967			425177		
ARC1798.D	SED-DA-049 (0-0.5)	267206			374170		
ARC1801.D	SED-DA-043 (0-0.5)	283141			436022		
ARC1804.D	SED-DA-044 (0-0.5)	294670			440379		
FID30054H.D	**AL-WKCC-25-024**	**344809**	**172405**	**689618**	**425025**	**212513**	**850050**

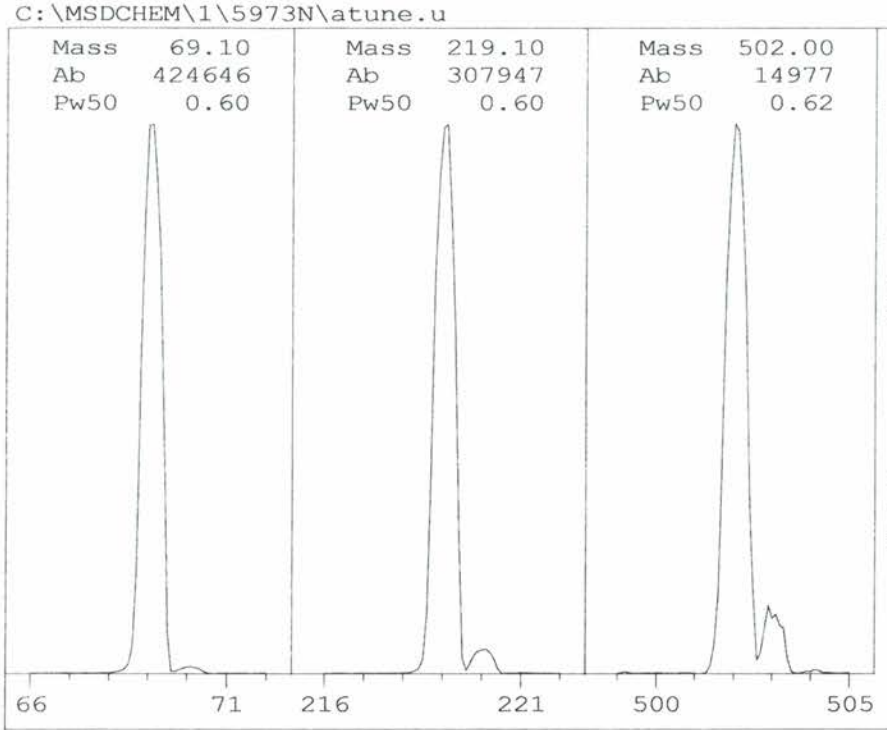
Polycyclic Aromatic Hydrocarbon
Initial Calibration Data
and
Initial Calibration Verification Data

PAH ICAL
AR 70062.M

GC/MS 7
(PAH-2012)

Autotune

Mon Sep 02 12:36:19 2013 Instrument: GCMSD
C:\MSDCHEM\1\5973N\atune.u US21854533

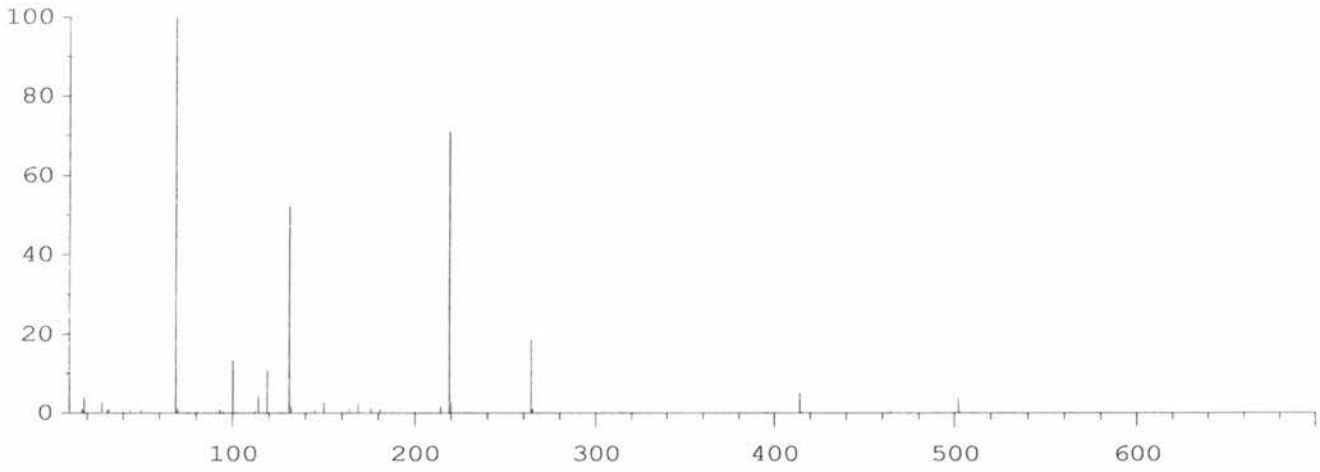


Ion Pol	Pos	MassGain	419
		MassOffs	-8
Emission	34.6	AmuGain	2307
EIEnrgy	69.9	AmuOffs	130
Filament	1	Wid219	0.001
		DC Pol	Neg
Repeller	21.08		
IonFcus	81.6	HEDEnab	On
EntLens	16.5	EMVolts	2282
EntOffs	18.07		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	290	Turbo Speed	100
MS Quad	180		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
142 peaks Base: 69.10 Abundance: 388544



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.10	388544	100.00	70.10	4389	1.13
219.00	276352	71.13	220.00	11311	4.09
502.10	14655	3.77	503.10	1342	9.16

Air/Water Check: H2O~4.14% N2~2.82% O2~0.94% CO2~0.62% N2/H2O~67.99%

Column(1) Flow: 1.267 Column(2): 0 ml/min. Interface Temp: 290

Ramp Criteria:

Ion Focus Maximum	90	volts using ion	502;	EM Gain	316751
Repeller Maximum	35	volts using ion	219;	Gain Factor	3.17

MassGain Values(Samples): 423(3) 414(2) 419(1) 421(0) 419(FS)

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	130.0	130.0	130.0	130.0	130.0	130.0	130.0
Entrance Lens Offset:	18.1	18.1	18.1	18.1	18.1	18.1	18.1

MS70062

Method Path : C:\GCMS7\MS70062\
Method File : AR70062.M
Title : PAH Calibration Table-2013A
Last Update : Sun Sep 08 19:06:24 2013
Response Via : Initial Calibration

Calibration Files
1 =MS70062B.D 2 =MS70062C.D 3 =MS70062D.D 4 =MS70062E.D 5 =MS70062F.D
6 =MS70062G.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	Fluorene-d10	ISTD							
2)	S	Naphthalene-d8	1.937	1.627	1.527	1.580	1.623	1.636	1.655	8.70
3)	T	cis/trans Decalin	0.346	0.295	0.255	0.260	0.267	0.262	0.281	12.36
4)	un	C1-Decalins	0.346	0.295	0.255	0.260	0.267	0.262	0.281	12.36
5)	un	C2-Decalins	0.346	0.295	0.255	0.260	0.267	0.262	0.281	12.36
6)	un	C3-Decalins	0.346	0.295	0.255	0.260	0.267	0.262	0.281	12.36
7)	un	C4-Decalins	0.346	0.295	0.255	0.260	0.267	0.262	0.281	12.36
8)	T	Naphthalene	2.090	1.753	1.633	1.683	1.740	1.751	1.775	9.09
9)	T	2-Methylnaphth...	1.351	1.154	1.087	1.140	1.174	1.189	1.183	7.59
10)	T	1-Methylnaphth...	1.308	1.103	1.009	1.048	1.070	1.079	1.103	9.56
11)	T	2,6-Dimethylna...	1.174	0.984	0.952	0.995	1.043	1.053	1.034	7.57
12)	T	1,6,7-Trimethy...	1.155	0.934	0.871	0.900	0.924	0.964	0.958	10.61
13)	un	C2-Naphthalenes	2.090	1.753	1.633	1.683	1.740	1.751	1.775	9.09
14)	un	C3-Naphthalenes	2.090	1.753	1.633	1.683	1.740	1.751	1.775	9.09
15)	un	C4-Naphthalenes	2.090	1.753	1.633	1.683	1.740	1.751	1.775	9.09
16)	T	Benzothiophene	1.702	1.401	1.306	1.343	1.388	1.405	1.424	9.92
17)	un	C1-Benzothioph...	1.702	1.401	1.306	1.343	1.388	1.405	1.424	9.92
18)	un	C2-Benzothioph...	1.702	1.401	1.306	1.343	1.388	1.405	1.424	9.92
19)	un	C3-Benzothioph...	1.702	1.401	1.306	1.343	1.388	1.405	1.424	9.92
20)	un	C4-Benzothioph...	1.702	1.401	1.306	1.343	1.388	1.405	1.424	9.92
21)	S	Acenaphthene-d10	1.175	0.948	0.882	0.916	0.942	0.950	0.969	10.76
22)	T	Biphenyl	1.777	1.454	1.374	1.426	1.495	1.506	1.505	9.40
23)	T	Acenaphthylene	2.083	1.715	1.594	1.663	1.740	1.828	1.770	9.71
24)	T	Acenaphthene	1.235	1.031	0.958	0.997	1.017	1.044	1.047	9.23
25)	T	Dibenzofuran	1.926	1.655	1.559	1.629	1.699	1.708	1.696	7.37
26)	T	Fluorene	1.560	1.297	1.195	1.247	1.300	1.295	1.316	9.60
27)	T	1-Methylfluorene	0.986	0.804	0.745	0.767	0.775	0.859	0.823	10.84
28)	un	C1-Fluorenes	1.560	1.297	1.195	1.247	1.300	1.295	1.316	9.60
29)	un	C2-Fluorenes	1.560	1.297	1.195	1.247	1.300	1.295	1.316	9.60
30)	un	C3-Fluorenes	1.560	1.297	1.195	1.247	1.300	1.295	1.316	9.60
31)	I	Pyrene-d10	ISTD							
32)	S	Phenanthrene-d10	0.934	0.779	0.732	0.763	0.777	0.839	0.804	9.03
33)	T	Carbazole	0.972	0.767	0.727	0.749	0.793	0.880	0.815	11.48
34)	T	Dibenzothiophene	1.054	0.889	0.844	0.893	0.935	0.938	0.926	7.76
35)	T	4-Methyldibenz...	0.865	0.743	0.710	0.748	0.765	0.828	0.777	7.50
36)	un	2/3-Methyldibe...	0.865	0.743	0.710	0.748	0.765	0.828	0.777	7.50
37)	un	1-Methyldibenz...	0.865	0.743	0.710	0.748	0.765	0.828	0.777	7.50
38)	un	C2-Dibenzothio...	1.054	0.889	0.844	0.893	0.935	0.938	0.926	7.76
39)	un	C3-Dibenzothio...	1.054	0.889	0.844	0.893	0.935	0.938	0.926	7.76
40)	un	C4-Dibenzothio...	1.054	0.889	0.844	0.893	0.935	0.938	0.926	7.76
41)	T	Phenanthrene	1.210	1.038	0.968	1.015	1.027	1.168	1.071	8.91
42)	T	Anthracene	1.108	0.960	0.934	0.963	0.990	1.132	1.014	8.28
43)	un	3-Methylphenan...	0.917	0.775	0.742	0.804	0.837	0.846	0.820	7.45
44)	un	2-Methylphenan...	0.917	0.775	0.742	0.804	0.837	0.846	0.820	7.45
45)	un	2-Methylanthra...	0.917	0.775	0.742	0.804	0.837	0.846	0.820	7.45
46)	un	4/9-Methylphen...	0.917	0.775	0.742	0.804	0.837	0.846	0.820	7.45
47)	T	1-Methylphenan...	0.917	0.775	0.742	0.804	0.837	0.846	0.820	7.45
48)	T	3,6-Dimethylph...	0.750	0.634	0.593	0.649	0.695	0.673	0.666	8.11
49)	T	Retene	0.328	0.264	0.240	0.258	0.269	0.284	0.274	11.02
50)	un	C2-Phenanthren...	1.210	1.038	0.968	1.015	1.027	1.168	1.071	8.91
51)	un	C3-Phenanthren...	1.210	1.038	0.968	1.015	1.027	1.168	1.071	8.91
52)	un	C4-Phenanthren...	1.210	1.038	0.968	1.015	1.027	1.168	1.071	8.91
53)	T	Naphthobenzoth...	1.354	1.131	1.070	1.141	1.245	1.117	1.176	8.88

Method Path : C:\GCMS7\MS70062\
Method File : AR70062.M
Title : PAH Calibration Table-2013A

54)	un	C1-Naphthobenz...	1.354	1.131	1.070	1.141	1.245	1.117	1.176	8.88
55)	un	C2-Naphthobenz...	1.354	1.131	1.070	1.141	1.245	1.117	1.176	8.88
56)	un	C3-Naphthobenz...	1.354	1.131	1.070	1.141	1.245	1.117	1.176	8.88
57)	un	C4-Naphthobenz...	1.354	1.131	1.070	1.141	1.245	1.117	1.176	8.88
58)	T	Fluoranthene	1.285	1.088	1.036	1.124	1.194	1.140	1.144	7.57
59)	T	Pyrene	1.441	1.182	1.106	1.145	1.166	1.294	1.222	10.17
60)	T	2-Methylfluora...	0.806	0.657	0.607	0.646	0.659	0.781	0.693	11.64
61)	T	Benzo(b)fluorene	0.812	0.660	0.620	0.676	0.716	0.705	0.698	9.36
62)	un	C1-Fluoranthen...	1.285	1.088	1.036	1.124	1.194	1.140	1.144	7.57
63)	un	C2-Fluoranthen...	1.285	1.088	1.036	1.124	1.194	1.140	1.144	7.57
64)	un	C3-Fluoranthen...	1.285	1.088	1.036	1.124	1.194	1.140	1.144	7.57
65)	un	C4-Fluoranthen...	1.285	1.088	1.036	1.124	1.194	1.140	1.144	7.57
66)	S	Chrysene-d12	1.122	0.950	0.913	0.987	1.029	0.811	0.969	10.89
67)	T	Benz(a)anthracene	1.349	1.145	1.081	1.166	1.216	1.119	1.179	8.02
68)	T	Chrysene/Triph...	1.169	1.002	0.942	0.999	1.062	0.926	1.017	8.78
69)	un	C1-Chrysenes	1.169	1.002	0.942	0.999	1.062	0.926	1.017	8.78
70)	un	C2-Chrysenes	1.169	1.002	0.942	0.999	1.062	0.926	1.017	8.78
71)	un	C3-Chrysenes	1.169	1.002	0.942	0.999	1.062	0.926	1.017	8.78
72)	un	C4-Chrysenes	1.169	1.002	0.942	0.999	1.062	0.926	1.017	8.78
73)	I	Benzo(a)pyrene-d12	----------ISTD----------							
74)	un	C29-Hopane	0.548	0.443	0.400	0.414	0.415	0.412	0.439	12.58
75)	un	18a-Oleanane	0.548	0.443	0.400	0.414	0.415	0.412	0.439	12.58
76)	T	C30-Hopane	0.548	0.443	0.400	0.414	0.415	0.412	0.439	12.58
77)	T	Benzo(b)fluora...	1.787	1.531	1.394	1.493	1.522	1.346	1.512	10.16
78)	T	Benzo(k,j)fluo...	1.666	1.405	1.259	1.343	1.384	1.418	1.412	9.68
79)	un	Benzo(a)fluora...	1.666	1.405	1.259	1.343	1.384	1.418	1.412	9.68
80)	T	Benzo(e)pyrene	1.839	1.571	1.404	1.481	1.496	1.350	1.524	11.33
81)	T	Benzo(a)pyrene	1.679	1.435	1.296	1.387	1.426	1.514	1.456	8.96
82)	T	Indeno(1,2,3-c...	1.901	1.586	1.444	1.568	1.640	1.687	1.637	9.33
83)	T	Dibenzo(a,h)an...	1.482	1.220	1.132	1.239	1.303	1.350	1.288	9.38
84)	un	C1-Dibenzo(a,h...	1.482	1.220	1.132	1.239	1.303	1.350	1.288	9.38
85)	un	C2-Dibenzo(a,h...	1.482	1.220	1.132	1.239	1.303	1.350	1.288	9.38
86)	un	C3-Dibenzo(a,h...	1.482	1.220	1.132	1.239	1.303	1.350	1.288	9.38
87)	T	Benzo(g,h,i)pe...	1.686	1.401	1.278	1.364	1.420	1.423	1.429	9.61
88)	S	Perylene-d12	1.381	1.180	1.054	1.131	1.151	1.225	1.187	9.31
89)	T	Perylene	1.697	1.421	1.288	1.383	1.427	1.512	1.455	9.56
90)	S	5(b)H-Cholane	0.259	0.205	0.181	0.191	0.193	0.194	0.204	13.82
91)	un	C20-TAS	2.073	1.705	1.495	1.551	1.571	1.696	1.682	12.41
92)	un	C21-TAS	2.073	1.705	1.495	1.551	1.571	1.696	1.682	12.41
93)	un	C26(20S)-TAS	2.073	1.705	1.495	1.551	1.571	1.696	1.682	12.41
94)	T	C26(20R)/C27(2...	2.073	1.705	1.495	1.551	1.571	1.696	1.682	12.41
95)	un	C28(20S)-TAS	2.073	1.705	1.495	1.551	1.571	1.696	1.682	12.41
96)	un	C27(20R)-TAS	2.073	1.705	1.495	1.551	1.571	1.696	1.682	12.41
97)	un	C28(20R)-TAS	2.073	1.705	1.495	1.551	1.571	1.696	1.682	12.41

(#) = Out of Range

Data Path : C:\GCMS7\MS70062\
Data File : MS70062B.D
Acq On : 2 Sep 2013 5:32 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 08 18:29:22 2013
Quant Method : C:\GCMS7\MS70062\AR70062.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	422485	251.05		0.00
31) Pyrene-d10	29.566	212	866123m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	717181m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.766	136	65225m	23.91		0.03
21) Acenaphthene-d10	19.588	164	39584m	24.68		0.00
32) Phenanthrene-d10	24.683	188	64607m	22.44		0.00
66) Chrysene-d12	33.731	240	77537m	23.13		-0.04
88) Perylene-d12	38.580	264	79117m	24.48		-0.04
90) 5(b)H-Cholane	34.158	217	14842m	27.11		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.120	138	11504m	25.23		
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	70345m	23.92		
9) 2-Methylnaphthalene	16.051	142	45522m	23.45		
10) 1-Methylnaphthalene	16.385	142	43989m	23.79		
11) 2,6-Dimethylnaphthalene	18.168	156	39504m	23.43		
12) 1,6,7-Trimethylnaphtha...	21.009	170	38884m	24.04		
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	56937m	24.07		
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	59276m	24.34		
23) Acenaphthylene	19.115	152	69553m	23.78		
24) Acenaphthene	19.700	154	41640m	23.24		
25) Dibenzofuran	20.313	168	64501m	23.39		
26) Fluorene	21.483	166	52598	24.27		100
27) 1-Methylfluorene	23.436	180	33430m	23.21		
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	66600m	23.06		
34) Dibenzothiophene	24.337	184	71828m	22.87		
35) 4-Methyldibenzothiophene	25.826	198	60294m	21.95		
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.		
37) 1-Methyldibenzothiophene	26.449	198	241	0.09		100
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	82855m	21.28		
42) Anthracene	24.925	178	76815m	21.06		

Data Path : C:\GCMS7\MS70062\
Data File : MS70062B.D
Acq On : 2 Sep 2013 5:32 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 08 18:29:22 2013
Quant Method : C:\GCMS7\MS70062\AR70062.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	62673m	23.35		
48) 3,6-Dimethylphenanthrene	27.938	206	51915m	23.95		
49) Retene	30.639	234	20247m	20.33		
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	94182m	23.90		
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	88872m	23.57		
59) Pyrene	29.635	202	99617m	22.29		
60) 2-Methylfluoranthene	30.397	216	56110m	21.83		
61) Benzo(b)fluorene	30.985	216	56616m	23.52		
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	93023m	23.22		
68) Chrysene/Triphenylene	33.809	228	80346m	23.16		
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	31379m	27.45		
77) Benzo(b)fluoranthene	37.223	252	102585m	25.65		
78) Benzo(k,j)fluoranthene	37.300	252	95076m	27.41		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.192	252	104970m	26.89		
81) Benzo(a)pyrene	38.386	252	96029m	24.41		
82) Indeno(1,2,3-c,d)pyrene	43.041	276	107054m	23.21		
83) Dibenzo(a,h)anthracene	43.115	278	84140m	23.09		
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	95754m	23.95		
89) Perylene	38.697	252	97316m	25.20		
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	118762m	26.72		
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\MS70062\
Data File : MS70062B.D
Acq On : 2 Sep 2013 5:32 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 08 18:29:22 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration

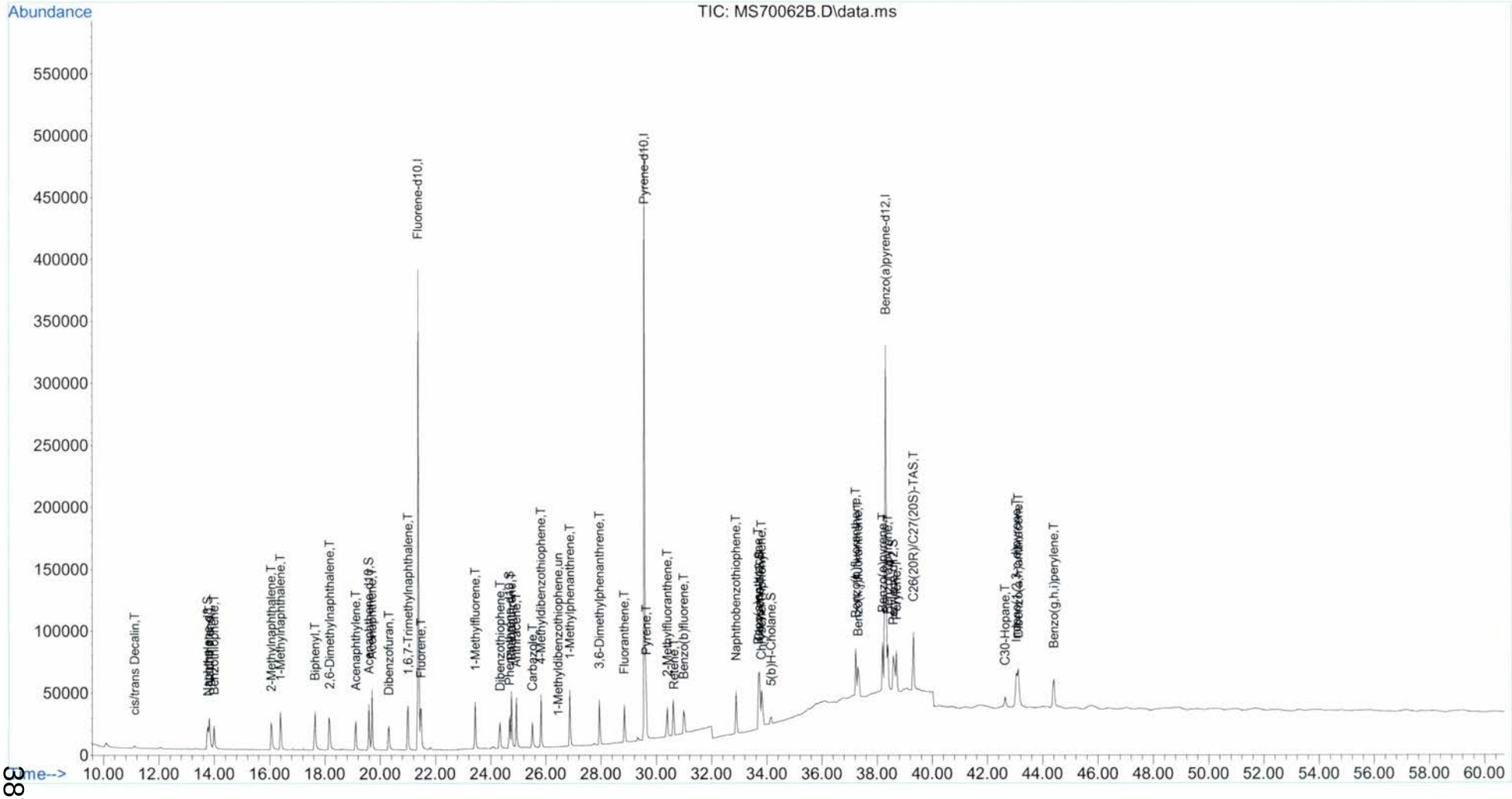
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70062\
Data File : MS70062B.D
Acq On : 2 Sep 2013 5:32 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 08 18:29:22 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 01 20:58:36 2013
Response via : Initial Calibration



Data Path : C:\GCMS7\MS70062\
Data File : MS70062C.D
Acq On : 2 Sep 2013 6:40 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 08 18:40:13 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 04 06:15:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorene-d10	21.371	176	423535	251.05			0.00
31) Pyrene-d10	29.566	212	849432m	250.63			0.00
73) Benzo(a)pyrene-d12	38.309	264	681121m	250.32			0.00
System Monitoring Compounds							
2) Naphthalene-d8	13.766	136	274580m	99.99			0.00
21) Acenaphthene-d10	19.589	164	160080	98.96			0.00
32) Phenanthrene-d10	24.683	188	264144	94.10			0.00
66) Chrysene-d12	33.731	240	322180m	98.85			0.00
88) Perylene-d12	38.581	264	321108m	104.13			0.00
90) 5(b)H-Cholane	34.158	217	55797m	102.65			0.00
Target Compounds							Qvalue
3) cis/trans Decalin	11.120	138	49164m	112.68			
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	295786	99.89			97
9) 2-Methylnaphthalene	16.051	142	194910m	99.63			
10) 1-Methylnaphthalene	16.385	142	185940m	99.85			
11) 2,6-Dimethylnaphthalene	18.140	156	166021m	98.27			
12) 1,6,7-Trimethylnaphtha...	21.009	170	157535m	97.09			
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	235003m	98.96			
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	243165	99.04			91
23) Acenaphthylene	19.115	152	286963	97.92			100
24) Acenaphthene	19.700	154	174351	97.65			94
25) Dibenzofuran	20.285	168	277848m	100.59			
26) Fluorene	21.455	166	219173m	100.39			
27) 1-Methylfluorene	23.436	180	136627	94.52		#	49
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	257778m	91.24			
34) Dibenzothiophene	24.337	184	297142	96.78		#	93
35) 4-Methyldibenzothiophene	25.826	198	253880	94.58			100
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	348757m	93.26			
42) Anthracene	24.925	178	326424m	92.11			

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70062\
Data File : MS70062C.D
Acq On : 2 Sep 2013 6:40 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 08 18:40:13 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 04 06:15:49 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	259924m	97.60		
48)	3,6-Dimethylphenanthrene	27.938	206	215258m	100.65		
49)	Retene	30.604	234	79990m	82.53		
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	385820m	99.65		
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	369085m	99.42		
59)	Pyrene	29.635	202	400614m	92.23		
60)	2-Methylfluoranthene	30.397	216	224340m	90.40		
61)	Benzo(b)fluorene	30.985	216	225733m	95.86		
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	387433m	99.45		
68)	Chrysene/Triphenylene	33.809	228	337554m	100.45		
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	120474m	107.93		
77)	Benzo(b)fluoranthene	37.223	252	417292m	89.61		
78)	Benzo(k,j)fluoranthene	37.300	252	380757m	90.27		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.193	252	425818m	112.69		
81)	Benzo(a)pyrene	38.387	252	389662m	103.78		
82)	Indeno(1,2,3-c,d)pyrene	43.041	276	424186m	96.59		
83)	Dibenzo(a,h)anthracene	43.115	278	329029m	95.11		
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	44.405	276	377723m	99.05		
89)	Perylene	38.697	252	387090	104.04		100
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	463907m	107.24		
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\MS70062\
Data File : MS70062C.D
Acq On : 2 Sep 2013 6:40 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 08 18:40:13 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 04 06:15:49 2013
Response via : Initial Calibration

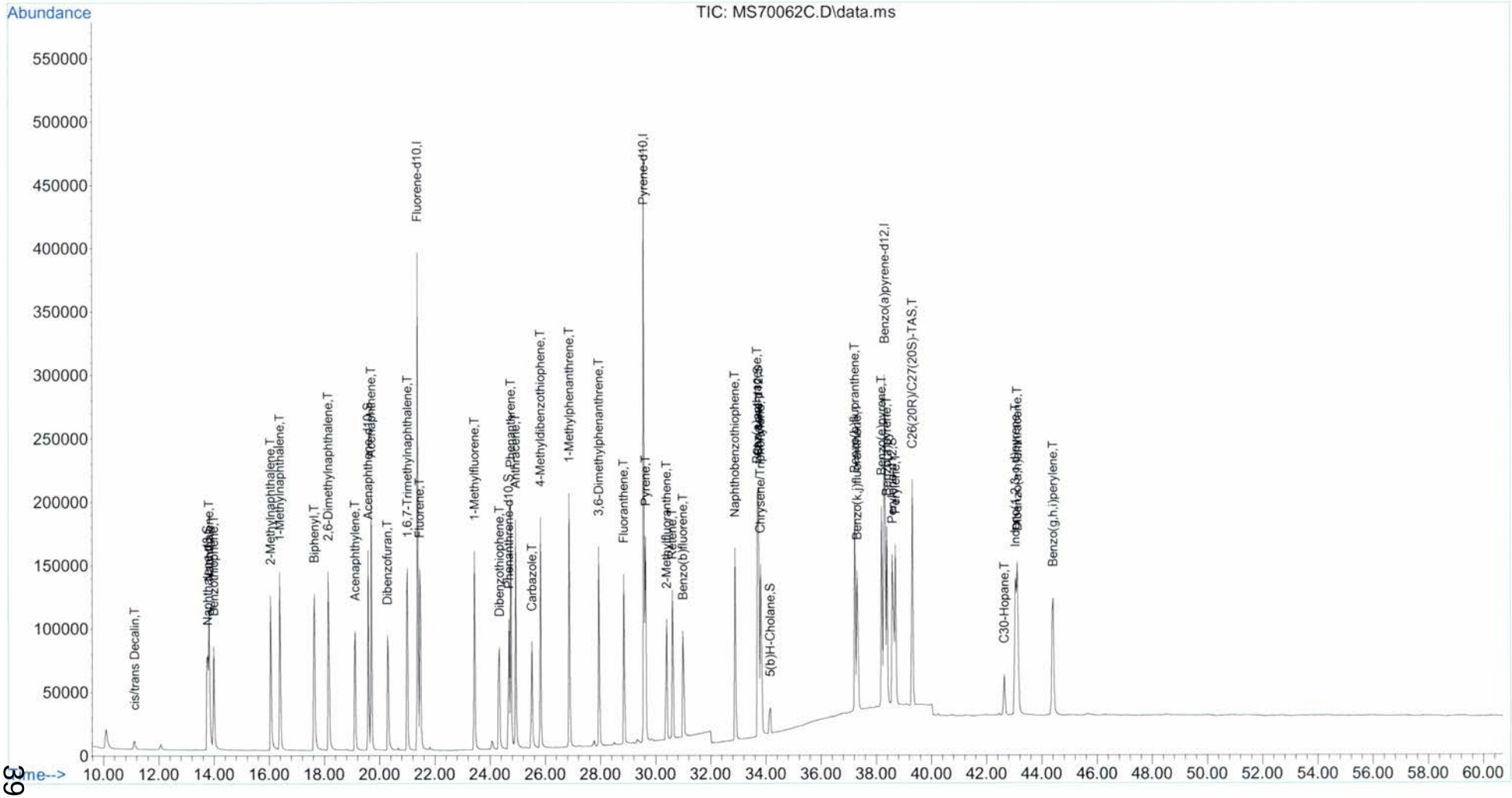
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70062\
Data File : MS70062C.D
Acq On : 2 Sep 2013 6:40 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 08 18:40:13 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 04 06:15:49 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70062\
Data File : MS70062D.D
Acq On : 2 Sep 2013 7:49 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 08 18:43:57 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 04 06:16:16 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorene-d10	21.371	176	444986	251.05			0.00
31) Pyrene-d10	29.565	212	875337	250.63			0.00
73) Benzo(a)pyrene-d12	38.309	264	721574m	250.32			0.00
System Monitoring Compounds							
2) Naphthalene-d8	13.738	136	676932m	234.43			-0.03
21) Acenaphthene-d10	19.588	164	391268	230.11			0.00
32) Phenanthrene-d10	24.683	188	639414	222.96			0.00
66) Chrysene-d12	33.731	240	797507	237.36			0.00
88) Perylene-d12	38.580	264	759839	231.02			0.00
90) 5(b)H-Cholane	34.158	217	130112	224.51			0.00
Target Compounds							Qvalue
3) cis/trans Decalin	11.120	138	111932m	261.99			
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	723423	232.27			96
9) 2-Methylnaphthalene	16.051	142	482092	232.89			96
10) 1-Methylnaphthalene	16.385	142	446811	228.50			96
11) 2,6-Dimethylnaphthalene	18.140	156	422071	236.83		#	18
12) 1,6,7-Trimethylnaphtha...	21.009	170	385748	226.41		#	26
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	575204	230.73			100
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	603375	232.94			95
23) Acenaphthylene	19.115	152	700722	227.16			99
24) Acenaphthene	19.700	154	425561	227.60			94
25) Dibenzofuran	20.285	168	687171m	236.08			
26) Fluorene	21.455	166	530678	230.85			89
27) 1-Methylfluorene	23.436	180	332588	220.55		#	47
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	629368	217.23			100
34) Dibenzothiophene	24.337	184	726776	229.33		#	92
35) 4-Methyldibenzothiophene	25.826	198	625374	227.19			100
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	837430m	220.03			
42) Anthracene	24.925	178	817922m	224.91			

Data Path : C:\GCMS7\MS70062\
Data File : MS70062D.D
Acq On : 2 Sep 2013 7:49 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 08 18:43:57 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 04 06:16:16 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	26.864	192	640624m	231.22	
48) 3,6-Dimethylphenanthrene	27.938	206	518738	233.32	86
49) Retene	30.604	234	186970	189.49	88
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	939777	234.70	100
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	905060	235.33	100
59) Pyrene	29.635	202	966090	218.23	100
60) 2-Methylfluoranthene	30.397	216	534072	211.65	100
61) Benzo(b)fluorene	30.985	216	546177	225.41	100
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	942123m	235.37	
68) Chrysene/Triphenylene	33.809	228	817149m	236.33	
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	288613	241.72	100
77) Benzo(b)fluoranthene	37.223	252	1006539m	176.66	
78) Benzo(k,j)fluoranthene	37.300	252	903965m	170.59	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.192	252	1007886m	247.61	
81) Benzo(a)pyrene	38.386	252	931741m	232.38	
82) Indeno(1,2,3-c,d)pyrene	43.041	276	1022773	219.65	89
83) Dibenzo(a,h)anthracene	43.115	278	808124	221.01	82
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	912672	225.89	97
89) Perylene	38.697	252	929142	233.44	100
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	1077371	232.23	100
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\MS70062\
Data File : MS70062D.D
Acq On : 2 Sep 2013 7:49 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 08 18:43:57 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 04 06:16:16 2013
Response via : Initial Calibration

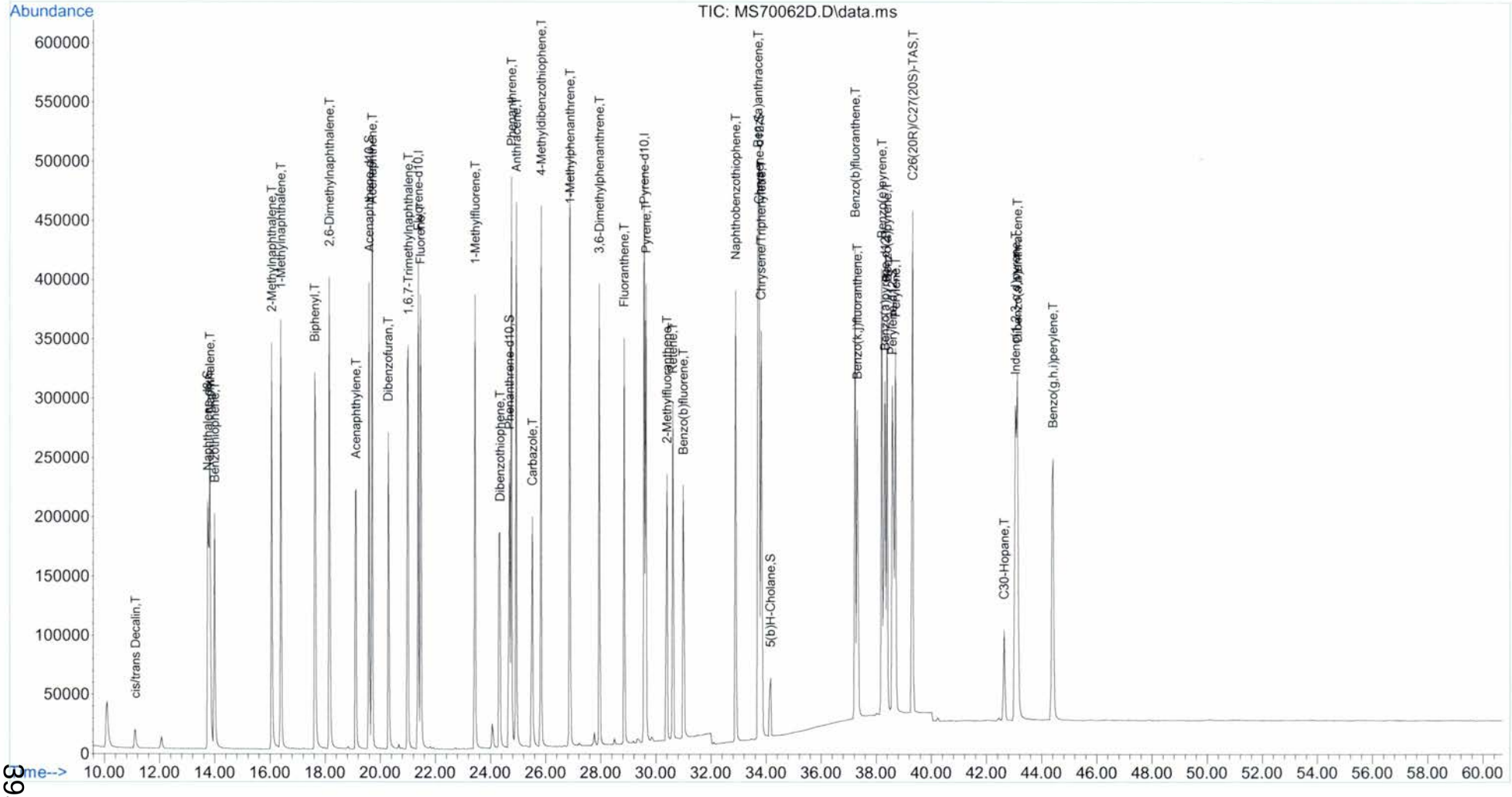
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70062\
Data File : MS70062D.D
Acq On : 2 Sep 2013 7:49 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 08 18:43:57 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 04 06:16:16 2013
Response via : Initial Calibration



Data Path : C:\GCMS7\MS70062\
Data File : MS70062E.D
Acq On : 2 Sep 2013 8:58 pm
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 08 18:48:21 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 04 06:16:28 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorene-d10	21.371	176	443379	251.05			0.00
31) Pyrene-d10	29.565	212	853951	250.63			0.00
73) Benzo(a)pyrene-d12	38.309	264	694989	250.32			0.00
System Monitoring Compounds							
2) Naphthalene-d8	13.738	136	1395784	484.99			0.00
21) Acenaphthene-d10	19.588	164	809554	478.24			0.00
32) Phenanthrene-d10	24.683	188	1301523	466.50			0.00
66) Chrysene-d12	33.731	240	1681895	512.86			0.00
88) Perylene-d12	38.580	264	1570486	492.25			0.00
90) 5(b)H-Cholane	34.158	217	265572	471.59			0.00
Target Compounds							Qvalue
3) cis/trans Decalin	11.120	138	227273m	569.10			
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	1486148	478.29			96
9) 2-Methylnaphthalene	16.051	142	1007805	487.87			95
10) 1-Methylnaphthalene	16.385	142	924404	476.00			96
11) 2,6-Dimethylnaphthalene	18.140	156	878722	492.30		#	23
12) 1,6,7-Trimethylnaphtha...	21.009	170	795131	469.47		#	24
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	1179125	474.39			100
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	1248005	480.70			96
23) Acenaphthylene	19.087	152	1457080	472.92			98
24) Acenaphthene	19.700	154	882355	475.38			93
25) Dibenzofuran	20.285	168	1430942	492.42			100
26) Fluorene	21.455	166	1103241	481.50			89
27) 1-Methylfluorene	23.436	180	682013	457.56		#	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	25.514	167	1264564m	448.52			
34) Dibenzothiophene	24.302	184	1499676	483.64		#	78
35) 4-Methyldibenzothiophene	25.826	198	1285263	479.70			100
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	1713359m	466.01			
42) Anthracene	24.925	178	1645518	467.26			96

Data Path : C:\GCMS7\MS70062\
Data File : MS70062E.D
Acq On : 2 Sep 2013 8:58 pm
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 08 18:48:21 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 04 06:16:28 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	1354156	497.68	93
48) 3,6-Dimethylphenanthrene	27.938	206	1106966	507.03	83
49) Retene	30.604	234	392531	411.58	87
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	1956046m	500.85	
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	1917169	507.92	100
59) Pyrene	29.635	202	1950201	454.65	100
60) 2-Methylfluoranthene	30.397	216	1107479	453.75	100
61) Benzo(b)fluorene	30.985	216	1161380	491.34	100
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	1981806m	509.53	
68) Chrysene/Triphenylene	33.809	228	1691742	501.92	96
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	574597	490.64	100
77) Benzo(b)fluoranthene	37.223	252	2076649m	337.82	
78) Benzo(k,j)fluoranthene	37.300	252	1856720m	318.96	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.192	252	2047252	514.76	100
81) Benzo(a)pyrene	38.386	252	1921338	494.87	100
82) Indeno(1,2,3-c,d)pyrene	43.041	276	2139960	478.35	89
83) Dibenzo(a,h)anthracene	43.115	278	1704776	485.78	82
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	1875782	482.34	92
89) Perylene	38.697	252	1921135	496.41	100
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	2152442	476.60	100
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\MS70062\
Data File : MS70062E.D
Acq On : 2 Sep 2013 8:58 pm
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 08 18:48:21 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 04 06:16:28 2013
Response via : Initial Calibration

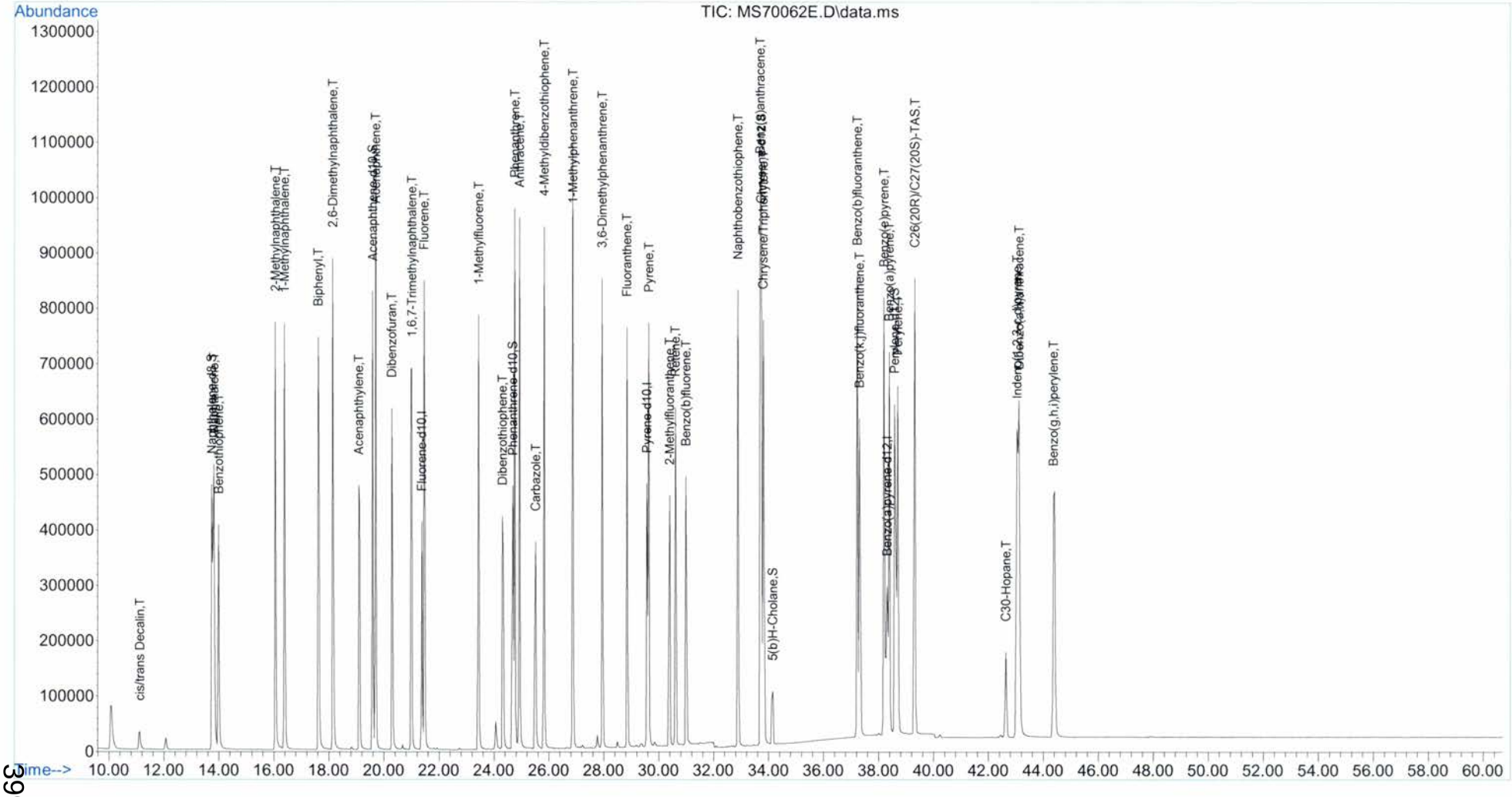
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70062\
Data File : MS70062E.D
Acq On : 2 Sep 2013 8:58 pm
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 08 18:48:21 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 04 06:16:28 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70062\
Data File : MS70062F.D
Acq On : 2 Sep 2013 10:07 pm
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 08 18:51:45 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 04 06:16:40 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorene-d10	21.371	176	402514	251.05			0.00
31) Pyrene-d10	29.566	212	772228	250.63			0.00
73) Benzo(a)pyrene-d12	38.309	264	642939	250.32			0.00
System Monitoring Compounds							
2) Naphthalene-d8	13.739	136	2603546	996.17			0.00
21) Acenaphthene-d10	19.589	164	1510763	983.56			0.00
32) Phenanthrene-d10	24.683	188	2396859	954.57			0.00
66) Chrysene-d12	33.731	240	3169577	1063.42			0.00
88) Perylene-d12	38.581	264	2955825	990.38			0.00
90) 5(b)H-Cholane	34.119	217	496141	943.60			-0.04
Target Compounds							Qvalue
3) cis/trans Decalin	11.092	138	423065m	1248.37			
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	2789832	989.54			95
9) 2-Methylnaphthalene	16.051	142	1884426	1004.18			93
10) 1-Methylnaphthalene	16.385	142	1714303	974.97			94
11) 2,6-Dimethylnaphthalene	18.140	156	1672960	1027.73		#	37
12) 1,6,7-Trimethylnaphtha...	21.009	170	1481057	965.98		#	22
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	2211635	979.93			100
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	2375126	1004.74			99
23) Acenaphthylene	19.087	152	2766832	987.37			98
24) Acenaphthene	19.700	154	1633958	973.74			93
25) Dibenzofuran	20.285	168	2709989	1023.31			100
26) Fluorene	21.455	166	2087701	1001.42			90
27) 1-Methylfluorene	23.437	180	1251701	933.36		#	43
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	2422204	952.17			100
34) Dibenzothiophene	24.302	184	2841191	1008.41		#	81
35) 4-Methyldibenzothiophene	25.826	198	2377285	988.41			100
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	3135971	955.36			98
42) Anthracene	24.926	178	3058493	973.78			95

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70062\
Data File : MS70062F.D
Acq On : 2 Sep 2013 10:07 pm
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 08 18:51:45 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 04 06:16:40 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	2550766	1026.94		92
48) 3,6-Dimethylphenanthrene	27.938	206	2145079	1072.42		81
49) Retene	30.604	234	741920	867.33		85
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	3859171	1085.68		100
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	3682236	1068.34		100
59) Pyrene	29.635	202	3594165	937.23		100
60) 2-Methylfluoranthene	30.397	216	2045191	936.89		100
61) Benzo(b)fluorene	30.985	216	2226323	1037.80		100
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	3740213	1059.39		95
68) Chrysene/Triphenylene	33.809	228	3252983	1063.43		96
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	1066619	970.01		100
77) Benzo(b)fluoranthene	37.223	252	3916381m	615.98		
78) Benzo(k,j)fluoranthene	37.300	252	3539248m	578.94		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.193	252	3827455	1020.85		100
81) Benzo(a)pyrene	38.387	252	3655352	1009.56		100
82) Indeno(1,2,3-c,d)pyrene	43.041	276	4139338	996.71		89
83) Dibenzo(a,h)anthracene	43.115	278	3317252	1017.90		83
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	3614557	1000.67		97
89) Perylene	38.697	252	3668941	1011.57		100
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	4035046	956.34		100
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\MS70062\
Data File : MS70062F.D
Acq On : 2 Sep 2013 10:07 pm
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 08 18:51:45 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 04 06:16:40 2013
Response via : Initial Calibration

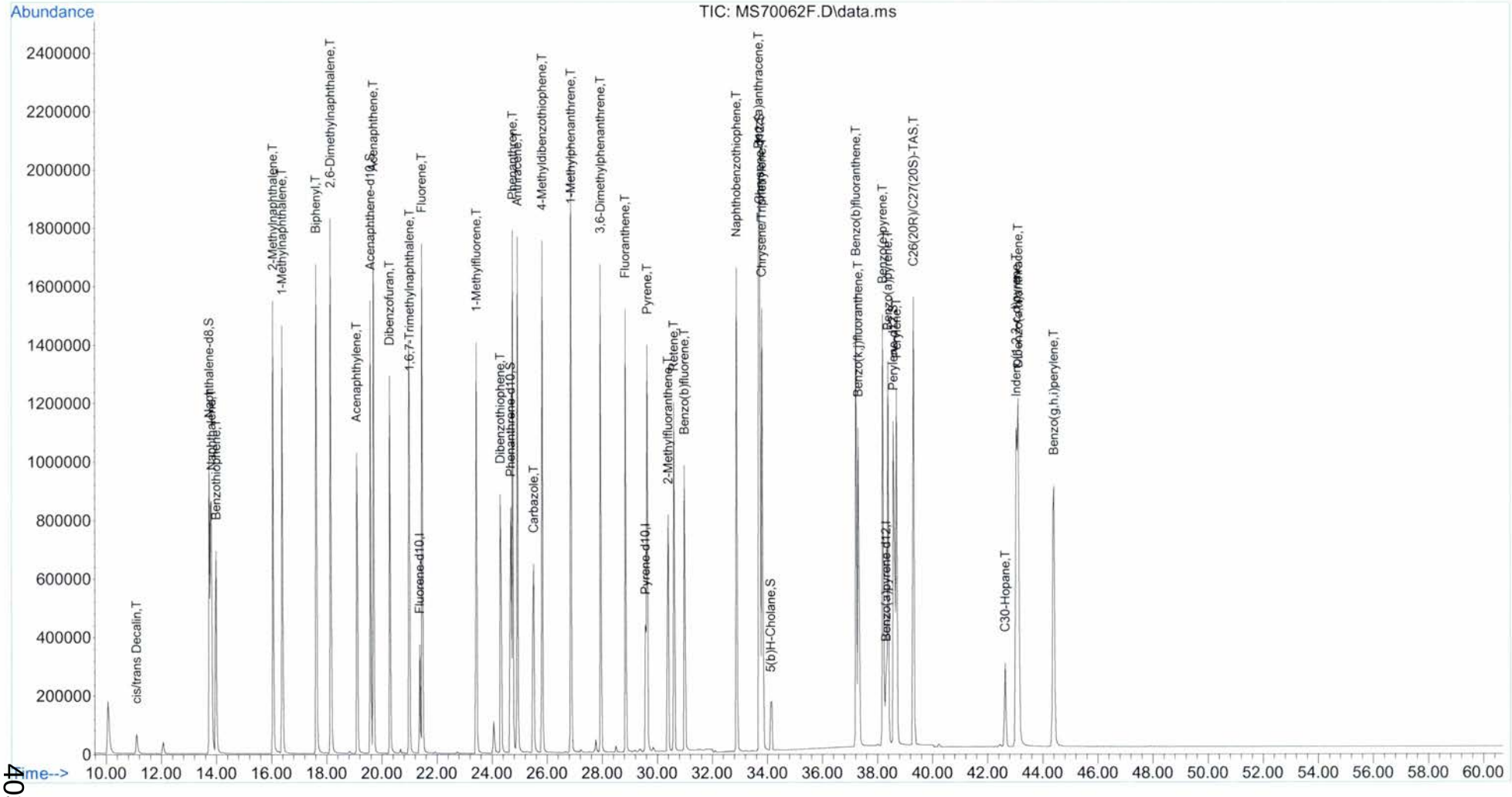
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70062\
Data File : MS70062F.D
Acq On : 2 Sep 2013 10:07 pm
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 08 18:51:45 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 04 06:16:40 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70062\
Data File : MS70062G.D
Acq On : 2 Sep 2013 11:16 pm
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 08 19:06:16 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 18:55:50 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorene-d10	21.371	176	416791	251.05			0.00
31) Pyrene-d10	29.566	212	791491	250.63			0.00
73) Benzo(a)pyrene-d12	38.309	264	684204	250.32			0.00
System Monitoring Compounds							
2) Naphthalene-d8	13.739	136	13583298	4944.17			0.00
21) Acenaphthene-d10	19.589	164	7894480	4907.10			0.00
32) Phenanthrene-d10	24.683	188	13263838	5223.32			0.00
66) Chrysene-d12	33.731	240	12803372	4185.57			0.00
88) Perylene-d12	38.619	264	16743972	5161.23			0.00
90) 5(b)H-Cholane	34.158	217	2645881	4750.19			0.00
Target Compounds							Qvalue
3) cis/trans Decalin	11.092	138	2149211m	4611.45			
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	14539090m	4932.16			
9) 2-Methylnaphthalene	16.051	142	9881621	5032.99			92
10) 1-Methylnaphthalene	16.385	142	8951758	4888.11			93
11) 2,6-Dimethylnaphthalene	18.140	156	8744985	5095.64		#	42
12) 1,6,7-Trimethylnaphtha...	21.009	170	8000473	5030.65		#	22
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	13.961	134	11595910	4904.25			100
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	12385418	4955.78			99
23) Acenaphthylene	19.087	152	15051036	5120.65			98
24) Acenaphthene	19.700	154	8684833	4995.60			93
25) Dibenzofuran	20.285	168	14106625	5010.49			100
26) Fluorene	21.455	166	10773596	4932.99			90
27) 1-Methylfluorene	23.436	180	7184960	5261.51		#	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	25.514	167	13768676	5350.24			100
34) Dibenzothiophene	24.302	184	14604376	4996.44		#	79
35) 4-Methyldibenzothiophene	25.826	198	13181849	5374.58			100
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	18284859	5405.93			98
42) Anthracene	24.925	178	17926908	5595.60			94

Data Path : C:\GCMS7\MS70062\
Data File : MS70062G.D
Acq On : 2 Sep 2013 11:16 pm
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 08 19:06:16 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 18:55:50 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	13205155	5098.78			94
48)	3,6-Dimethylphenanthrene	27.938	206	10639155	5058.81			89
49)	Retene	30.639	234	4000300	4627.20		#	13
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	17746214m	4772.64			
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	18021736	4986.67			100
59)	Pyrene	29.635	202	20425201	5290.88			100
60)	2-Methylfluoranthene	30.397	216	12416130	5674.82			100
61)	Benzo(b)fluorene	30.985	216	11237661	5096.88			100
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	17628030	4733.32			95
68)	Chrysene/Triphenylene	33.847	228	14533012	4526.42			93
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	5627424	4693.70			100
77)	Benzo(b)fluoranthene	37.223	252	18427695m	4459.14			
78)	Benzo(k,j)fluoranthene	37.339	252	19301219m	5002.41			
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d		
80)	Benzo(e)pyrene	38.193	252	18369400	4411.26			100
81)	Benzo(a)pyrene	38.386	252	20648321	5188.17			100
82)	Indeno(1,2,3-c,d)pyrene	43.041	276	22656603	5062.33			86
83)	Dibenzo(a,h)anthracene	43.115	278	18277421	5193.39		#	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	44.405	276	19270570	4935.19			93
89)	Perylene	38.697	252	20683859	5202.49			100
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	23178304	5042.56			100
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\MS70062\
Data File : MS70062G.D
Acq On : 2 Sep 2013 11:16 pm
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 08 19:06:16 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 18:55:50 2013
Response via : Initial Calibration

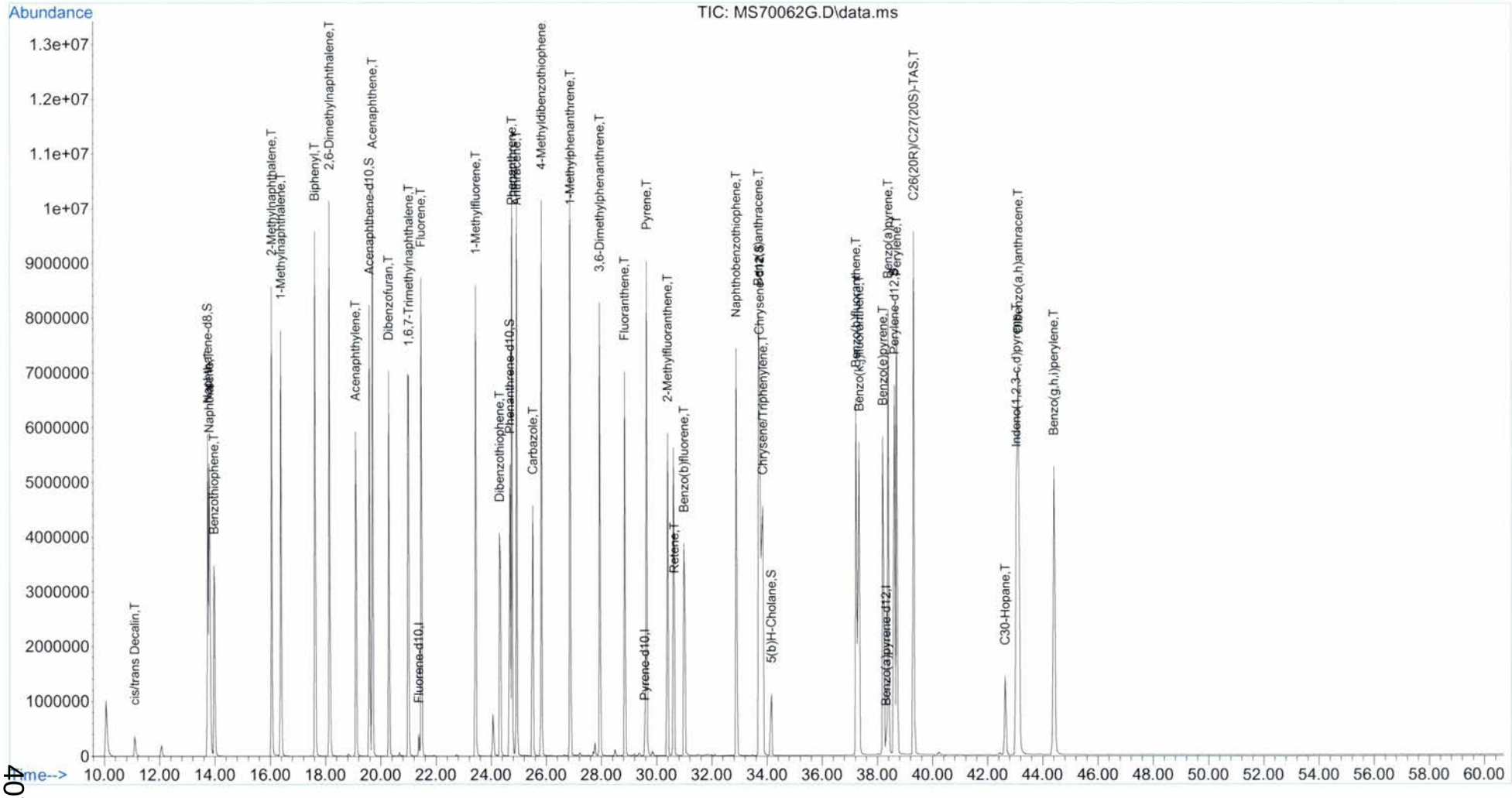
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70062\
Data File : MS70062G.D
Acq On : 2 Sep 2013 11:16 pm
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 08 19:06:16 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 18:55:50 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70062\
Data File : MS70062I.D
Acq On : 3 Sep 2013 1:33 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 08 19:14:02 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 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	103	0.00
2	S	Naphthalene-d8	1.655	1.505	9.1	102	0.00
3	T	cis/trans Decalin	0.281	0.310	-10.3	125	0.00
4	un	C1-Decalins	0.281	0.000	100.0#	0#	-12.26#
5	un	C2-Decalins	0.281	0.000	100.0#	0#	-13.60#
6	un	C3-Decalins	0.281	0.000	100.0#	0#	-15.83#
7	un	C4-Decalins	0.281	0.000	100.0#	0#	-18.47#
8	T	Naphthalene	1.775	1.968	-10.9	124	0.03
9	T	2-Methylnaphthalene	1.183	1.373	-16.1	130	0.00
10	T	1-Methylnaphthalene	1.103	1.255	-13.8	128	0.00
11	T	2,6-Dimethylnaphthalene	1.034	1.175	-13.6	127	0.00
12	T	1,6,7-Trimethylnaphthalene	0.958	1.090	-13.8	129	0.00
13	un	C2-Naphthalenes	1.775	0.000	100.0#	0#	-18.84#
14	un	C3-Naphthalenes	1.775	0.000	100.0#	0#	-20.28#
15	un	C4-Naphthalenes	1.775	0.000	100.0#	0#	-22.07#
16	T	Benzothiophene	1.424	1.596	-12.1	126	0.03
17	un	C1-Benzothiophenes	1.424	0.000	100.0#	0#	-15.41#
18	un	C2-Benzothiophenes	1.424	0.000	100.0#	0#	-17.86#
19	un	C3-Benzothiophenes	1.424	0.000	100.0#	0#	-20.26#
20	un	C4-Benzothiophenes	1.424	0.000	100.0#	0#	-22.01#
21	S	Acenaphthene-d10	0.969	0.879	9.3	103	0.00
22	T	Biphenyl	1.505	1.682	-11.8	126	0.00
23	T	Acenaphthylene	1.770	1.921	-8.5	124	0.00
24	T	Acenaphthene	1.047	1.167	-11.5	126	0.00
25	T	Dibenzofuran	1.696	1.953	-15.2	129	0.00
26	T	Fluorene	1.316	1.480	-12.5	128	0.00
27	T	1-Methylfluorene	0.823	0.000	100.0#	0#	-23.44#
28	un	C1-Fluorenes	1.316	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.316	0.000	100.0#	0#	-24.82#
30	un	C3-Fluorenes	1.316	0.000	100.0#	0#	-27.21#
31	I	Pyrene-d10	1.000	1.000	0.0	105	0.00
32	S	Phenanthrene-d10	0.804	0.717	10.8	103	0.00
33	T	Carbazole	0.815	0.854	-4.8	123	0.00
34	T	Dibenzothiophene	0.926	1.031	-11.3	128	0.00
35	T	4-Methyldibenzothiophene	0.777	0.000	100.0#	0#	-25.83#
36	un	2/3-Methyldibenzothiophene	0.777	0.000	100.0#	0#	-26.14#
37	un	1-Methyldibenzothiophene	0.777	0.000	100.0#	0#	-26.45#
38	un	C2-Dibenzothiophenes	0.926	0.000	100.0#	0#	-27.97#
39	un	C3-Dibenzothiophenes	0.926	0.000	100.0#	0#	-29.22#
40	un	C4-Dibenzothiophenes	0.926	0.000	100.0#	0#	-30.81#
41	T	Phenanthrene	1.071	1.128	-5.3	122	0.00
42	T	Anthracene	1.014	1.056	-4.1	118	0.00
43	un	3-Methylphenanthrene	0.820	0.000	100.0#	0#	-26.86#
44	un	2-Methylphenanthrene	0.820	0.000	100.0#	0#	-26.86#
45	un	2-Methylanthracene	0.820	0.000	100.0#	0#	-26.86#
46	un	4/9-Methylphenanthrene	0.820	0.000	100.0#	0#	-26.86#

Data Path : C:\GCMS7\MS70062\
Data File : MS70062I.D
Acq On : 3 Sep 2013 1:33 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 08 19:14:02 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 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	0.820	0.911	-11.1	128	0.00
48	T	3,6-Dimethylphenanthrene	0.666	0.000	100.0#	0#	-27.94#
49	T	Retene	0.274	0.000	100.0#	0#	-30.64#
50	un	C2-Phenanthrenes/Anthracene	1.071	0.000	100.0#	0#	-28.49#
51	un	C3-Phenanthrenes/Anthracene	1.071	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.071	0.000	100.0#	0#	-31.89#
53	T	Naphthobenzothiophene	1.176	0.000	100.0#	0#	-32.88#
54	un	C1-Naphthobenzothiophenes	1.176	0.000	100.0#	0#	-34.16#
55	un	C2-Naphthobenzothiophenes	1.176	0.000	100.0#	0#	-35.94#
56	un	C3-Naphthobenzothiophenes	1.176	0.000	100.0#	0#	-37.84#
57	un	C4-Naphthobenzothiophenes	1.176	0.000	100.0#	0#	-37.73#
58	T	Fluoranthene	1.144	1.298	-13.5	131	0.00
59	T	Pyrene	1.222	1.318	-7.9	125	0.00
60	T	2-Methylfluoranthene	0.693	0.000	100.0#	0#	-30.40#
61	T	Benzo(b)fluorene	0.698	0.000	100.0#	0#	-30.99#
62	un	C1-Fluoranthenes/Pyrenes	1.144	0.000	100.0#	0#	-30.60#
63	un	C2-Fluoranthenes/Pyrenes	1.144	0.000	100.0#	0#	-32.10#
64	un	C3-Fluoranthenes/Pyrenes	1.144	0.000	100.0#	0#	-33.89#
65	un	C4-Fluoranthenes/Pyrenes	1.144	0.000	100.0#	0#	-35.24#
66	S	Chrysene-d12	0.969	0.931	3.9	107	0.00
67	T	Benz(a)anthracene	1.179	1.323	-12.2	128	0.00
68	T	Chrysene/Triphenylene	1.017	1.185	-16.5	132	-0.04
69	un	C1-Chrysenes	1.017	0.000	100.0#	0#	-35.21#
70	un	C2-Chrysenes	1.017	0.000	100.0#	0#	-37.18#
71	un	C3-Chrysenes	1.017	0.000	100.0#	0#	-38.04#
72	un	C4-Chrysenes	1.017	0.000	100.0#	0#	-39.90#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	98	0.00
74	un	C29-Hopane	0.439	0.000	100.0#	0#	-40.64#
75	un	18a-Oleanane	0.439	0.000	100.0#	0#	-42.45#
76	T	C30-Hopane	0.439	0.000	100.0#	0#	-42.64#
77	T	Benzo(b)fluoranthene	1.512	1.791	-18.5	126	0.00
78	T	Benzo(k,j)fluoranthene	1.412	1.652	-17.0	128	-0.04
79	un	Benzo(a)fluoranthene	1.412	0.000	100.0#	0#	-37.22#
80	T	Benzo(e)pyrene	1.524	1.792	-17.6	125	0.00
81	T	Benzo(a)pyrene	1.456	1.608	-10.4	121	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.637	1.863	-13.8	126	0.00
83	T	Dibenzo(a,h)anthracene	1.288	1.498	-16.3	129	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.288	0.000	100.0#	0#	-48.68#
85	un	C2-Dibenzo(a,h)anthracenes	1.288	0.000	100.0#	0#	-50.27#
86	un	C3-Dibenzo(a,h)anthracenes	1.288	0.000	100.0#	0#	-50.82#
87	T	Benzo(g,h,i)perylene	1.429	1.614	-12.9	123	-0.04
88	S	Perylene-d12	1.187	1.091	8.1	101	-0.04
89	T	Perylene	1.455	1.600	-10.0	121	0.00
90	S	5(b)H-Cholane	0.204	0.187	8.3	101	-0.04
91	un	C20-TAS	1.682	0.000	100.0#	0#	-33.73#
92	un	C21-TAS	1.682	0.000	100.0#	0#	-34.16#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70062\
Data File : MS70062I.D
Acq On : 3 Sep 2013 1:33 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 08 19:14:02 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 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	1.682	0.000	100.0# 0#	-38.58#
94 T	C26(20R)/C27(20S)-TAS	1.682	0.000	100.0# 0#	-39.32#
95 un	C28(20S)-TAS	1.682	0.000	100.0# 0#	-39.74#
96 un	C27(20R)-TAS	1.682	0.000	100.0# 0#	-40.94#
97 un	C28(20R)-TAS	1.682	0.000	100.0# 0#	-40.94#

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

Data Path : C:\GCMS7\MS70062\
Data File : MS70062I.D
Acq On : 3 Sep 2013 1:33 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 08 19:14:02 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorene-d10	21.371	176	458823	251.05			0.00
31) Pyrene-d10	29.566	212	915827	250.63			0.00
73) Benzo(a)pyrene-d12	38.309	264	704943	250.32			0.00
System Monitoring Compounds							
2) Naphthalene-d8	13.739	136	687907	227.45			0.00
21) Acenaphthene-d10	19.589	164	401791	226.87			0.00
32) Phenanthrene-d10	24.683	188	655442	223.07			0.00
66) Chrysene-d12	33.731	240	850243	240.22			0.00
88) Perylene-d12	38.580	264	768441	229.89			-0.04
90) 5(b)H-Cholane	34.119	217	131533	229.20			-0.04
Target Compounds							Qvalue
3) cis/trans Decalin	11.092	138	140034m	272.92			
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	899308	277.21			96
9) 2-Methylnaphthalene	16.051	142	628041	290.58			94
10) 1-Methylnaphthalene	16.385	142	572788	284.12			95
11) 2,6-Dimethylnaphthalene	18.140	156	536771	284.12		#	26
12) 1,6,7-Trimethylnaphtha...	21.009	170	498238	284.59		#	23
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	724789	278.44			100
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	761442	276.77			96
23) Acenaphthylene	19.087	152	870510	269.03			98
24) Acenaphthene	19.700	154	534392	279.23			93
25) Dibenzofuran	20.285	168	887791	286.44			100
26) Fluorene	21.455	166	677629	281.85			89
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.			
33) Carbazole	25.514	167	772898	259.56			100
34) Dibenzothiophene	24.302	184	928642	274.57		#	79
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	1021277	260.95			99
42) Anthracene	24.925	178	967820	261.08			96

Data Path : C:\GCMS7\MS70062\
Data File : MS70062I.D
Acq On : 3 Sep 2013 1:33 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 08 19:14:02 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 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	823063	274.66		93
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	1186839	283.82		100
59) Pyrene	29.635	202	1203762	269.49		100
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	1206544	279.99		95
68) Chrysene/Triphenylene	33.809	228	1076014	289.63		96
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	1263525m	296.75		
78) Benzo(k,j)fluoranthene	37.300	252	1158708m	291.31		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.193	252	1256906	292.96		100
81) Benzo(a)pyrene	38.387	252	1129558	275.47		100
82) Indeno(1,2,3-c,d)pyrene	43.041	276	1289226	279.59		90
83) Dibenzo(a,h)anthracene	43.115	278	1044954	288.18		83
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	1126346	279.97		93
89) Perylene	38.697	252	1127410	275.23		100
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\MS70062\
Data File : MS70062I.D
Acq On : 3 Sep 2013 1:33 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 08 19:14:02 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration

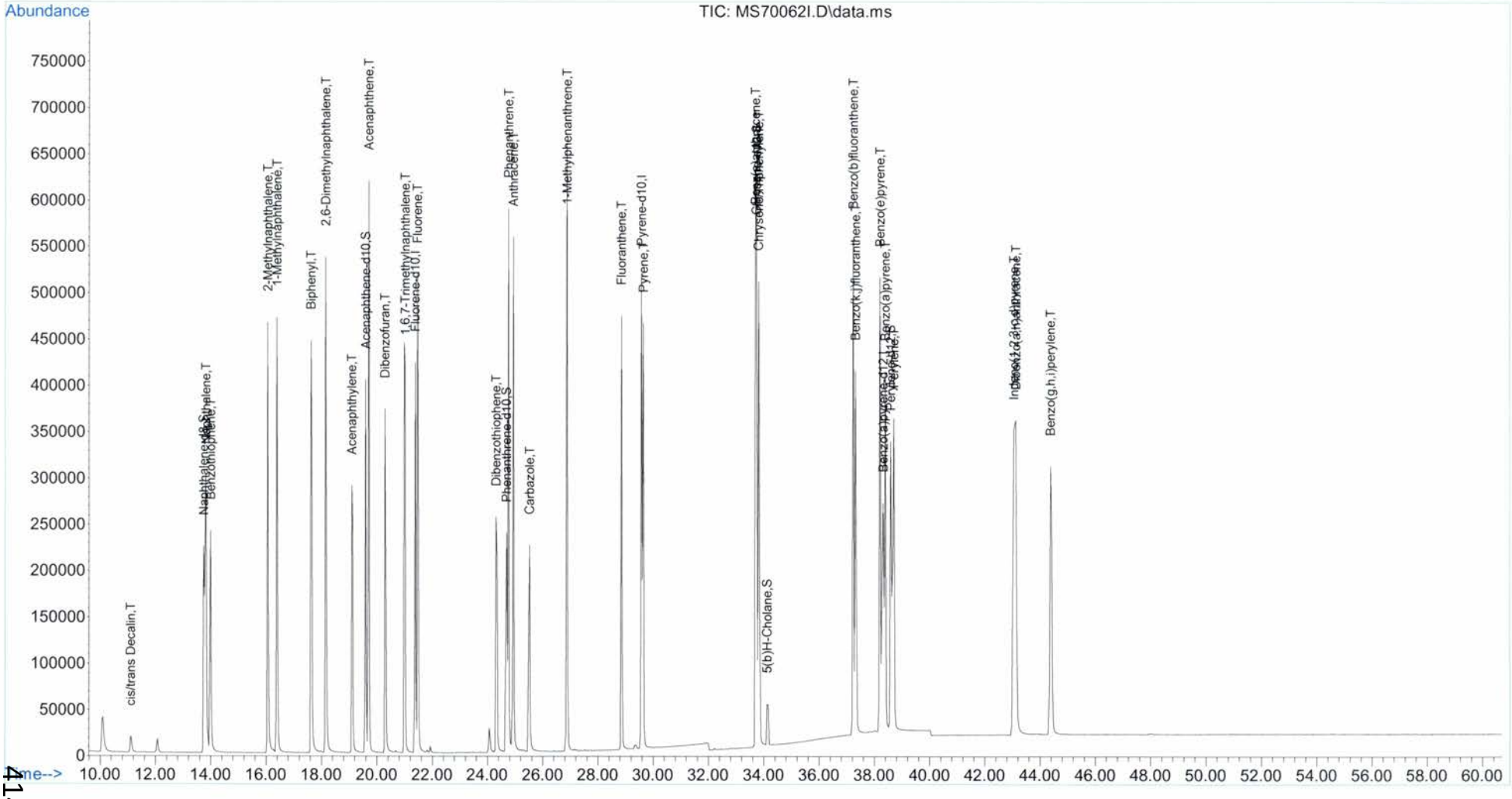
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70062\
Data File : MS70062I.D
Acq On : 3 Sep 2013 1:33 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 08 19:14:02 2013
Quant Method : C:\GCMS7\MS70062\AR70062.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Sep 08 19:06:24 2013
Response via : Initial Calibration



PAH Mass Discrimination Ratio

B&B Laboratories
Project J13034
Report 13-3111

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
MS70062B.D	AR-WKC1-020-030	24.0	21.3	1.13	
MS70062C.D	AR-WKC2-100-030	99.1	93.3	1.06	
MS70062D.D	AR-WKC3-250-030	226	220	1.03	
MS70062E.D	AR-WKC4-500-030	482	466	1.04	
MS70062F.D	AR-WKC5-1000-030	1001	955	1.05	
MS70062G.D	AR-WKC6-5000-030	4935	5406	0.91	
MS70062I.D	AR-WKICV-250-004	280	261	1.07	
MS70062J.D	AR-WKCC-250-038	229	224	1.02	
MS70062L.D	AR-WKCC-250-038	199	226	0.88	
MS70062M.D	AR-WKCC-250-038	175	242	0.72	
MS70062N.D	AR-WKCC-250-038	173	247	0.70	

Qualifiers (Q): Ratio of Benzo(g,h,i)perylene to Phenanthrene needs to be ≥ 0.70

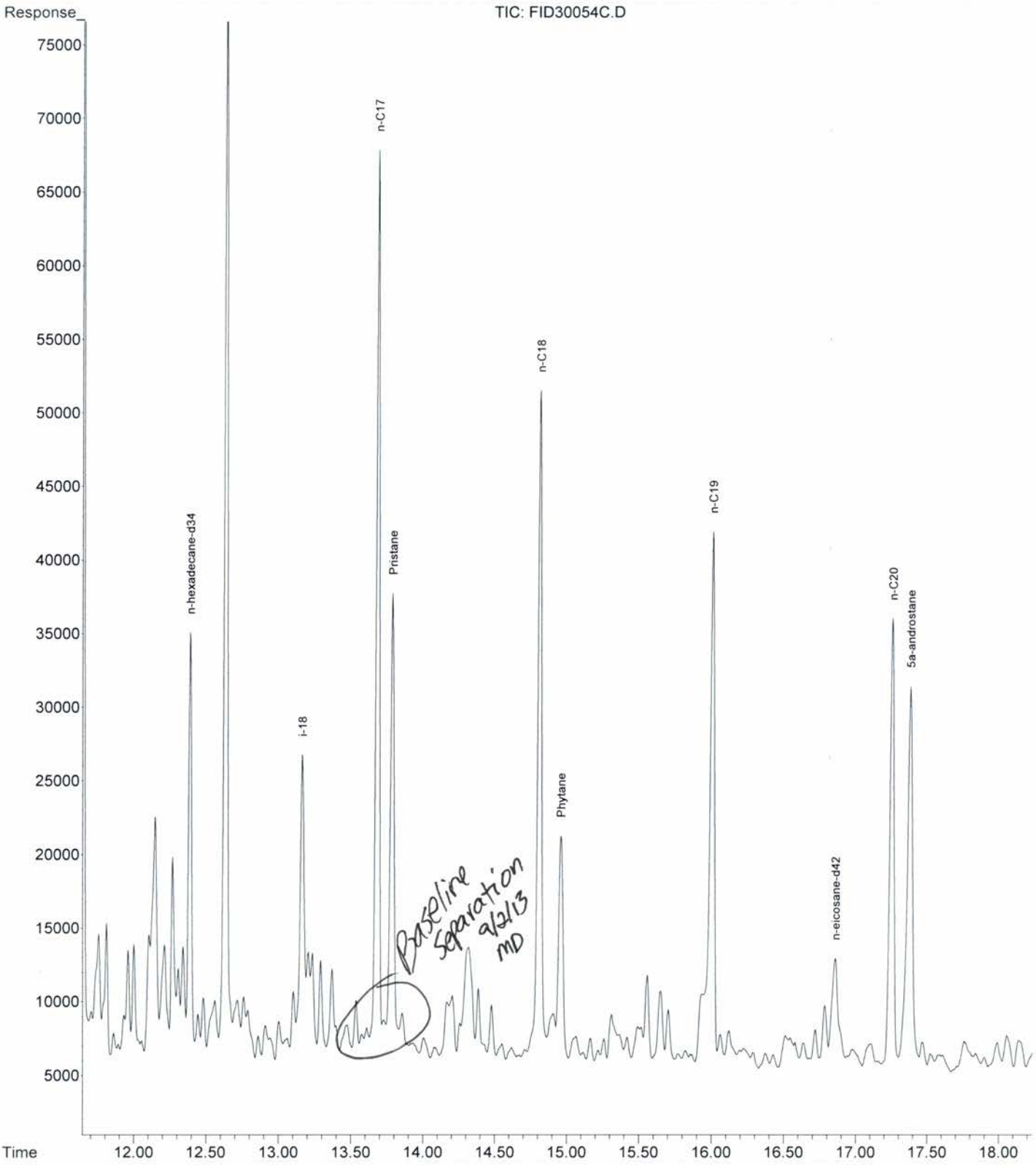
PAH Internal Standard Area Data

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
The Area of the Internal Standards in the Associated Calibration Standard

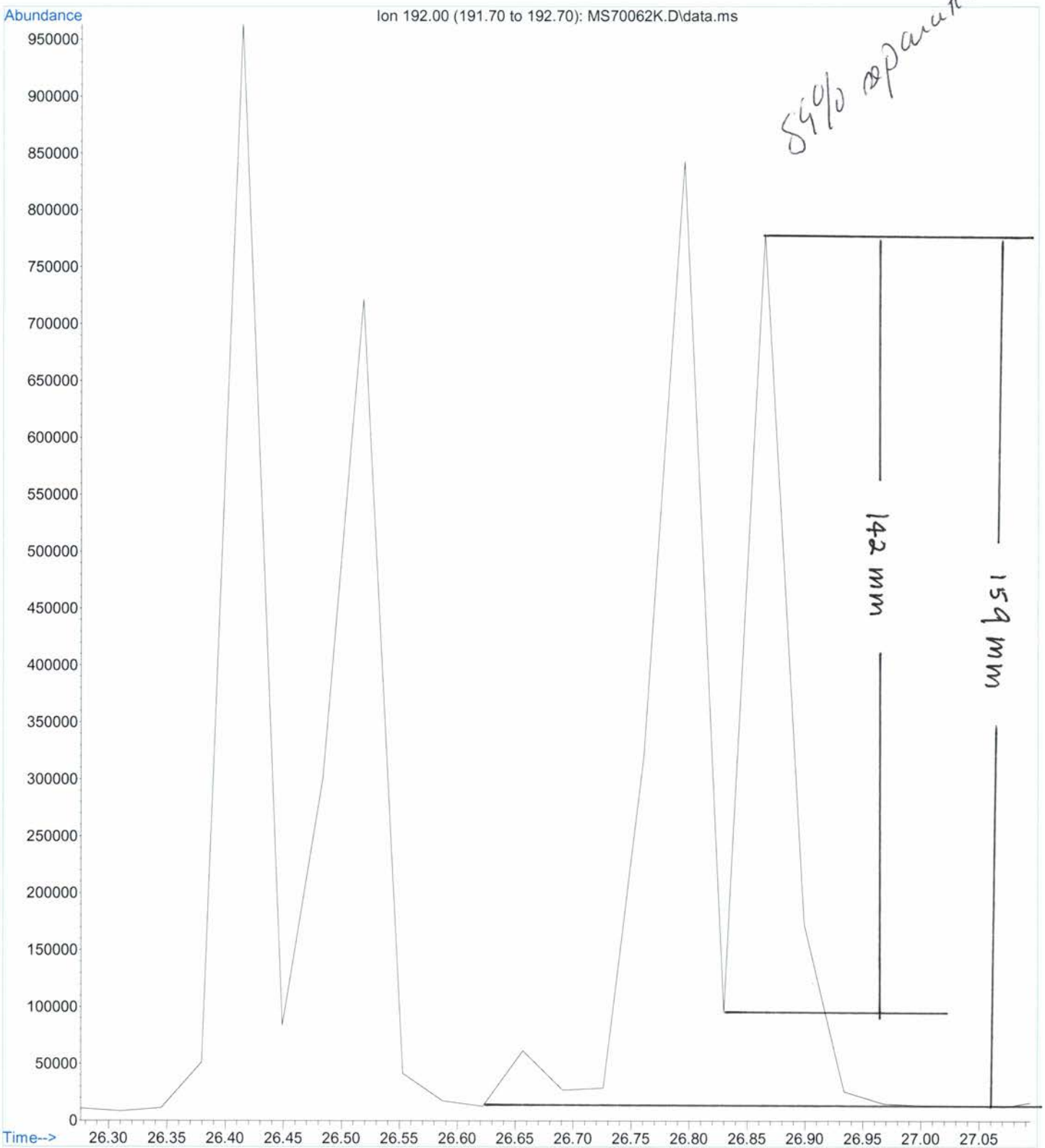
File Name	Sample Name	Internal Standard 1 Fluorene-d10			Internal Standard 2 Pyrene-d10			Internal Standard 3 Benzo(a)pyrene-d12		
		Response (Area)	50% (Area)	200% (Area)	Response (Area)	50% (Area)	200% (Area)	Response (Area)	50% (Area)	200% (Area)
MS70062D.D	**AR-WKC3-250-030**	**444986**	**222493**	**889972**	**875337**	**437669**	**1750674**	**721574**	**360787**	**1443148**
MS70062I.D	**AR-WKICV-250-004**	**458823**			**915827**			**704943**		
MS70062J.D	**AR-WKCC-250-038**	**362927**	**181464**	**725854**	**694571**	**347286**	**1389142**	**533985**	**266993**	**1067970**
ENV3092A.D	Procedural Blank	350665			714129			554881		
ENV3092B.D	SRM 1941b	347963			670353			595166		
ENV3092C.D	MS (SED-DA-042 (0-0.5) MS)	353806			617381			570196		
ENV3092D.D	MSD (SED-DA-042 (0-0.5) MSD)	362638			690959			627542		
ENV3092E.D	SED-DA-043 (0-0.5)	436241			783343			725906		
ARC1784.D	SED-DA-021 (0-0.5)	391206			745803			643863		
ARC1785.D	SED-DA-021 (0.5-1.0)	310143			606425			558654		
ARC1786.D	SED-DA-021 (1.0-1.5)	292331			570216			491701		
MS70062L.D	**AR-WKCC-250-038**	**345391**	**172696**	**690782**	**683762**	**341881**	**1367524**	**590903**	**295452**	**1181806**
ARC1790.D	SED-DA-042 (0-0.5)	270918			569698			538649		
ARC1793.D	SED-DA-042 (0.5-1.0)	314197			563582			534050		
ARC1794.D	SED-DA-042 (1.0-1.5)	321026			633070			568369		
ARC1795.D	SED-DA-046 (0-0.5)	497197			692341			645243		
ARC1796.D	SED-DA-046 (0.5-1.0)	356030			721394			538806		
ARC1797.D	SED-DA-046 (1.0-1.5)	280259			515224			476225		
ARC1798.D	SED-DA-049 (0-0.5)	274708			590035			431645		
ARC1799.D	SED-DA-049 (0.5-1.0)	298266			524731			371260		
MS70062M.D	**AR-WKCC-250-038**	**304992**	**152496**	**609984**	**560126**	**280063**	**1120252**	**476406**	**238203**	**952812**
ARC1800.D	SED-DA-049 (1.0-1.5)	283380			484990			442366		
ARC1801.D	SED-DA-043 (0-0.5)	343604			660167			615419		
ARC1802.D	SED-DA-043 (0.5-1.0)	289586			456459			385894		
ARC1803.D	SED-DA-043 (1.0-1.5)	303595			539889			457743		
ARC1804.D	SED-DA-044 (0-0.5)	380606			627476			576137		
ARC1805.D	SED-DA-044 (0.5-1.0)	254753			460916			409935		
ARC1806.D	SED-DA-044 (1.0-1.5)	269024			488543			438411		
ARC1808.D	SED-DA-047 (0.5-1.0)	268980			487972			429291		
MS70062N.D	**AR-WKCC-250-038**	**315000**	**157500**	**630000**	**592181**	**296091**	**1184362**	**428971**	**214486**	**857942**

SRM-2779 Reference Oil Aliphatic and PAH Resolution Checks

File :P:\2013\J13034\Aliphatics\ENV 3092\FID30054\FID30054C.D
Operator : Meghan Dailey
Acquired : 29-Aug-2013, 22:36:39 using AcqMethod ALIFRONT.M
Instrument : HP5890
Sample Name: AL-SRM2779-20-01
Misc Info :
Vial Number: 3



```
File       :C:\GCMS7\MS70062\MS70062K.D
Operator   : YM
Acquired   :  3 Sep 2013    3:50 am using AcqMethod PAH-2012.M
Instrument :   GCMSD
Sample Name: AR-SRM2779-WK4.0-002
Misc Info  :
Vial Number: 11
```



Supporting Documents

Shipping, Sample Receiving, and Project Initiation Documents

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/13/13 SDG#: 13081301

Sender: Arcadis- Mayflower, AR

1. Number of Shipping Containers: 4 Arcadis: Daniel Mays

Comments: 1 of 4, large blue cooler

2. Airbill Present? (Yes)/No Shipping Company: Fed Ex

Airbill Number: 7958 1083 5888 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 3

5. General Sample Conditions:
Frozen (Cool) Unrefrigerated
Dry Ice Blue Ice (Ice) Temperature/Comments: 5.1°C / temp blank 1.2°C (T6

6. List of Broken Containers:

None

7. Number of Samples Expected: 4 coolers Number of Samples Received: _____

8. Problems/Discrepancies:

None

Cooler 1:
11 soils
2 waters

9. Resolutions:

N/A

10. Checked in by: Amanda Brewster Date: 8/13/13

large blue cooler

Ice type: wet Ice
Cooler temp: 5.1
Temp blank: 1.2
Thermometer: 6
Custody seal:

Sdg 13081301
Cooler 1 of 4

eurofins | Lancaster Laboratories

480555
CUSTODY SEAL

DATE: 8/14/13
SIGNATURE:

2425 New Holland Pike, Lancaster, PA 17601-5994 (717) 656-2300

ORIGIN ID:MPJA (979) 693-3446
B & B LABORATORIES
14391 S DOWLING RD STE B
COLLEGE STATION, TX 778453473
UNITED STATES US

SHIP DATE: 12AUG13
ACTWGT: 56.7 LB
CAD: /POS1400
DIMS: 24x13x13 IN
BILL SENDER

TO B & B LABORATORIES
B & B LABS
14391B S DOWLING RD

COLLEGE STATION TX 77845
(979) 693-3446
INV:
PO:
REF:
DEPT:

FedEx Express

2 of 4
MPS# 0681 7958 1083 5888
Tr# 8022 2781 5939
0200

TUE - 13 AUG 10:30A
PRIORITY OVERNIGHT

XH CLLA

77845
TX-US IAH

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/13/13 SDG#: 13081301

Sender: Arcadis- Mayflower AR

1. Number of Shipping Containers: 4 Arcadis: Daniel Mays

Comments: 2of4, large blue cooler

2. Airbill Present? (Yes) No Shipping Company: Fed Ex

Airbill Number: 7958 1083 5899 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 3

5. General Sample Conditions:
Frozen (Cool) Unrefrigerated
Dry Ice Blue Ice (Ice)

Temperature/Comments: 1.5°c/temp blank 2.3°c/T6

6. List of Broken Containers:

None

7. Number of Samples Expected: 4 coolers Number of Samples Received: _____

8. Problems/Discrepancies:

None

Cooler 2:
11 seds
4 waters

9. Resolutions:

N/A

10. Checked in by: Amanda Brewster Date: 8/13/13

large blue cooler

Ice type: wet ice
Cooler temp: 1.5
Temp blank: 2.3
Thermometer: 6
Custody seal:

Sdg 1308 1301
Cooler 2 of 4

eurofins | Lancaster Laboratories

491094
CUSTODY SEAL
2425 New Holland Pike, Lancaster, PA 17601-5994 (717) 656-2300

DATE: 8-12-13
SIGNATURE:

ID:MPJA (979) 693-3446
ABORATORIES
S DOWLING RD STE B
E STATION, TX 778453473
STATES US

SHIP DATE: 12AUG13
ACTWGT: 80.0 LB
CAD: /POS1400
DIMS: 24x13x13 IN

BILL SENDER

TO B LABORATORIES
& B LABS
7391B S DOWLING RD

COLLEGE STATION TX 77845
693-3446 REF:
DEPT:

FedEx Express

3 of 4
MPS# 0681 7958 1083 5899
Mstr# 8022 2781 5939
0200

TUE - 13 AUG 10:30A
PRIORITY OVERNIGHT

XH CLLA

77845
TX-US IAH

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/13/13 SDG#: 13081301

Sender: Arcadis - Mayflower AR

1. Number of Shipping Containers: 4 Arcadis: Daniel Mays

Comments: 3of4, large blue cooler

2. Airbill Present? (Yes) No Shipping Company: Fed Ex

Airbill Number: 8022 2781 5939 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 3

5. General Sample Conditions:
Frozen (Cool) Unrefrigerated
Dry Ice Blue Ice (Ice)

Temperature/Comments: 2.1°C / temp blank 1.9°C (T6

6. List of Broken Containers:

None

7. Number of Samples Expected: 4 coolers Number of Samples Received: _____

8. Problems/Discrepancies:

None

Cooler 3:
21 seds

9. Resolutions:

N/A

10. Checked in by: Amanda Brewster Date: 8/13/13

large blue cooler

Ice type: wet Ice
Cooler temp: 2.1
Temp blank: 1.9
Thermometer: 6
Custody seal:

Sdg 13081301
Cooler 3 of 4

eurofins | Lancaster Laboratories

480556
CUSTODY SEAL

2425 New Holland Pike, Lancaster, PA 17601-5994 (717) 656-2300

DATE: 6/16/13

SIGNATURE:

FedEx Express NEW Package US Airbill

FedEx Tracking Number 8022 2781 5939

1 From

Date

Sender's Name Phone

Company

Address Dept./Floor/Suite/Room

City State ZIP

2 Your Internal Billing Reference

3 To

Recipient's Name Phone

Company

Address 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 State ZIP

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 to select locations.

8022 2781 5939

Form # 0200

4 Express Package Service • To most locations.

NOTE: Service order has changed. Please select carefully.

Packages up to 1
For packages over 150 lbs., use FedEx Express Freight

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

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 ____

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

Total Packages 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.

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B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/13/13 SDG#: 13081301

Sender: Arcadis- May flower AR

1. Number of Shipping Containers: 4 Arcadis: Daniel Mays

Comments: 4 of 4, large blue cooler

2. Airbill Present? (Yes)/No Shipping Company: Fed EX

Airbill Number: 8022 2781 5939 Comments: PON

3. Custody Seals on Container?
No (Yes) (Intact) Not Intact Comments:

4. Chain of Custody Records?
No (Yes) AB 8/13/13 Comments: In Cooler 3

5. General Sample Conditions:
Frozen (Cool) Unrefrigerated
Dry Ice Blue Ice (Ice)

Temperature/Comments: 6.1°C / Temp blank 0.9°C (TB)

6. List of Broken Containers:

None

7. Number of Samples Expected: 4 coolers Number of Samples Received: _____

8. Problems/Discrepancies:

~~COC~~ AB 8/13/13

Cooler 4:
17 seds
2 waters

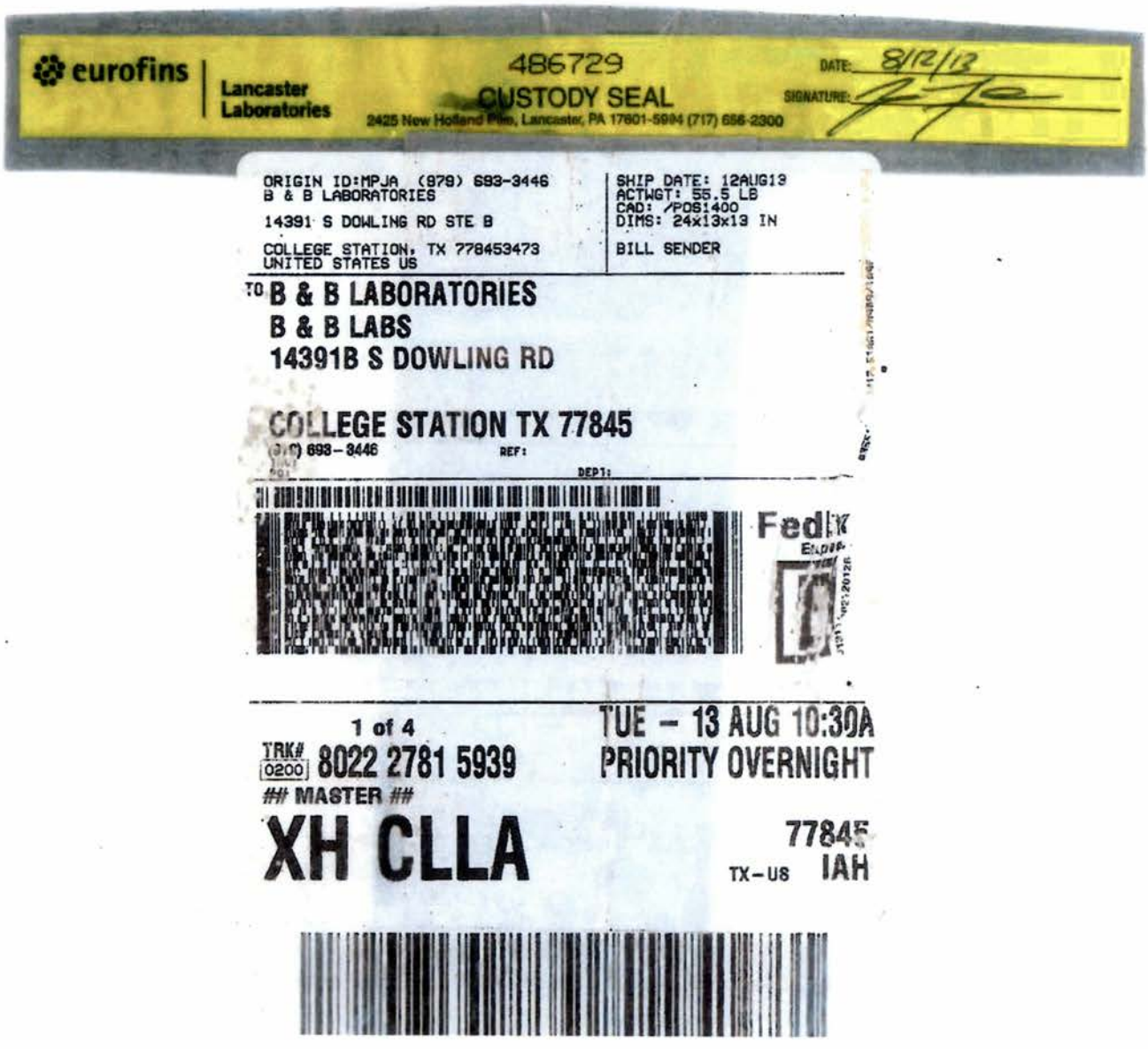
9. Resolutions:

10. Checked in by: Amanda Brewster Date: 8/13/13

large blue cooler

Ice type: wet ice
Cooler temp: 6.1
Temp blank: 0.9
Thermometer: 6
Custody seal:

Sdg 13081301
Cooler 4 of 4



CHAIN OF CUSTODY RECORD

B&B Laboratories, Inc.

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: Mayflower Pipeline Incident B0036002.1301

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Analyses

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs + 8270 SIM	TEH by mod 8015			Cooler #		Comments
SED-DA-021 (0-0.5)	8/4/13	1235	Sed	none	8 oz	1	X	X			2		Full List
SED-DA-021 (0.5-1.0)		1240			4 oz						2		44 PAH List
SED-DA-021 (1.0-1.5)		1245									2		Extract + Hold
SED-DA-021 (1.5-2.0)		1250									2		Extract + Hold
SED-DA-021 (2.0-3.0)		1255									2		Extract + Hold
SED-DA-021 (3.0-3.3)		1300									2		
SED-DA-042 (0-0.5)		1400			8 oz			X			2		Full List
SED-DA-042 (0-0.5) ms		1400			8 oz			X			2		Full List
SED-DA-042 (0-0.5) msD		1400			8 oz			X			2		Full List
SED-DA-042 (0.5-1.0)		1405			4 oz						2		44 PAHs List
					Total # of Containers	10							

Other Instructions: Sdg 13081301 Cooler 3 of 4 (1)

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays	ARCADIS	8-12-13	1700	Printed Name: Amanda Brewster	B&B Labs	8/13/13	11:30
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

CHAIN OF CUSTODY RECORD

B&B Laboratories, Inc.

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: Mayflower Pipeline Incident 30086003.1301

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs + 8270 sim	TEH by mod 8015			Cooler #		Comments
SED-DA-042 (1.0-1.5)	8/9/13	1410	Sed	none	4oz	1	X				2		44 PAHs List
SED-DA-EB-07-080913	8/9/13	1015	Water	none	LAG	2	X	X			2,2		Full List
SED-DA-DI-Water	8/9/13	1020	Water	none	LAG	2	X	X			2,2		Full List
SED-DA-EB-08-081013	8/10/13	825	Water	none	LAG	2	X	X			4,4		Full List
SED-DA-045 (0-0.5)		900	Sed		8oz	1	X	X			4		Full List
SED-DA-045 (0.5-1.0)		905			4oz	1					4		44 PAH List
SED-DA-052 (0-0.5)		930			8oz	1		X			4		Full List
SED-DA-052 (0.5-1.0)		935			4oz	1					4		44 PAH List
SED-DA-052 (1.0-1.5)		940			4oz	1					4		44 PAH List
SED-DA-Dup-06-081013					8oz	1	X	X			4		Full List
					Total # of Containers	13							

Analyses

Other Instructions: sdg 13081301 Cooler 3 of 4 (2)

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays	ARCADIS	8-12-13	1700	Printed Name: Amanda Brewster	B&B Labs	8/13/13	11:30
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

CHAIN OF CUSTODY RECORD

B&B Laboratories, Inc.

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: May Flower Pipeline Incident B0086003.1301

B&B Contact: Jim Ramirez

Sampler Signature: Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs + 8270 SIM	TEH by mod 8015			Cooler #		Comments
SED-DA-018 (0-0.5)	8/10/13	1040	Sed	none	8oz	1	X	X			4		Full List
SED-DA-018 (0.5-1.0)		1045			4oz		X				4		44 PAH List
SED-DA-018 (1.0-1.5)		1050			4oz		X				4		↓
SED-DA-018 (1.5-2.0)		1055			4oz		X				4		↓
SED-DA-019 (0-0.5)		1115			8oz		X	X			4		Full List
SED-DA-019 (0-0.5) MS		1115			8oz		X	X			4		label: MS/MSD
SED-DA-019 (0-0.5) MSD		1115			8oz		X	X			4		label: MS/MSD
SED-DA-019 (0.5-1.0)		1120			4oz		X				4		44 PAH List
SED-DA-019 (1.0-1.5)		1125			4oz		X				4		44 PAH List
SED-DA-019 (1.5-2.0)		1130			4oz		X				4		Extract + Hold
					Total # of Containers	10							

Analyses

Other Instructions: sdg 13081301 Cooler 3 of 4 (3)

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays	ARCADIS	8-12-13	1700	Printed Name: Amanda Brewster	B&B Labs	8/13/13	11:30
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

CHAIN OF CUSTODY RECORD

B&B Laboratories, Inc.

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: Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs + 8270 SIM	Analyses: TEH by mod 8015	Cooler #	Other Instructions / Comments
SED-DA-019 (2.0-2.5)	8/10/13	1135	Sed	none	4oz	1	X		4	Extract + Hold
So-DA-026 (0-0.5)	8/11/13	830			4oz	1	X		1	4/4 PAHs List
So-DA-026 (0-0.5) MS		830				1	X		1	
So-DA-026 (0-0.5) MSD		830				1	X		1	
So-DA-026 (0.5-1.0)		835				1	X		1	
So-DA-026 (1.0-1.5)		840				1	X		1	
So-DA-028 (0-0.5)		1000				1	X		1	
So-DA-028 (0.5-1.0)		1005				1	X		1	
So-DA-028 (1.0-1.5)		1010				1	X		1	
So-DA-EB-04-081113		1200	Water		VOA	2	X		1,1	

Total # of Containers: 10

Other Instructions: sdg 13081301 Cooler 3 of 4 (4)

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays	ARCADIS	8-12-13	1706	Printed Name: Amanda Brewster	B&B Labs	8/13/13	11:30
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

CHAIN OF CUSTODY RECORD

B&B Laboratories, Inc.

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: Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays Daniel Mays

Analyses

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs + 8270 Sim	TEH by mod 8015			Cooler #		Comments
SO-DA-029 (0-0.5)	8/11/13	1030	Sed	none	4oz	1	X				1		44 PAHs List
SO-DA-029 (0.5-1.0)	↓	1035	↓		↓	1	X				1		↓
SO-DA-029 (1.0-1.5)	↓	1040	↓		↓	1	X				1		↓
SED-DA-046 (0-0.5)	8/12/13	835			8oz	1		X			3		Full List
SED-DA-046 (0.5-1.0)		840			4oz	1					3		44 PAH List
SED-DA-046 (1.0-1.5)		845			4oz	1					3		44 PAH List
SED-DA-049 (0-0.5)		905			8oz	1		X			3		Full List
SED-DA-049 (0.5-1.0)		910			4oz	1					3		44 PAH List
SED-DA-049 (1.0-1.5)		915			4oz	1					3		44 PAH List
SED-DA-043 (0-0.5)	↓	950	↓	↓	8oz	1	↓	X			3		Full List
				Total # of Containers									

Other Instructions: SDG 13081301 Cooler 3 of 4 (5)

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays	ARCADIS	8-12-13	1700	Printed Name: Amanda Brewster	B&B Labs	8/13/13	11:30
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: Volmaterial

G=Glass C=Core
P=Plastic B=Bag

CHAIN OF CUSTODY RECORD

B&B Laboratories, Inc.
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: Maxflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs + 8270 SIM	Analyses: TEH by Mod 8015	Analyses: Cooler #	Other Instructions / Comments
										sdg 13081301 Cooler 3 of 4 (6)
SED-DA-043 (0.5-1.0)	8/12/13	955	Sed	none	4oz	1	X		3	44 PAH List
SED-DA-043 (1.0-1.5)		1000			4oz				3	44 PAH List
SED-DA-044 (0-0.5)		1010			8oz			X	3	Full List
SED-DA-044 (0.5-1.0)		1015			4oz				3	44 PAH List
SED-DA-044 (1.0-1.5)		1020			4oz				3	44 PA List
SED-DA-047 (0-0.5)		1030			8oz			X	3	Full List
SED-DA-047 (0.5-1.0)		1035			4oz				3	44 PAH List
SED-DA-047 (1.0-1.5)		1040			4oz				3	44 PA List
SED-DA-048 (0-0.5)		1245			8oz			X	3	Full List
SED-DA-048 (0-0.5) MS		1245			8oz		X	X	3	Full List
					Total # of Containers					

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays	ARCADIS	8-12-13	1700	Printed Name: Amanda Brewster	B&B Labs	8/13/13	11:30
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

CHAIN OF CUSTODY RECORD

B&B Laboratories, Inc.

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: Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs + 8270 Sim	Analyses: TEH by mod 8015			Cooler #		Comments
SED-DA-048 (0-0.5) MSD	8/12/13	1245	Sed	none	8 oz	1	X	X			3		Full List
SED-DA-048 (0.5-1.0)	↓	1250	↓	↓	4 oz	1	X				3		44 PAHs List
SED-DA-048 (1.0-1.5)	↓	1255	↓	↓	4 oz	1	X				3		44 PAHs List
SED-DA-Dup-07-081213	↓		↓	↓	8 oz	1	X	X			3		Full List
					Total # of Containers								

Other Instructions: Sdg 13081301 Cooler 3 of 4 (7)

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays	ARCADIS	8-12-13	1706	Printed Name: Amanda Brewster	B&B Labs	8/13/13	11:30
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

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
64453	J13034	Arcadis - Mayflower AR	ARC1765	SED-DA-EB-07-080913	08/09/13	08/13/13	PAH, TPH, ALI	WATER	1 of 2	13081301	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
64454	J13034	Arcadis - Mayflower AR	ARC1766	SED-DA-EB-07-080913	08/09/13	08/13/13	HOLD	WATER	2 of 2	13081301	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
64455	J13034	Arcadis - Mayflower AR	ARC1767	SED-DA-DI-Water	08/09/13	08/13/13	PAH, TPH, ALI	WATER	1 of 2	13081301	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
64456	J13034	Arcadis - Mayflower AR	ARC1768	SED-DA-DI-Water	08/09/13	08/13/13	HOLD	WATER	2 of 2	13081301	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
64457	J13034	Arcadis - Mayflower AR	ARC1769	SED-DA-EB-08-081013	08/10/13	08/13/13	PAH, TPH, ALI	WATER	1 of 2	13081301	Cooler 4	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
64458	J13034	Arcadis - Mayflower AR	ARC1770	SED-DA-EB-08-081013	08/10/13	08/13/13	HOLD	WATER	2 of 2	13081301	Cooler 4	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
64459	J13034	Arcadis - Mayflower AR	ARC1771	SO-DA-EB-04-081113	08/11/13	08/13/13	PAH	WATER	44 analytes, 1 of 2	13081301	Cooler 1	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
64460	J13034	Arcadis - Mayflower AR	ARC1772	SO-DA-EB-04-081113	08/11/13	08/13/13	HOLD	WATER	2 of 2	13081301	Cooler 1	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
64461	J13034	Arcadis - Mayflower AR	ARC1773	SO-DA-026 (0-0.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64462	J13034	Arcadis - Mayflower AR	ARC1774	SO-DA-026 (0-0.5) MS	08/11/13	08/13/13	PAH	SOIL	44 analytes, MS	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64463	J13034	Arcadis - Mayflower AR	ARC1775	SO-DA-026 (0-0.5) MSD	08/11/13	08/13/13	PAH	SOIL	44 analytes, MSD	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64464	J13034	Arcadis - Mayflower AR	ARC1776	SO-DA-026 (0.5-1.0)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64465	J13034	Arcadis - Mayflower AR	ARC1777	SO-DA-026 (1.0-1.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64466	J13034	Arcadis - Mayflower AR	ARC1778	SO-DA-028 (0-0.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64467	J13034	Arcadis - Mayflower AR	ARC1779	SO-DA-028 (0.5-1.0)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64468	J13034	Arcadis - Mayflower AR	ARC1780	SO-DA-028 (1.0-1.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64469	J13034	Arcadis - Mayflower AR	ARC1781	SO-DA-029 (0-0.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64470	J13034	Arcadis - Mayflower AR	ARC1782	SO-DA-029 (0.5-1.0)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64471	J13034	Arcadis - Mayflower AR	ARC1783	SO-DA-029 (1.0-1.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64472	J13034	Arcadis - Mayflower AR	ARC1784	SED-DA-021 (0-0.5)	08/09/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64473	J13034	Arcadis - Mayflower AR	ARC1785	SED-DA-021 (0.5-1.0)	08/09/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64474	J13034	Arcadis - Mayflower AR	ARC1786	SED-DA-021 (1.0-1.5)	08/09/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64475	J13034	Arcadis - Mayflower AR	ARC1787	SED-DA-021 (1.5-2.0)	08/09/13	08/13/13	extract & HOLD	SED		13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64476	J13034	Arcadis - Mayflower AR	ARC1788	SED-DA-021 (2.0-3.0)	08/09/13	08/13/13	extract & HOLD	SED		13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64477	J13034	Arcadis - Mayflower AR	ARC1789	SED-DA-021 (3.0-3.3)	08/09/13	08/13/13	extract & HOLD	SED		13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64478	J13034	Arcadis - Mayflower AR	ARC1790	SED-DA-042 (0-0.5)	08/09/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64479	J13034	Arcadis - Mayflower AR	ARC1791	SED-DA-042 (0-0.5) MS	08/09/13	08/13/13	PAH, TPH, ALI	SED	MS	13081301	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64480	J13034	Arcadis - Mayflower AR	ARC1792	SED-DA-042 (0-0.5) MSD	08/09/13	08/13/13	PAH, TPH, ALI	SED	MSD	13081301	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64481	J13034	Arcadis - Mayflower AR	ARC1793	SED-DA-042 (0.5-1.0)	08/09/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64482	J13034	Arcadis - Mayflower AR	ARC1794	SED-DA-042 (1.0-1.5)	08/09/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64483	J13034	Arcadis - Mayflower AR	ARC1795	SED-DA-046 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64484	J13034	Arcadis - Mayflower AR	ARC1796	SED-DA-046 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64485	J13034	Arcadis - Mayflower AR	ARC1797	SED-DA-046 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64486	J13034	Arcadis - Mayflower AR	ARC1798	SED-DA-049 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64487	J13034	Arcadis - Mayflower AR	ARC1799	SED-DA-049 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64488	J13034	Arcadis - Mayflower AR	ARC1800	SED-DA-049 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64489	J13034	Arcadis - Mayflower AR	ARC1801	SED-DA-043 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64490	J13034	Arcadis - Mayflower AR	ARC1802	SED-DA-043 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64491	J13034	Arcadis - Mayflower AR	ARC1803	SED-DA-043 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64492	J13034	Arcadis - Mayflower AR	ARC1804	SED-DA-044 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64493	J13034	Arcadis - Mayflower AR	ARC1805	SED-DA-044 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64494	J13034	Arcadis - Mayflower AR	ARC1806	SED-DA-044 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64495	J13034	Arcadis - Mayflower AR	ARC1807	SED-DA-047 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64496	J13034	Arcadis - Mayflower AR	ARC1808	SED-DA-047 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64497	J13034	Arcadis - Mayflower AR	ARC1809	SED-DA-047 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64498	J13034	Arcadis - Mayflower AR	ARC1810	SED-DA-048 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64499	J13034	Arcadis - Mayflower AR	ARC1811	SED-DA-048 (0-0.5) MS	08/12/13	08/13/13	PAH, TPH, ALI	SED	MS	13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64500	J13034	Arcadis - Mayflower AR	ARC1812	SED-DA-048 (0-0.5) MSD	08/12/13	08/13/13	PAH, TPH, ALI	SED	MSD	13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64501	J13034	Arcadis - Mayflower AR	ARC1813	SED-DA-048 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64502	J13034	Arcadis - Mayflower AR	ARC1814	SED-DA-048 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64503	J13034	Arcadis - Mayflower AR	ARC1815	SED-DA-DUP-07-081213	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64504	J13034	Arcadis - Mayflower AR	ARC1816	SED-DA-045 (0-0.5)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64505	J13034	Arcadis - Mayflower AR	ARC1817	SED-DA-045 (0.5-1.0)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64506	J13034	Arcadis - Mayflower AR	ARC1818	SED-DA-052 (0-0.5)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64507	J13034	Arcadis - Mayflower AR	ARC1819	SED-DA-052 (0.5-1.0)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64508	J13034	Arcadis - Mayflower AR	ARC1820	SED-DA-052 (1.0-1.5)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64509	J13034	Arcadis - Mayflower AR	ARC1821	SED-DA-DUP-06-081013	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64510	J13034	Arcadis - Mayflower AR	ARC1822	SED-DA-018 (0-0.5)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64511	J13034	Arcadis - Mayflower AR	ARC1823	SED-DA-018 (0.5-1.0)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64512	J13034	Arcadis - Mayflower AR	ARC1824	SED-DA-018 (1.0-1.5)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64513	J13034	Arcadis - Mayflower AR	ARC1825	SED-DA-018 (1.5-2.0)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64514	J13034	Arcadis - Mayflower AR	ARC1826	SED-DA-019 (0-0.5)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64515	J13034	Arcadis - Mayflower AR	ARC1827	SED-DA-019 (0-0.5) MS	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64516	J13034	Arcadis - Mayflower AR	ARC1828	SED-DA-019 (0-0.5) MSD	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64517	J13034	Arcadis - Mayflower AR	ARC1829	SED-DA-019 (0.5-1.0)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64518	J13034	Arcadis - Mayflower AR	ARC1830	SED-DA-019 (1.0-1.5)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64519	J13034	Arcadis - Mayflower AR	ARC1831	SED-DA-019 (1.5-2.0)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
64520	J13034	Arcadis - Mayflower AR	ARC1832	SED-DA-019 (2.0-2.5)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081301
Client: Arcadis - Mayflower AR
Initiation Date: 8/13/13

Number of Samples: 4
Matrix: Water
Due Date: 45 days : 9/27/13
Comments: 3 waters: PAH, TPH, ALI
1 water: PAH 44 analytes
received 8/13/13

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): ali / PAH Volume(s): 100 uL
Spike Standard(s): ali / PAH Volume(s): 100 uL
Internal Standard(s): ali / PAH Volume(s): 100 uL
Final Extract Volume (ml): 1.0 Final Solvent: DCM

Comments:

PAH's only 8/13/13

Sample Custodian Signature: Amanda Brewster Date: 8/13/13
Laboratory Manager Signature: _____ Date: 8/13/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
64453	J13034	Arcadis - Mayflower AR	ARC1765	SED-DA-EB-07-080913	08/09/13	08/13/13	PAH, TPH, ALI	WATER	1 of 2	13081301	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
64455	J13034	Arcadis - Mayflower AR	ARC1767	SED-DA-DI-Water	08/09/13	08/13/13	PAH, TPH, ALI	WATER	1 of 2	13081301	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
64457	J13034	Arcadis - Mayflower AR	ARC1769	SED-DA-EB-08-081013	08/10/13	08/13/13	PAH, TPH, ALI	WATER	1 of 2	13081301	Cooler 4	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
64459	J13034	Arcadis - Mayflower AR	ARC1771	SO-DA-EB-04-081113	08/11/13	08/13/13	PAH	WATER	44 analytes, 1 of 2	13081301	Cooler 1	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081301
Client: Arcadis - Mayflower AR
Initiation Date: 8/13/13

Number of Samples: 13
Matrix: sediments
Due Date: 45 days: 9/27/13
Comments: PAH, TPH, ALI
received 8/13/13

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 1941b	☐ Blank Spike
☐	Blank Spike Duplicate	☑	Matrix Spike _____
☑	Matrix Spike Duplicate _____	☑	Duplicate _____

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, ALI — Volume(s): 100 ul
Spike Standard(s): PAH, ALI — Volume(s): 100 ul
Internal Standard(s): PAH, ALI — Volume(s): 100 ul
Final Extract Volume (ml): 1.0 — Final Solvent: DCM

Comments:

Sample Custodian Signature: Amanda Brewster — Date: 8/13/13
Laboratory Manager Signature: _____ — Date: 8/15/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	#	Project #
64472	J13034	Arcadis - Mayflower AR	ARC1784	SED-DA-021 (0-0.5)	08/09/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64478	J13034	Arcadis - Mayflower AR	ARC1790	SED-DA-042 (0-0.5)	08/09/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64479	J13034	Arcadis - Mayflower AR	ARC1791	SED-DA-042 (0-0.5) MS	08/09/13	08/13/13	PAH, TPH, ALI	SED	MS	13081301	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64480	J13034	Arcadis - Mayflower AR	ARC1792	SED-DA-042 (0-0.5) MSD	08/09/13	08/13/13	PAH, TPH, ALI	SED	MSD	13081301	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64483	J13034	Arcadis - Mayflower AR	ARC1795	SED-DA-046 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64486	J13034	Arcadis - Mayflower AR	ARC1798	SED-DA-049 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64489	J13034	Arcadis - Mayflower AR	ARC1801	SED-DA-043 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64492	J13034	Arcadis - Mayflower AR	ARC1804	SED-DA-044 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64495	J13034	Arcadis - Mayflower AR	ARC1807	SED-DA-047 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64498	J13034	Arcadis - Mayflower AR	ARC1810	SED-DA-048 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64499	J13034	Arcadis - Mayflower AR	ARC1811	SED-DA-048 (0-0.5) MS	08/12/13	08/13/13	PAH, TPH, ALI	SED	MS	13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64500	J13034	Arcadis - Mayflower AR	ARC1812	SED-DA-048 (0-0.5) MSD	08/12/13	08/13/13	PAH, TPH, ALI	SED	MSD	13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64503	J13034	Arcadis - Mayflower AR	ARC1815	SED-DA-DUP-07-081213	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302

T3

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B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081301
Client: Arcadis - MayflowerAK
Initiation Date: 8/13/13

Number of Samples: 27
Matrix: soil/sediment
Due Date: 45 days: 9/27/13
Comments: PAH: 44 analytes
received 8/13/13

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 1944/6	☐	Blank Spike
☐ Blank Spike Duplicate		☑	Matrix Spike
☑ Matrix Spike Duplicate		☑	Duplicate

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, ACI — Volume(s): 100µl
Spike Standard(s): PAH, ACI — Volume(s): 100µl
Internal Standard(s): PAH, ACI — Volume(s): 100µl
Final Extract Volume (ml): 1.0 — Final Solvent: DCM

Comments:

PAH, 44 list

Sample Custodian Signature: Amanda Brewster — Date: 8/13/13
Laboratory Manager Signature: _____ — Date: _____

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
64461	J13034	Arcadis - Mayflower AR	ARC1773	SO-DA-026 (0-0.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64462	J13034	Arcadis - Mayflower AR	ARC1774	SO-DA-026 (0-0.5) MS	08/11/13	08/13/13	PAH	SOIL	44 analytes, MS	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64463	J13034	Arcadis - Mayflower AR	ARC1775	SO-DA-026 (0-0.5) MSD	08/11/13	08/13/13	PAH	SOIL	44 analytes, MSD	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64464	J13034	Arcadis - Mayflower AR	ARC1776	SO-DA-026 (0.5-1.0)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64465	J13034	Arcadis - Mayflower AR	ARC1777	SO-DA-026 (1.0-1.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64466	J13034	Arcadis - Mayflower AR	ARC1778	SO-DA-028 (0-0.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64467	J13034	Arcadis - Mayflower AR	ARC1779	SO-DA-028 (0.5-1.0)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64468	J13034	Arcadis - Mayflower AR	ARC1780	SO-DA-028 (1.0-1.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64469	J13034	Arcadis - Mayflower AR	ARC1781	SO-DA-029 (0-0.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64470	J13034	Arcadis - Mayflower AR	ARC1782	SO-DA-029 (0.5-1.0)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64471	J13034	Arcadis - Mayflower AR	ARC1783	SO-DA-029 (1.0-1.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64473	J13034	Arcadis - Mayflower AR	ARC1785	SED-DA-021 (0.5-1.0)	08/09/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64474	J13034	Arcadis - Mayflower AR	ARC1786	SED-DA-021 (1.0-1.5)	08/09/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64481	J13034	Arcadis - Mayflower AR	ARC1793	SED-DA-042 (0.5-1.0)	08/09/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64482	J13034	Arcadis - Mayflower AR	ARC1794	SED-DA-042 (1.0-1.5)	08/09/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64484	J13034	Arcadis - Mayflower AR	ARC1796	SED-DA-046 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64485	J13034	Arcadis - Mayflower AR	ARC1797	SED-DA-046 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64487	J13034	Arcadis - Mayflower AR	ARC1799	SED-DA-049 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64488	J13034	Arcadis - Mayflower AR	ARC1800	SED-DA-049 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64490	J13034	Arcadis - Mayflower AR	ARC1802	SED-DA-043 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64491	J13034	Arcadis - Mayflower AR	ARC1803	SED-DA-043 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64493	J13034	Arcadis - Mayflower AR	ARC1805	SED-DA-044 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64494	J13034	Arcadis - Mayflower AR	ARC1806	SED-DA-044 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64496	J13034	Arcadis - Mayflower AR	ARC1808	SED-DA-047 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64497	J13034	Arcadis - Mayflower AR	ARC1809	SED-DA-047 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64501	J13034	Arcadis - Mayflower AR	ARC1813	SED-DA-048 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64502	J13034	Arcadis - Mayflower AR	ARC1814	SED-DA-048 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	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: 13081301
Client: Arcadis-Mayflower AR
Initiation Date: 8/13/13

Number of Samples: 3
Matrix: sediments
Due Date: 45 days: 9/27/13
Comments: extract: hold
received 8/13/13

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 1941b	☐ Blank Spike	
☐ Blank Spike Duplicate		☑ Matrix Spike	
☑ Matrix Spike Duplicate		☑ Duplicate	

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, ALI — Volume(s): 100ul
Spike Standard(s): PAH, ALI — Volume(s): 100ul
Internal Standard(s): PAH, ALI — Volume(s): 100ul
Final Extract Volume (ml): 1.0 — Final Solvent: DCM

Comments:

Sample Custodian Signature: Amanda Bennett — Date: 8/13/13
Laboratory Manager Signature: _____ — Date: 8/15/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64475	J13034	Arcadis - Mayflower AR	ARC1787	SED-DA-021 (1.5-2.0)	08/09/13	08/13/13	extract & HOLD	SED		13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64476	J13034	Arcadis - Mayflower AR	ARC1788	SED-DA-021 (2.0-3.0)	08/09/13	08/13/13	extract & HOLD	SED		13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64477	J13034	Arcadis - Mayflower AR	ARC1789	SED-DA-021 (3.0-3.3)	08/09/13	08/13/13	extract & HOLD	SED		13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302

1
3

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ARCADIS, Imagine the result

From: Parmelee, Rhiannon
Sent: Monday, August 12, 2013 5:34 PM
To: Mott, Lyndi
Cc: Tomlinson, Lisa; Skwarski, Alison
Subject: RE: DARSP on hold?

Here are the samples I want all of the labs to hold and not analyze yet (ALS/B&B will be shipped today):

SED-DA-045(0.0-0.5)
SED-DA-045(0.5-1.0)

SED-DA-052(0.0-0.5)
SED-DA-052(0.5-1.0)
SED-DA-052(1.0-1.5)

SED-DA-018(0.0-0.5)
SED-DA-018(0.5-1.0)
SED-DA-018(1.0-1.5)
SED-DA-018(1.5-2.0)

SED-DA-019(0.0-0.5)
SED-DA-019(0.0-0.5) MS/MSD
SED-DA-019(0.5-1.0)
SED-DA-019(1.0-1.5)
SED-DA-019(1.5-2.0)
SED-DA-019(2.0-2.5)

amanda brewster

From: juanramirez@tdi-bi.com
Sent: Tuesday, August 13, 2013 9:55 AM
To: 'Amanda J. Brewster'
Subject: FW: DARSP on hold

Juan Ramirez
Environmental Lab Manager
TDI-BI/B&B Labs
14391B South Dowling Rd.
College Station, TX 77845
Office - (979) 693-3446
Fax - (979) 693-6389
Cell – (979) 777-0793

Web Site: http://tdi-bi.com/

From: Mott, Lyndi [mailto:Lyndi.Mott@arcadis-us.com]
Sent: Monday, August 12, 2013 8:14 PM
To: Juan Ramirez
Cc: Tomlinson, Lisa; Capria, Dennis; Chandler, Jennifer
Subject: RE: DARSP on hold

Juan,

There is also a field duplicate with these samples that should also be placed on hold.
SED-DA-DUP-06

Thank you,
Lyndi Mott

From: Mott, Lyndi
Sent: Monday, August 12, 2013 5:43 PM
To: Juan Ramirez
Cc: Tomlinson, Lisa; Capria, Dennis; Chandler, Jennifer
Subject: FW: DARSP on hold?

Juan,

The following samples from the Downstream Area (DARSP) that were collected over the weekend and are being shipped today are to be placed on hold. We should be able to give direction on how to proceed by the end of the week.

Thank you,

amanda brewster

From: amanda brewster <amandabrewster@tdi-bi.com>
Sent: Tuesday, August 13, 2013 3:32 PM
To: 'Mays, Daniel'; 'Lewis, Ryan'; 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 8/13/13
Attachments: COC 8-13-13.pdf

Hi Daniel/Ryan,

We received your coolers today in good condition.
The internal temperature of Cooler 1 was 5.1ºC and the temperature blank was 1.2ºC
The internal temperature of Cooler 2 was 1.5ºC and the temperature blank was 2.3ºC
The internal temperature of Cooler 3 was 2.1ºC and the temperature blank was 1.9ºC
The internal temperature of Cooler 4 was 6.1ºC and the temperature blank was 0.9ºC

A PDF of the COCs is attached for your records.

Regards,
Amanda

From: Mays, Daniel [mailto:Daniel.Mays@arcadis-us.com]
Sent: Monday, August 12, 2013 6:46 PM
To: amanda brewster
Cc: Lewis, Ryan
Subject: Coolers Shipped 8-12-13

Good Evening Amanda,

The coolers shipped today from the XOM-Mayflower Site are under tracking #8022 2781 5939.

Additionally Ryan Lewis will be sending this e-mails in the future as I will be offsite.

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.
Please consider the environment before printing this email.

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amanda brewster

From: juanramirez@tdi-bi.com
Sent: Wednesday, August 14, 2013 11:05 AM
To: 'Mott, Lyndi'
Cc: 'Parmelee, Rhiannon'; 'Tomlinson, Lisa'; 'Skwarski, Alison'; 'Chandler, Jennifer'; 'Amanda J. Brewster'; Donell Frank; 'Tom Mc Donald'
Subject: RE: DARSP samples taken off hold

Hello Lyndi,

Will update our records and will send you an updated inventory of samples received as of today with requested analysis.

Juan

Juan Ramirez
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College Station, TX 77845
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From: Mott, Lyndi [mailto:Lyndi.Mott@arcadis-us.com]
Sent: Wednesday, August 14, 2013 10:29 AM
To: Juan Ramirez
Cc: Parmelee, Rhiannon; Tomlinson, Lisa; Skwarski, Alison; Chandler, Jennifer
Subject: DARSP samples taken off hold
Importance: High

Juan,

We are good to go with processing all of these samples EXCEPT SED-DA-019(2.0-2.5). We want to archive SED-DA-019(2.0-2.5). The team was able to collect the 2.0-3.0 interval for this location, which was the intended target.

As a reminder, we can analyze the following that were collected on Saturday:

SED-DA-045(0.0-0.5)
SED-DA-045(0.5-1.0)

SED-DA-052(0.0-0.5)
SED-DA-052(0.5-1.0)
SED-DA-052(1.0-1.5)

SED-DA-018(0.0-0.5)
SED-DA-018(0.5-1.0)
SED-DA-018(1.0-1.5)
SED-DA-018(1.5-2.0)

SED-DA-019(0.0-0.5)
SED-DA-019(0.0-0.5) MS/MSD
SED-DA-019(0.5-1.0)
SED-DA-019(1.0-1.5)
SED-DA-019(1.5-2.0)

SED-DA-DUP-06

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B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081301
Client: Arcadis-Mayflower AR
Initiation Date: 8/14/13

Number of Samples: 8
Matrix: sediments
Due Date: 45 days: 9/28/13
Comments: PAH: 44 analytes
received 8/13/13

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 1941b	☑ Blank Spike
☐	Blank Spike Duplicate	☑	Matrix Spike
☑	Matrix Spike Duplicate	☑	Duplicate

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, AC1 Volume(s): 100ml
Spike Standard(s): PAH, AC1 Volume(s): 100ml
Internal Standard(s): PAH, AC1 Volume(s): 100ml
Final Extract Volume (ml): 1.0 Final Solvent: DCM

Comments:

Sample Custodian Signature: amanda Brewster Date: 8/14/13
Laboratory Manager Signature: Date: 8/14/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64505	J13034	Arcadis - Mayflower AR	ARC1817	SED-DA-045 (0.5-1.0)	08/10/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64507	J13034	Arcadis - Mayflower AR	ARC1819	SED-DA-052 (0.5-1.0)	08/10/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64508	J13034	Arcadis - Mayflower AR	ARC1820	SED-DA-052 (1.0-1.5)	08/10/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64511	J13034	Arcadis - Mayflower AR	ARC1823	SED-DA-018 (0.5-1.0)	08/10/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64512	J13034	Arcadis - Mayflower AR	ARC1824	SED-DA-018 (1.0-1.5)	08/10/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64513	J13034	Arcadis - Mayflower AR	ARC1825	SED-DA-018 (1.5-2.0)	08/10/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64517	J13034	Arcadis - Mayflower AR	ARC1829	SED-DA-019 (0.5-1.0)	08/10/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64518	J13034	Arcadis - Mayflower AR	ARC1830	SED-DA-019 (1.0-1.5)	08/10/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302

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B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081301
Client: Arcadis-Mayflower AR
Initiation Date: 8/14/13

Number of Samples: 1
Matrix: sed
Due Date: N/A
Comments: extract: HOLD
received 8/13/13

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 1941b	☐ Blank Spike	
☐ Blank Spike Duplicate		☑ Matrix Spike	
☑ Matrix Spike Duplicate		☐ Duplicate	

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, A-C1 Volume(s): 100 µl
Spike Standard(s): PAH, A-C1 Volume(s): 100 µl
Internal Standard(s): PAH, A-C1 Volume(s): 100 µl
Final Extract Volume (ml): 1.0 Final Solvent: DCM

Comments:

Sample Custodian Signature: amanda Brewster Date: 8/14/13
Laboratory Manager Signature: Date: 8/14/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
64519	J13034	Arcadis - Mayflower AR	ARC1831	SED-DA-019 (1.5-2.0)	08/10/13	08/13/13	extract & HOLD	SED		13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081301
Client: Arcadis - Mayflower AR
Initiation Date: 8/14/13

Number of Samples: 7
Matrix: sediments
Due Date: 45 days: 9/28/13
Comments: PAH, TPH, ALI
received 8/13/13

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): 100 µl
Spike Standard(s): PAH, ALI — Volume(s): 100 µl
Internal Standard(s): PAH, ALI — Volume(s): 100 µl
Final Extract Volume (ml): 1.0 — Final Solvent: DCM

Comments:

Sample Custodian Signature: Amanda Brewster — Date: 8/14/13
Laboratory Manager Signature: _____ — Date: 8/14/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
64504	J13034	Arcadis - Mayflower AR	ARC1816	SED-DA-045 (0-0.5)	08/10/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64506	J13034	Arcadis - Mayflower AR	ARC1818	SED-DA-052 (0-0.5)	08/10/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64509	J13034	Arcadis - Mayflower AR	ARC1821	SED-DA-DUP-06-081013	08/10/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64510	J13034	Arcadis - Mayflower AR	ARC1822	SED-DA-018 (0-0.5)	08/10/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64514	J13034	Arcadis - Mayflower AR	ARC1826	SED-DA-019 (0-0.5)	08/10/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64515	J13034	Arcadis - Mayflower AR	ARC1827	SED-DA-019 (0-0.5) MS	08/10/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64518	J13034	Arcadis - Mayflower AR	ARC1828	SED-DA-019 (0-0.5) MSD	08/10/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302

amanda brewster

From: juanramirez@tdi-bi.com
Sent: Thursday, August 15, 2013 9:04 AM
To: 'Mott, Lyndi'; 'amanda brewster'; 'Donell Frank'
Cc: 'Chandler, Jennifer'; 'Capria, Dennis'; 'Tom Mc Donald'
Subject: RE: Samples Received 8/13/13

We will extract the duplicate bottle with the next set of waters.

Juan

Juan Ramirez
Environmental Lab Manager
TDI-BI/B&B Labs
14391B South Dowling Rd.
College Station, TX 77845
Office - (979) 693-3446
Fax - (979) 693-6389
Cell – (979) 777-0793

Web Site: http://tdi-bi.com/

From: Mott, Lyndi [mailto:Lyndi.Mott@arcadis-us.com]
Sent: Thursday, August 15, 2013 8:59 AM
To: juanramirez@tdi-bi.com; 'amanda brewster'; 'Donell Frank'
Cc: Chandler, Jennifer; Capria, Dennis; 'Tom Mc Donald'
Subject: RE: Samples Received 8/13/13

Juan,

If you have other water matrices to extract by 8/16, can you include the 2nd liter of DI water. That way we would have a duplicate analysis of the DI water. I apologize that I didn't let you know sooner. I didn't realize they had already shipped the DI water.

Thank you,
Lyndi Mott

From: juanramirez@tdi-bi.com [mailto:juanramirez@tdi-bi.com]
Sent: Thursday, August 15, 2013 8:50 AM
To: Mott, Lyndi; 'amanda brewster'; 'Donell Frank'
Cc: Chandler, Jennifer; Capria, Dennis; 'Tom Mc Donald'
Subject: RE: Samples Received 8/13/13

Lyndi,

We have extracted 1 liter bottle for ARC1767 (SED-DA-DI-Water). Do we also need to extract the 2nd 1 liter bottle? Extraction Holding time for the sample is due 8/16/2013.

Juan

Juan Ramirez
Environmental Lab Manager
TDI-BI/B&B Labs
14391B South Dowling Rd.
College Station, TX 77845
Office - (979) 693-3446
Fax - (979) 693-6389
Cell – (979) 777-0793

Web Site: http://tdi-bi.com/

From: Mott, Lyndi [mailto:Lyndi.Mott@arcadis-us.com]
Sent: Thursday, August 15, 2013 8:05 AM
To: amanda brewster; Juan Ramirez; Donell Frank
Cc: Chandler, Jennifer; Capria, Dennis
Subject: RE: Samples Received 8/13/13

All,

On this coc is a sample labeled as DI water; SED-DA-DI water. We sent 2 liters just in case we need to reanalyze. This is unopened DI water that we received from Lancaster. We want to see what is in the DI water since we are seeing hits in the equipment blanks. We are trying to determine if the source is from the field or the DI water since your method has much lower detection limits than Lancaster. Please analyze the DI water in the same manner as the equipment blanks. Thank you,

Lyndi Mott | Project Chemistry/Data Quality Specialist | lyndi.mott@arcadis-us.com

ARCADIS U.S., Inc. | 2929 Briarpark Drive | Suite 300 | Houston, TX 77042
T. 713.953.4829 I T. 832.534.8140 I M. 315.569.9448
www.arcadis-us.com

From: amanda brewster [mailto:amandabrewster@tdi-bi.com]
Sent: Tuesday, August 13, 2013 3:32 PM
To: Mays, Daniel; Lewis, Ryan; Parmelee, Rhiannon; Chandler, Jennifer; Capria, Dennis; Mott, Lyndi
Cc: Juan Ramirez; Donell Frank; tommcdonald@tdi-bi.com
Subject: Samples Received 8/13/13

Hi Daniel/Ryan,

We received your coolers today in good condition.
The internal temperature of Cooler 1 was 5.1ºC and the temperature blank was 1.2ºC
The internal temperature of Cooler 2 was 1.5ºC and the temperature blank was 2.3ºC
The internal temperature of Cooler 3 was 2.1ºC and the temperature blank was 1.9ºC
The internal temperature of Cooler 4 was 6.1ºC and the temperature blank was 0.9ºC

A PDF of the COCs is attached for your records.

Regards,
Amanda

From: Mays, Daniel [mailto:Daniel.Mays@arcadis-us.com]
Sent: Monday, August 12, 2013 6:46 PM
To: amanda brewster
Cc: Lewis, Ryan
Subject: Coolers Shipped 8-12-13

Good Evening Amanda,

The coolers shipped today from the XOM-Mayflower Site are under tracking #8022 2781 5939.

Additionally Ryan Lewis will be sending this e-mails in the future as I will be offsite.

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.

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081301
Client: Arcadis-Mayflower AR
Initiation Date: 8/15/13
received 8/13/13

Number of Samples: 1
Matrix: water
Due Date: 45 days: 9/29/13
Comments: PAH, TPH, ALI
collected 8/09/13
extract by 8/15/13

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): 100ul

Spike Standard(s): PAH, ALI Volume(s): 100ul

Internal Standard(s): PAH, ALI Volume(s): 100ul

Final Extract Volume (ml): 1.0 Final Solvent: DCM

Comments:

Sample Custodian Signature: Amanda Brewster Date: 8/15/13

Laboratory Manager Signature: _____ Date: 8/15/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
64456	J13034	Arcadis - Mayflower AR	ARC1768	SED-DA-DI-Water	08/09/13	08/13/13	PAH, TPH, ALI	WATER	2 of 2	13081301	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302

Laboratory Bench Sheet Logs

B&B LABORATORIES ENVIRONMENTAL EXTRACTION LOG

MATRIX
- ☐ OTHER
- ☐ WATER
- ☒ SEDIMENT
- ☐ TISSUE

Job #: J13034 SDG #: 13081301

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-2500-003
Pest/PCB: —
Aliphatic: AL-WKSU-200-001
Other: —

Spike: 100 µL
PAH: AR-WKSK-1000-020
Pest/PCB: —
Aliphatic: AL-WKSK-100-030
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 13-311

Add both PAH & ALI standards, see comments for specific analysis - CK

	Added	Witness
Surrogate:	8/22/13 CK	8/22/13 HA
Spike:	8/22/13 CK	8/22/13 HA
Internal:	8/26/13 CK	8-26-13 EC

	Sample Name	Client ID	Wet Wt. (g or L)	Dry Wt. %	Dry Wt. (g)	Extraction Comments	Internal Chain of Custody
1	ENV3092A	Procedural Blank	—	—	—		Extraction Prep
2	ENV3092B	SRM 1941b	4.12	97.61	4.02		Date: 8/22/13 Date: 8/22/13
3	ENV3092C	Matrix Spike (ARC1791)	40.98	36.61	15.00		Initials: CK Initials: CK
4	ENV3092D	Matrix Spike Dup (ARC1792)	33.42	44.88	15.00		Extraction
5	ENV3092E	Duplicate (ARC1801)	24.96	60.14	15.01		Date: 8/22/13 Date: 8-23-13
6	ARC1784	SED-DA-021 (0-0.5)	49.25	30.48	15.01		Initials: CK Initials: EC
7	ARC1785	SED-DA-021 (0.5-1.0)	23.07	65.58	15.13	PAH only	Concentration
8	ARC1786	SED-DA-021 (1.0-1.5)	20.50	73.33	15.03	PAH only	Date: 8-23-13 Date: 8-23-13
9	ARC1790	SED-DA-042 (0-0.5)	29.25	51.69	15.12	original for MS/MSD	Initials: EC Initials: EC
10	ARC1793	SED-DA-042 (0.5-1.0)	23.34	64.36	15.02	PAH only	Short Columns
11	ARC1794	SED-DA-042 (1.0-1.5)	20.81	72.35	15.06	PAH only	Date: 8-23-13 Date: 8-23-13
12	ARC1795	SED-DA-046 (0-0.5)	24.60	61.29	15.08		Initials: EC Initials: EC

ENV 3092

	Sample Name	Client ID	Wet Wt. (g or L)	Dry Wt. %	Dry Wt. (g)	Extraction Comments
13	ARC1796	SED-DA-046 (0.5-1.0)	22.67	66.29	15.03	PAH only
14	ARC1797	SED-DA-046 (1.0-1.5)	19.13	78.49	15.01	PAH only
15	ARC1798	SED-DA-049 (0-0.5)	38.99	38.65	15.07	
16	ARC1799	SED-DA-049 (0.5-1.0)	30.47	49.39	15.05	PAH only
17	ARC1800	SED-DA-049 (1.0-1.5)	21.64	70.05	15.16	PAH only
18	ARC1801	SED-DA-043 (0-0.5)	24.96	60.14	15.01	
19	ARC1802	SED-DA-043 (0.5-1.0)	19.88	75.54	15.02	PAH only
20	ARC1803	SED-DA-043 (1.0-1.5)	19.17	78.44	15.04	PAH only
21	ARC1804	SED-DA-044 (0-0.5)	29.29	51.52	15.09	
22	ARC1805	SED-DA-044 ~~(1.0-1.5)~~ (0.5-1.0)	20.00	75.21	15.04	PAH only
23	ARC1806	SED-DA-044 (1.0-1.5)	19.41	77.30	15.00	PAH only
24	ARC1808	SED-DA-047 (0.5-1.0)	21.79	68.94	15.02	PAH only

Internal Chain of Custody

	Date	Initials
Concentration Short Columns	8-26-13	EM
	8-26-13	EM
Columns SA1		
Concentration SA1		
Columns SA2		
Concentration SA2		
Transfer for HPLC		
HPLC		
Post-HPLC Concentration		
Final Extract Transfer	8-26-13	EM

Dry Weight Page

DRY 1362, 1363

Lipid/EOM Page

EOM1030

Clean-up/Separation/Other Columns

—

Lot Numbers

DCM: 52314
Hexane: —
Hydromatrix: —
Water: DI514-F
Silica: BCBJ9493V
Alumina: TG14BZEMS
Sodium Sulfate: 2092C525
Pentane: —
Copper: 115050-AV
Hydrochloric Acid: —
SPE Columns: —
Other: —

Sample Storage Box #

J13034-4

HPLC Storage Box #

—

QC Review

Date	Initials
8/26/13	

Copied to Folders

8/26/13 CK

ENV 3092

B&B LABORATORIES % DRY WEIGHT LOGBOOK

MATRIX
- ☐ OTHER
- ☒ SEDIMENT
- ☐ TISSUE

Type: _____

Job #: 513034 SDG #: 1308130

Client: Arcadis - May Flower AR

General comments:

Lab Mananger Date:	Lab Mananger Init:	Date/Init: ☒ Bal. Cal.	Beaker + Dry Smpl (g) Date/Init: ☒ Bal. Cal.	Beaker + Dry Smpl (g) Date/Init: ☑ Bal. Cal.	Date/Init:
8/21/13		8/14/13 CSS	8/15/13 CSS	8/16/13 HA	8/19/13 CK

	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	1	2	(%) Dry Weight	Comments
1	ARC 1773	SO-DA-026 (0-0.5)	1.30	2.49	2.19	2.17	73.11	
2	ARC 1774	SO-DA-026 (0-0.5) MS	1.31	3.08	2.48	2.48	66.10	
3	ARC 1775	SO-DA-026 (0-0.5) MSD	1.31	3.07	2.54	2.53	69.32	
4	ARC 1776	SO-DA-026 (0.5-1.0)	1.30	3.31	2.86	2.86	77.61	
5	ARC 1777	SO-DA-026 (1.0-1.5)	1.30	4.13	3.53	3.53	78.80	
6	ARC 1778	SO-DA-028 (0-0.5)	1.32	3.48	2.84	2.84	70.37	
7	ARC 1779	SO-DA-028 (0.5-1.0)	1.31	2.54	2.28	2.28	78.86	
8	ARC 1780	SO-DA-028 (1.0-1.5)	1.31	2.74	2.37	2.37	74.13	
9	ARC 1781	SO-DA-029 (0-0.5)	1.31	3.12	2.67	2.67	75.14	
10	ARC 1782	SO-DA-029 (0.5-1.0)	1.30	2.75	2.36	2.36	73.10	
11	ARC 1783	SO-DA-029 (1.0-1.5)	1.31	2.65	2.29	2.29	73.13	
12	ARC 1785	SED-DA-021 (0.5-1.0)	1.30	2.84	2.31	2.31	65.58	
13	~~ARC 1775~~ ARC 1786	SED-DA-~~021~~ 042 (~~1.0-1.5~~ 0.5-1.0) CK	1.30	3.25	2.73	2.73	73.33	
14	ARC 1793	SED-DA-042 (0.5-1.0)	1.30	3.18	2.51	2.51	64.36	
15	ARC 1794	SED-DA-042 (1.0-1.5)	1.30	3.00	2.53	2.53	72.35	
16	ARC 1796	SED-DA-046 (0.5-1.0)	1.31	3.06	2.48	2.47	66.29	

DRY 1362

B&B LABORATORIES % DRY WEIGHT LOGBOOK

					Beaker + Dry Smpl (g) Date/Init: 8/15/13 CDS ☒ Bal. Cal.	Beaker + Dry Smpl (g) Date/Init: 8/16/13 HTA ☑ Bal. Cal.		
	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	1	2	(%) Dry Weight	Comments
17	ARC1797	SED-DA-046 (1.0-1.5)	1.32	3.04	2.67	2.67	78.49	
18	ARC1799	SED-DA-049 (0.5-1.0)	1.30	2.94	2.11	2.11	49.39	
19	ARC1800	SED-DA-049 (1.0-1.5)	1.30	3.17	2.61	2.61	70.05	
20	ARC1802	SED-DA-043 (0.5-1.0)	1.30	2.69	2.35	2.35	75.54	
21	ARC1803	SED-DA-043 (1.0-1.5)	1.31	3.49	3.02	3.02	78.44	
22	ARC1805	SED-DA-044 (0.5-1.0)	1.31	2.52	2.23	2.22	75.21	
23	ARC1805 Dup	Duplicate	1.31	2.53	2.21	2.21	73.77	
24								

$$\%\ \text{Dry Weight} = \frac{[\text{Beaker + Dry SMPL (g)}] - [\text{Beaker Weight (g)}] \times 100}{[\text{Beaker + Wet SMPL (g)}] - [\text{Beaker Weight (g)}]}$$

$$\text{RPD} = \frac{[\text{Original \% Dry Weight Value} - \text{Duplicate \% Dry Weight Value}] \times 100}{[\text{Original \% Dry Weight Value} + \text{Duplicate \% Dry Weight Value}] \times 0.5}$$

The Relative Percent Difference (RPD) between duplicates must be ≤ 25%.

Date / Init.	RPD
8/19/13 CK	1.928%
Sample # ARC1805	
Duplicate # ARC1805 Dup	

DRY 1362

B&B LABORATORIES % DRY WEIGHT LOGBOOK

MATRIX
- ☐ OTHER
- ☒ SEDIMENT
- ☐ TISSUE
Type: _____

Job #: 513034 SDG #: 1308301

Client: Arcadis - May Flower AR

General comments:

Lab Mananger		Date/Init: ☒ Bal. Cal.	Beaker + Dry Smpl (g)		Date/Init:
Date:	Init:		Date/Init:	Date/Init:	
8/21/13		8/14/13 CSD	8/14/13 CSD ☒ Bal. Cal.	8/16/13 HH ☑ Bal. Cal.	8/19/13 CK

	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	1	2	(%) Dry Weight	Comments
1	ARC 1784	SED-DA-021 (0-0.5)	1.31	2.36	1.64	1.63	30.48	
2	ARC 1787	SED-DA-021 (1.5-2.0)	1.31	3.67	3.14	3.14	77.54	
3	ARC 1788	SED-DA-021 (2.0-3.0)	1.30	3.39	2.99	2.99	80.86	
4	ARC 1789	SED-DA-021 (3.0-3.3)	1.31	2.86	2.56	2.56	80.65	
5	ARC 1790	SED-DA-042 (0-0.5)	1.31	2.49	1.92	1.92	51.69	
6	ARC 1791	SED-DA-042 (0-0.5) MS	1.31	2.43	1.72	1.72	36.61	
7	ARC 1792	SED-DA-042 (0-0.5) MSD	1.33	2.60	1.90	1.90	44.88	
8	ARC 1795	SED-DA-046 (0-0.5)	1.32	2.87	2.27	2.27	61.29	
9	ARC 1798	SED-DA-049 (0-0.5)	1.32	2.95	1.95	1.95	38.65	
10	ARC 1801	SED-DA-043 (0-0.5)	1.31	2.79	2.20	2.20	60.14	
11	ARC 1804	SED-DA-044 (0-0.5)	1.31	2.96	2.17	2.16	51.52	
12	ARC 1806	SED-DA-044 (1.0-1.5)	1.31	3.14	2.74	2.74	77.30	
13	ARC 1807	SED-DA-047 (0-0.5)	1.30	2.97	2.31	2.31	60.48	
14	ARC 1808	SED-DA-047 (0.5-1.0)	1.31	2.92	2.42	2.42	68.94	
15	ARC 1809	SED-DA-047 (1.0-1.5)	1.31	2.88	2.49	2.49	75.16	
16	ARC 1810	SED-DA-048 (0-0.5)	1.29	3.35	2.25	2.24	46.12	

DRY 1363

B&B LABORATORIES % DRY WEIGHT LOGBOOK

					Beaker + Dry Smpl (g) Date/Init: 8/15/13 CSS ☑ Bal. Cal.	Beaker + Dry Smpl (g) Date/Init: 8/16/13 HTA ☑ Bal. Cal.		
	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	1	2	(%) Dry Weight	Comments
17	ARC 1811	SED-DA-048 (0-0.5) MS	1.31	2.86	2.05	2.03	46.45	
18	ARC 1812	SED-DA-048 (0-0.5) MSD	1.32	3.14	2.24	2.24	50.55	
19	ARC 1813	SED-DA-048 (0.5-1.0)	1.31	2.68	2.25	2.25	68.61	
20	ARC 1814	SED-DA-048 (1.0-1.5)	1.30	3.33	2.82	2.82	74.88	
21	ARC 1815	SED-DA-DUP-07-081213	1.35	[illegible]	2.00	2.00	63.81	2.38g
22	ARC 1787 DUP	Duplicate	1.30	3.08	2.68	2.68	77.53	
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
8/19/13 CK	0.018%
Sample # ARC1787	
Duplicate # ARC1787 Dup	

DRY 1363

MATRIX: OTHER / (SEDIMENT) / WATER

Job #: J13034 SDG #: 13081301

Client: Arcadis - Mayflower AR

General comments:

Lab Manager Date/Int: 8/26/13

Transferred by Date/Int: 8/26/13 CK
From ENV Pg: ENV3092
From DRY Pg: DRY 1362, 1363

Date/Int: 8-23-13 EG Bal. Cal. ✓

Date/Int: 8/26/13 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	ENV3092A	Procedural Blank	—	—	3	29.558	29.558	0.000	—	—	
2	ENV3092B	SRM 1941b	4.02	97.61	3	30.142	30.303	0.161	1173	1201	
3	ENV3092C	Matrix Spike (ARC1791)	15.00	36.61	3	30.204	31.124	0.920	674	1840	
4	ENV3092D	Matrix Spike (ARC1792)	15.00	44.88	3	29.871	30.621	0.750	673	1500	
5	ENV3092E	Duplicate (ARC1801)	15.01	60.14	3	30.411	33.705	3.294	3959	6584	
6	ARC1784	SED-DA-021 (0-0.5)	15.01	30.48	3	29.859	31.973	2.114	1288	4225	
7	ARC1785	SED-DA-021 (0.5-1.0)	15.13	65.58	3	29.541	29.845	0.304	395	603	
8	ARC1786	SED-DA-021 (1.0-1.5)	15.03	73.33	3	29.883	29.918	0.035	51	70	
9	ARC1790	SED-DA-042 (0-0.5)	15.12	51.69	3	29.949	30.419	0.470	482	933	
10	ARC1793	SED-DA-042 (0.5-1.0)	15.02	64.36	3	30.416	30.668	0.252	324	503	
11	ARC1794	SED-DA-042 (1.0-1.5)	15.06	72.35	3	30.111	30.220	0.109	157	217	
12	ARC1795	SED-DA-046 (0-0.5)	15.08	61.29	3	29.300	32.049	2.749	3352	5469	

EOM 1030

	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	ARC1796	SED-DA-046 (0.5-1.0)	15.03	66.29	3	29.810	31.061	1.251	1655	2497	
14	ARC1797	SED-DA-046 (1.0-1.5)	15.01	78.49	3	30.242	30.268	0.026	41	52	
15	ARC1798	SED-DA-049 (0-0.5)	15.07	38.65	3	30.141	32.206	2.065	1589	4111	
16	ARC1799	SED-DA-049 (0.5-1.0)	15.05	49.39	3	29.607	30.584	0.977	962	1948	
17	ARC1800	SED-DA-049 (1.0-1.5)	15.16	70.05	3	30.140	30.295	0.155	215	307	30.295E
18	ARC1801	SED-DA-043 (0-0.5)	15.01	60.14	3	29.618	32.840	3.222	3873	6440	
19	ARC1802	SED-DA-043 (0.5-1.0)	15.02	75.54	3	29.852	30.229	0.377	569	753	
20	ARC1803	SED-DA-043 (1.0-1.5)	15.04	78.44	3	29.751	29.783	0.032	50	64	
21	ARC1804	SED-DA-044 (0-0.5)	15.09	51.52	3	30.270	33.074	2.804	2872	5575	
22	ARC1805	SED-DA-044 (0.5-1.0)	15.04	75.21	3	29.743	29.851	0.108	162	215	
23	ARC1806	SED-DA-044 (1.0-1.5)	15.00	77.30	3	29.794	29.864	0.070	108	140	
24	ARC1808	SED-DA-047 (0.5-1.0)	15.02	68.94	3	30.258	30.360	0.102	140	204	

$$EOM = \frac{(EOM\ Wt.\ (mg))\ (Final\ Extract\ Vol.\ (ml))}{(Smpl\ Wt/Vol.\ (g/L))\ (0.10\ ml)} \times 1000$$

$$\%RPD = \frac{(EOM_1 - EOM_2)}{(EOM_1 + EOM_2) \times 0.5} \times 100\%$$

	Initial Filter Wt (mg)	Filter & Sample Wt (mg)	Wt. of 100 µl Lipid Wt. (mg)
Solvent Blank	30.219	30.219	0.000
EOM Standard	30.441	40.716	10.275

EOM-WKLC-10-004

The Relative Percent Difference (RPD) between duplicates must be ≤ 25%.

Date/Int:	RPD
8/26/13 CK	2.209 - 1.210
Sample: ARC1801	
Duplicate: ENV3092E	

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