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

Arcadis
Mayflower AR Project
(Contract # B0086003.1302)
August 10, 2013 and August 13, 2013
Collection Dates

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

(QC Batch ENV 3093)

September 23, 2013

Technical Report 13-3114

Arcadis
Mayflower AR Project
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Narrative

Technical Report 13-3114
Arcadis
Mayflower AR Project
(Contract # B0086003.1302)
Sediment Samples
August 10, 2013 and August 12, 2013 Collection Dates

September 23, 2013

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.

B&B Laboratories received a shipment of one (1) ice chest that was sent by Ryan Lewis of Arcadis using FedEx on August 13, 2013 and arrived on August 14, 2013 in College Station, Texas. The ice chests arrived sealed and in good condition.

Cooler Number	Temperature	Samples Received
1	0.9°C 0.9°C (Temp Blank)	Twenty-one (21) soils 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 13, 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/soil 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.

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/soil 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/soil 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/soil 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/soil

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 – Sediment/soil

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

- Sixteen (16) analytes were detected outside of the QC %recovery limits of 40% to 120% in ENV3093C MS (SED-DA-019 (0-0.5) MS)). Sixteen (16) analytes were detected outside of the QC %recovery limits of 40% to 120% in ENV3093D MSD (SED-DA-019 (0-0.5) MSD)).

Comment

- These sixteen (16) analytes 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 three (3) client submitted sample ARC1833 (SO-DA-001 (0-0.5)), ARC1834 (SO-DA-001 (0.5-1.0)), and ARC1835 (SO-DA-001 (1.0-1.5)).

- Five (5) client submitted samples ARC1816 (SED-DA-045-(0-0.5)), ARC1818 (SED-DA-052 (0-0.5)), ARC1821 (SED-DA-DUP-06-081013), ARC1822 (SED-DA-018 (0-0.5)), ARC1826 (SED-DA-019 (0-0.5) and three (3) internal QC sample (client submitted samples) ENV3093C (SED-DA-019 (0-0.5) MS), ENV3093D (SED-DA-019 (0-0.5) MSD) and ENV3093E (Dupl. (SED-DA-045 (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

- Thirty-four (34) analytes were detected outside of the QC %recovery limits of 40% to 120% in ENV3093C MS (SED-DA-019 (0-0.5) MS)). Thirty-four (34) analytes were detected outside of the QC %recovery limits of 40% to 120% in ENV3093D MSD (SED-DA-019 (0-0.5) MSD)).

Comment

- Thirty-four (34) analytes are invalid spikes due to high native concentrations of PAHs in the samples. These peaks are qualified with a "Y".

Laboratory Duplicate

Observation

- No variances were observed.

Laboratory Control Standard (Solution, Sediment, and Petroleum)

Observation

- Fluoranthene was detected outside of the certified concentration limits of ±30% in ENV3093B (SRM 1941b).
- 3-Methylphenanthrene and 2-Methylphenanthrene were detected outside of the certified concentration limits of ±20% in MS60146K (AR-SRM2779-WK-4.0-002).

Comment

- It is unknown as to why this analyte was detected outside of the certified concentration limits of ±30% in the reference oil material.
- It is unknown as to why these analytes were 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 13-3114

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	ARC1816	SED-DA-045 (0-0.5)	08/10/13	08/13/13	PAH, TPH, ALI	Sediment		13081301	B0086003.1302
2	ARC1817	SED-DA-045 (0.5-1.0)	08/10/13	08/13/13	PAH	Sediment	44 analytes	13081301	B0086003.1302
3	ARC1818	SED-DA-052 (0-0.5)	08/10/13	08/13/13	PAH, TPH, ALI	Sediment		13081301	B0086003.1302
4	ARC1819	SED-DA-052 (0.5-1.0)	08/10/13	08/13/13	PAH	Sediment	44 analytes	13081301	B0086003.1302
5	ARC1820	SED-DA-052 (1.0-1.5)	08/10/13	08/13/13	PAH	Sediment	44 analytes	13081301	B0086003.1302
6	ARC1821	SED-DA-DUP-06-081013	08/10/13	08/13/13	PAH, TPH, ALI	Sediment		13081301	B0086003.1302
7	ARC1822	SED-DA-018 (0-0.5)	08/10/13	08/13/13	PAH, TPH, ALI	Sediment		13081301	B0086003.1302
8	ARC1823	SED-DA-018 (0.5-1.0)	08/10/13	08/13/13	PAH	Sediment	44 analytes	13081301	B0086003.1302
9	ARC1824	SED-DA-018 (1.0-1.5)	08/10/13	08/13/13	PAH	Sediment	44 analytes	13081301	B0086003.1302
10	ARC1825	SED-DA-018 (1.5-2.0)	08/10/13	08/13/13	PAH	Sediment	44 analytes	13081301	B0086003.1302
11	ARC1826	SED-DA-019 (0-0.5)	08/10/13	08/13/13	PAH, TPH, ALI	Sediment		13081301	B0086003.1302
12	ARC1827	SED-DA-019 (0-0.5) MS	08/10/13	08/13/13	PAH, TPH, ALI	Sediment		13081301	B0086003.1302
13	ARC1828	SED-DA-019 (0-0.5) MSD	08/10/13	08/13/13	PAH, TPH, ALI	Sediment		13081301	B0086003.1302
14	ARC1829	SED-DA-019 (0.5-1.0)	08/10/13	08/13/13	PAH	Sediment	44 analytes	13081301	B0086003.1302
15	ARC1830	SED-DA-019 (1.0-1.5)	08/10/13	08/13/13	PAH	Sediment	44 analytes	13081301	B0086003.1302
16	ARC1833	SO-DA-001 (0-0.5)	08/13/13	08/14/13	PAH	Soil	44 analytes	13081401	B0086003.1302
17	ARC1834	SO-DA-001 (0.5-1.0)	08/13/13	08/14/13	PAH	Soil	44 analytes	13081401	B0086003.1302
18	ARC1835	SO-DA-001 (1.0-1.5)	08/13/13	08/14/13	PAH	Soil	44 analytes	13081401	B0086003.1302
19	ARC1839	SO-DA-002 (0.5-1.0)	08/13/13	08/14/13	PAH	Soil	44 analytes	13081401	B0086003.1302
20	ARC1840	SO-DA-002 (1.0-1.5)	08/13/13	08/14/13	PAH	Soil	44 analytes	13081401	B0086003.1302

Sediment/Soil 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	ARC1816.D	ARC1818.D	ARC1821.D	ARC1822.D
Client Name	SED-DA-045 (0-0.5)	SED-DA-052 (0-0.5)	SED-DA-DUP-06-081013	SED-DA-018 (0-0.5)
Matrix	Sediment	Sediment	Sediment	Sediment
Collection Date	08/10/13	08/10/13	08/10/13	08/10/13
Received Date	08/13/13	08/13/13	08/13/13	08/13/13
Extraction Date	08/23/13	08/23/13	08/23/13	08/23/13
Extraction Batch	ENV 3093	ENV 3093	ENV 3093	ENV 3093
Date Acquired	29-Aug-2013, 08:50:31	29-Aug-2013, 10:01:08	29-Aug-2013, 11:11:36	29-Aug-2013, 12:22:09
Method	ALI2012.M	ALI2012.M	ALI2012.M	ALI2012.M
Sample Dry Weight (g)	5.1	15.0	15.1	15.2
Sample Wet Weight (g)	10.2	38.0	56.3	59.8
% Dry	50	40	27	25
% Moisture	50	60	73	75
% 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	<0.036	U	<0.012	U	<0.012	U	<0.012	U
n-C10	0.203		0.013	J	0.037		0.017	J
n-C11	1.276		0.042		0.065		0.044	
n-C12	3.489		0.108		0.187		0.055	
n-C13	4.658		0.128		0.149		0.079	
i-C15	4.689		0.223		0.076		0.751	
n-C14	5.589		0.192		0.338		0.120	
i-C16	5.886		0.346		0.237		0.938	
n-C15	6.625		0.533		0.792		2.050	
n-C16	6.172		0.245		0.298		0.049	
i-C18	4.463		0.264		0.058		0.051	
n-C17	4.189		0.661		0.704		0.837	
Pristane	6.707		0.573		0.376		0.272	
n-C18	4.405		1.078		1.338		1.214	
Phytane	6.873		0.992		0.649		0.645	
n-C19	4.856		0.905		1.404		1.223	
n-C20	3.643		0.308		0.258		0.239	
n-C21	3.799		3.676		5.131		4.764	
n-C22	3.225		0.496		0.443		0.465	
n-C23	3.717		3.413		4.894		4.893	
n-C24	2.773		0.551		0.665		0.655	
n-C25	2.784		2.847		4.330		4.179	
n-C26	1.978		0.386		0.497		0.633	
n-C27	3.533		3.715		5.139		5.294	
n-C28	1.610		0.893		0.999		1.170	
n-C29	7.644		6.984		8.060		8.569	
n-C30	1.367		1.124		1.410		1.423	
n-C31	8.269		10.266		10.358		12.499	
n-C32	1.810		2.354		2.879		2.803	
n-C33	12.828		23.020		14.808		12.325	
n-C34	1.073		0.695		2.628		1.776	
n-C35	6.429		11.573		3.877		5.203	
n-C36	0.541		0.425		0.504		1.693	
n-C37	1.322		0.972		1.679		4.761	
n-C38	0.212		0.314		0.372		0.421	
n-C39	0.489		0.633		1.237		1.234	
n-C40	0.300		0.034		0.111		0.148	
Total Alkanes	139		81.0		77.0		83.5	
Total Petroleum Hydrocarbons	6717		1612		1658		1713	
Total Resolved Hydrocarbons	712		576		667		687	
Unresolved Complex Mixture	6005		1037		992		1026	
EOM (µg/dry g)	15754		4661		4838		5266	

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)	Su Recovery (%)	Su Recovery (%)
n-dodecane-d26	96	86	85	88
n-eicosane-d42	87	92	95	96
n-triacontane-d62	94	97	77	88

Sample Name	ARC1826.D
Client Name	SED-DA-019 (0-0.5)
Matrix	Sediment
Collection Date	08/10/13
Received Date	08/13/13
Extraction Date	08/23/13
Extraction Batch	ENV 3093
Date Acquired	29-Aug-2013, 13:32:47
Method	ALI2012.M
Sample Dry Weight (g)	15.2
Sample Wet Weight (g)	103.4
% Dry	15
% Moisture	85
% Lipid (dry)	NA
% Lipid (wet)	NA
Dilution	1X

Target Compounds	Su. Corrected Conc. (µg/dry g)	Q
n-C9	<0.012	U
n-C10	0.052	
n-C11	0.151	
n-C12	0.406	
n-C13	0.254	
i-C15	0.317	
n-C14	0.592	
i-C16	0.622	
n-C15	1.532	
n-C16	0.543	
i-C18	0.338	
n-C17	1.396	
Pristane	0.730	
n-C18	2.445	
Phytane	1.174	
n-C19	1.690	
n-C20	0.259	
n-C21	4.842	
n-C22	0.598	
n-C23	5.255	
n-C24	0.886	
n-C25	4.130	
n-C26	0.549	
n-C27	5.632	
n-C28	1.231	
n-C29	8.291	
n-C30	1.436	
n-C31	22.437	
n-C32	2.901	
n-C33	18.048	
n-C34	0.473	
n-C35	7.882	
n-C36	0.479	
n-C37	2.523	
n-C38	0.693	
n-C39	1.473	
n-C40	<0.019	U
Total Alkanes	102	
Total Petroleum Hydrocarbons	2328	
Total Resolved Hydrocarbons	792	
Unresolved Complex Mixture	1536	
EOM (µg/dry g)	5275	

Surrogate (Su)	Su Recovery (%)
n-dodecane-d26	92
n-eicosane-d42	75
n-triacontane-d62	74

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

Sample Name	ENV3093A.D
Client Name	Procedural Blank
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	08/23/13
Extraction Batch	ENV 3093
Date Acquired	29-Aug-2013, 02:57:26
Method	ALI2012.M
Sample Dry Weight (g)	15.0
Sample Wet Weight (g)	NA
% Dry	NA
% Moisture	NA
% Lipid (dry)	NA
% Lipid (wet)	NA
Dilution	1X

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

Surrogate (Su)	Su Recovery (%)
n-dodecane-d26	95
n-eicosane-d42	96
n-triacontane-d62	99

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

Sample Name	ARC1826.D	ENV3093C.D	ENV3093D.D
Client Name	SED-DA-019 (0-0.5)	MS (SED-DA-019 (0-0.5))	MSD (SED-DA-019 (0-0.5))
Matrix	Sediment	Sediment	Sediment
Collection Date	08/10/13	08/10/13	08/10/13
Received Date	08/13/13	08/13/13	08/13/13
Extraction Date	08/23/13	08/23/13	08/23/13
Extraction Batch	ENV 3093	ENV 3093	ENV 3093
Date Acquired	29-Aug-2013, 13:32:47	29-Aug-2013, 04:08:04	29-Aug-2013, 05:18:38
Method	ALI2012.M	ALI2012.M	ALI2012.M
Sample Dry Weight (g)	15.2	15.2	15.2
Sample Wet Weight (g)	103.4	103.2	110.8
% Dry	15	15	14
% Moisture	85	85	86
% 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	0.636		97			0.581		88			9		9.95
n-C10	0.052		0.720		101			0.667		93			8		10.0
n-C11	0.151		0.888		113			0.821		102			8		9.90
n-C12	0.406		1.145		112			1.005		91			13		10.0
n-C13	0.254		1.001		114			1.017		116			2		10.0
i-C15	0.317		NA					NA							
n-C14	0.592		1.310		111			1.059		72			21		9.86
i-C16	0.622		NA					NA							
n-C15	1.532		2.042			Y		1.687			Y		19		9.98
n-C16	0.543		1.312		117			0.985		67			28		10.0
i-C18	0.338		NA					NA							
n-C17	1.396		1.795			Y		1.576			Y		13		9.94
Pristane	0.730		1.355		96			1.131		61			18		9.90
n-C18	2.445		2.195			Y		1.869			Y		16		10.0
Phytane	1.174		1.671		76			1.520		53			9		9.91
n-C19	1.690		2.302			Y		2.115			Y		8		10.0
n-C20	0.259		0.966		107			0.979		109			1		10.0
n-C21	4.842		5.245			Y		4.013			Y		27		10.0
n-C22	0.598		1.298		107			1.140		82			13		9.95
n-C23	5.255		7.785			Y		6.515			Y		18		9.91
n-C24	0.886		1.562		103			1.483		90			5		10.0
n-C25	4.130		5.554			Y		4.313			Y		25		10.0
n-C26	0.549		1.203		100			1.114		86			8		10.0
n-C27	5.632		6.356			Y		5.545			Y		14		9.89
n-C28	1.231		1.770		82			1.610		57			9		10.0
n-C29	8.291		8.328			Y		7.684			Y		8		10.0
n-C30	1.436		1.754			Y		1.705			Y		3		10.0
n-C31	22.437		31.983			Y		33.385			Y		4		10.0
n-C32	2.901		2.664			Y		2.534			Y		5		10.0
n-C33	18.048		15.787			Y		12.641			Y		22		10.0
n-C34	0.473		1.033		85			0.965		74			7		10.0
n-C35	7.882		11.438			Y		10.033			Y		13		10.0
n-C36	0.479		1.019		83			1.127		99			10		9.90
n-C37	2.523		2.905			Y		2.945			Y		1		10.0
n-C38	0.693		1.173		73			1.290		90			9		10.0
n-C39	1.473		1.948			Y		1.892			Y		3		10.0
n-C40	<0.019	U	0.786		119			0.660		100			17		10.0
Average %Recovery					100					85					

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)	Su Recovery (%)
n-dodecane-d26	92	93	94
n-eicosane-d42	75	88	96
n-triacontane-d62	74	89	87

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

Sample Name	ARC1816.D	ENV3093E.D
Client Name	SED-DA-045 (0-0.5)	Dupl (SED-DA-045 (0-0.5))
Matrix	Sediment	Sediment
Collection Date	08/10/13	08/10/13
Received Date	08/13/13	08/13/13
Extraction Date	08/23/13	08/23/13
Extraction Batch	ENV 3093	ENV 3093
Date Acquired	29-Aug-2013, 08:50:31	29-Aug-2013, 06:29:14
Method	ALI2012.M	ALI2012.M
Sample Dry Weight (g)	5.1	5.1
Sample Wet Weight (g)	10.2	10.2
% Dry	50	50
% Moisture	50	50
% 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	<0.036	U	<0.037	U	0			0.040	0.120
n-C10	0.203		0.188		8			0.060	0.180
n-C11	1.276		1.197		6			0.050	0.150
n-C12	3.489		2.852		20			0.050	0.150
n-C13	4.658		4.395		6			0.130	0.390
i-C15	4.689		4.366		7			0.050	0.150
n-C14	5.589		5.358		4			0.040	0.120
i-C16	5.886		5.536		6			0.010	0.030
n-C15	6.625		6.060		9			0.050	0.150
n-C16	6.172		5.751		7			0.010	0.030
i-C18	4.463		4.253		5			0.010	0.030
n-C17	4.189		3.660		13			0.010	0.030
Pristane	6.707		5.858		14			0.010	0.030
n-C18	4.405		4.275		3			0.010	0.030
Phytane	6.873		5.842		16			0.020	0.060
n-C19	4.856		4.533		7			0.010	0.030
n-C20	3.643		3.277		11			0.040	0.120
n-C21	3.799		3.635		4			0.010	0.030
n-C22	3.225		3.138		3			0.010	0.030
n-C23	3.717		3.902		5			0.020	0.060
n-C24	2.773		2.159		25			0.020	0.060
n-C25	2.784		2.429		14			0.020	0.060
n-C26	1.978		1.831		8			0.020	0.060
n-C27	3.533		3.031		15			0.030	0.090
n-C28	1.610		1.533		5			0.030	0.090
n-C29	7.644		7.038		8			0.060	0.180
n-C30	1.367		1.434		5			0.040	0.120
n-C31	8.269		7.160		14			0.040	0.120
n-C32	1.810		1.766		2			0.030	0.090
n-C33	12.828		12.424		3			0.060	0.180
n-C34	1.073		0.873		21			0.050	0.150
n-C35	6.429		5.551		15			0.040	0.120
n-C36	0.541		0.546		1			0.050	0.150
n-C37	1.322		1.605		19			0.050	0.150
n-C38	0.212		0.169		23	X		0.060	0.180
n-C39	0.489		0.492		1			0.050	0.150
n-C40	0.300		0.272		10			0.050	0.150
Total Alkanes	139.4		128.4		8				
Total Petroleum Hydrocarbons	6717		6096		10			4.09	12.27
Total Resolved Hydrocarbons	712		689		3			4.09	12.27
Unresolved Complex Mixture	6005		5407		10			4.09	12.27
EOM (µg/dry g)	15754		14309		10				

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)
n-dodecane-d26	96	97
n-eicosane-d42	87	92
n-triacontane-d62	94	95

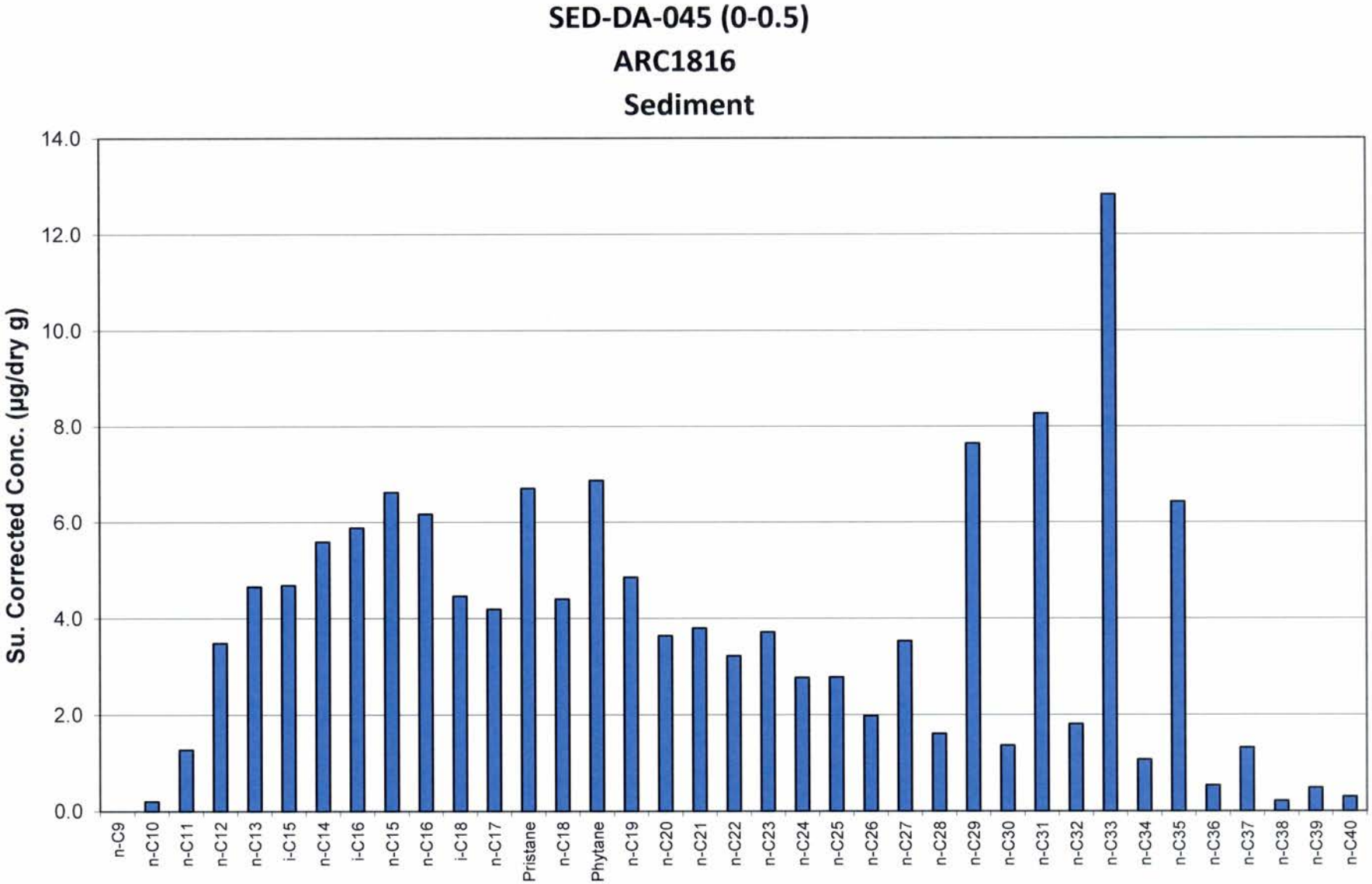
Arcadis-Mayflower AR
Aliphatic Hydrocarbon and Total Petroleum Hydrocarbon Data
Standard Reference Material Report

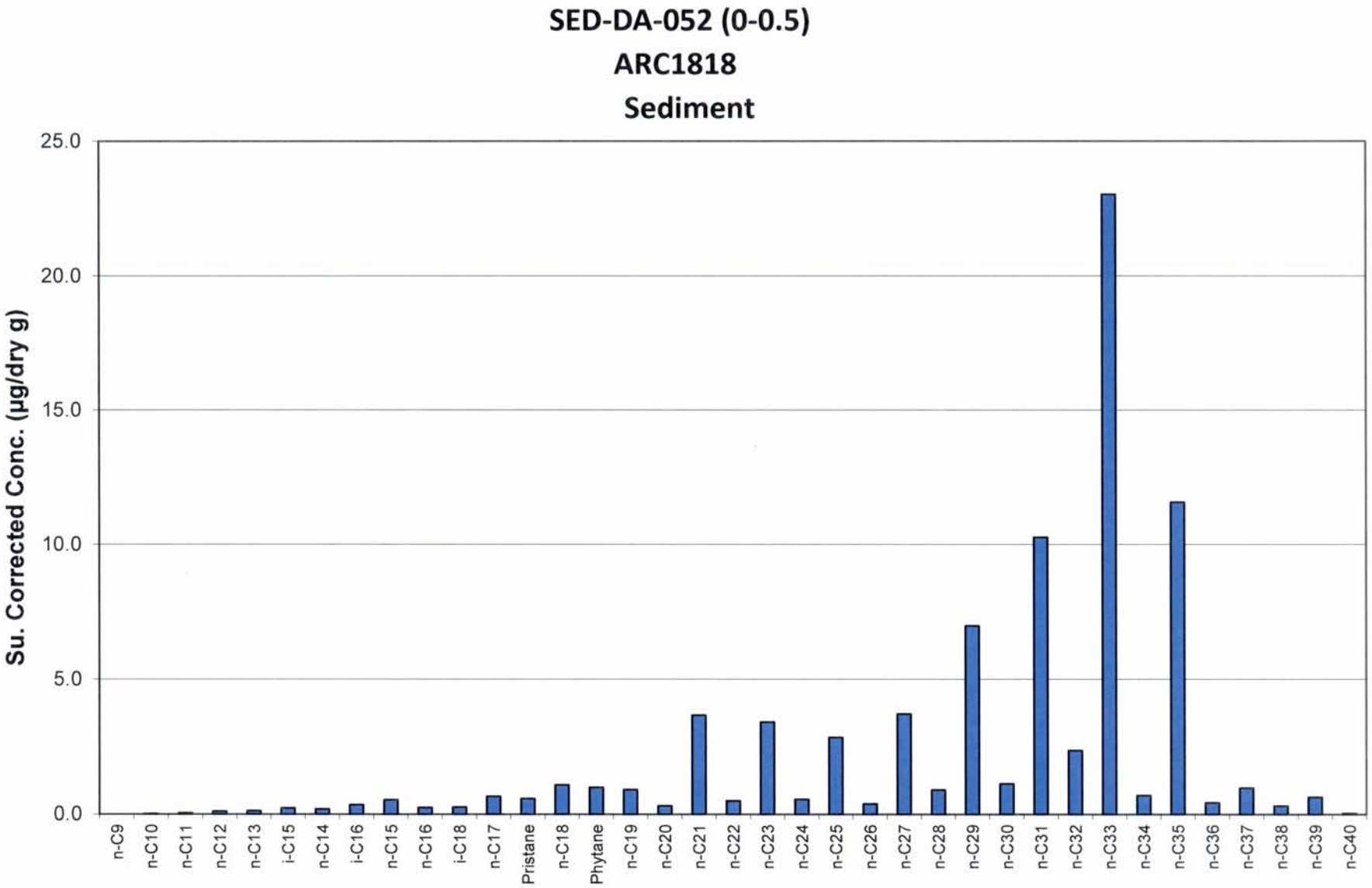
Sample Name	FID30052C.D
Client Name	AL-SRM2779-20-01
Matrix	Reference Oil
Collection Date	NA
Received Date	NA
Extraction Date	08/23/13
Extraction Batch	ENV 3093
Date Acquired	28-Aug-2013, 22:15:39
Method	ALI2012.M
Sample Dry Weight (mg)	20.0
Sample Wet Weight (mg)	NA
% Dry	NA
% Moisture	NA
% Lipid (dry)	NA
% Lipid (wet)	NA
Dilution	1X

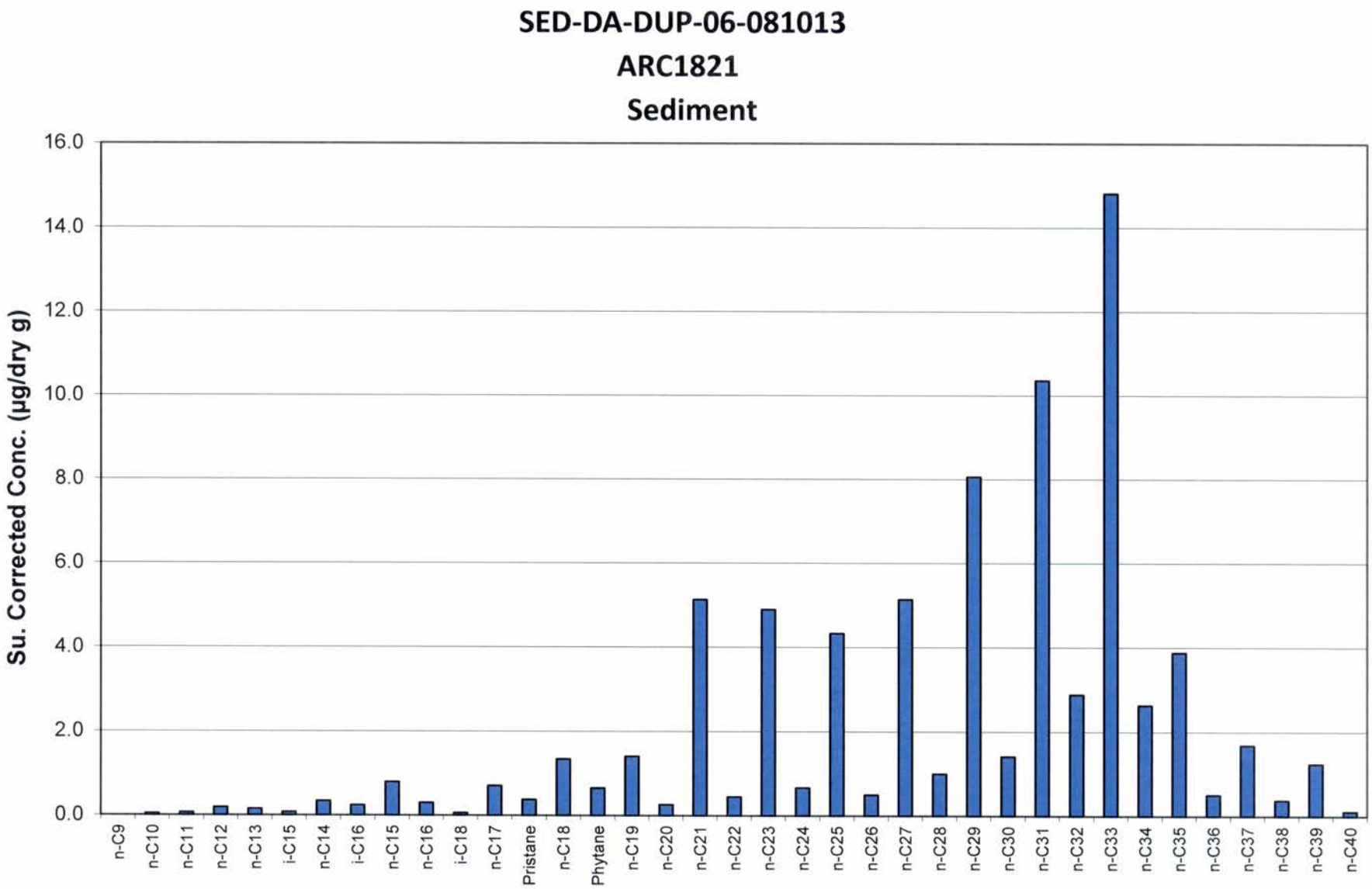
Target Compounds	Su. Corrected Conc. (µg/mg)	Q	Q	RPD (%)	B&B Average	-20% Conc. (µg/mg)	+20% Conc. (µg/mg)
n-C9	14.8			9	13.5	10.8	16.2
n-C10	13.0			8	12.0	9.60	14.4
n-C11	12.1			11	10.8	8.64	13.0
n-C12	10.8			10	9.82	7.86	11.8
n-C13	9.30			10	8.41	6.73	10.1
i-C15	2.08			7	1.95	1.56	2.34
n-C14	7.61			1	7.70	6.16	9.24
i-C16	3.21			8	2.95	2.36	3.54
n-C15	8.09			11	7.23	5.78	8.68
n-C16	6.99			13	6.15	4.92	7.38
i-C18	1.41			10	1.56	1.25	1.87
n-C17	4.85			3	4.69	3.75	5.63
Pristane	2.68			10	2.42	1.94	2.90
n-C18	4.09			6	3.84	3.07	4.61
Phytane	1.66			9	1.51	1.21	1.81
n-C19	3.83			10	3.47	2.78	4.16
n-C20	3.17			11	2.84	2.27	3.41
n-C21	2.66			11	2.37	1.90	2.84
n-C22	2.32			13	2.04	1.63	2.45
n-C23	2.06			11	1.84	1.47	2.21
n-C24	1.84			10	1.66	1.33	1.99
n-C25	1.56			13	1.37	1.10	1.64
n-C26	1.28			13	1.13	0.904	1.36
n-C27	0.983			10	0.892	0.714	1.07
n-C28	0.859			10	0.776	0.621	0.931
n-C29	0.790			7	0.739	0.591	0.887
n-C30	0.750			12	0.666	0.533	0.799
n-C31	0.584	J		8	0.539	0.431	0.647
n-C32	0.498	J		12	0.443	0.354	0.532
n-C33	0.495	J		6	0.467	0.374	0.560
n-C34	0.420	J		2	0.428	0.342	0.514
n-C35	0.372	J		8	0.342	0.274	0.410
n-C36	0.212	J		0	0.211	0.169	0.253
n-C37	0.226	J		9	0.206	0.165	0.247
n-C38	0.169	J		2	0.172	0.138	0.206
n-C39	0.176	J		4	0.169	0.135	0.203
n-C40	0.173	J		2	0.176	0.141	0.211
Total Petroleum Hydrocarbons	610			0	607	484	726

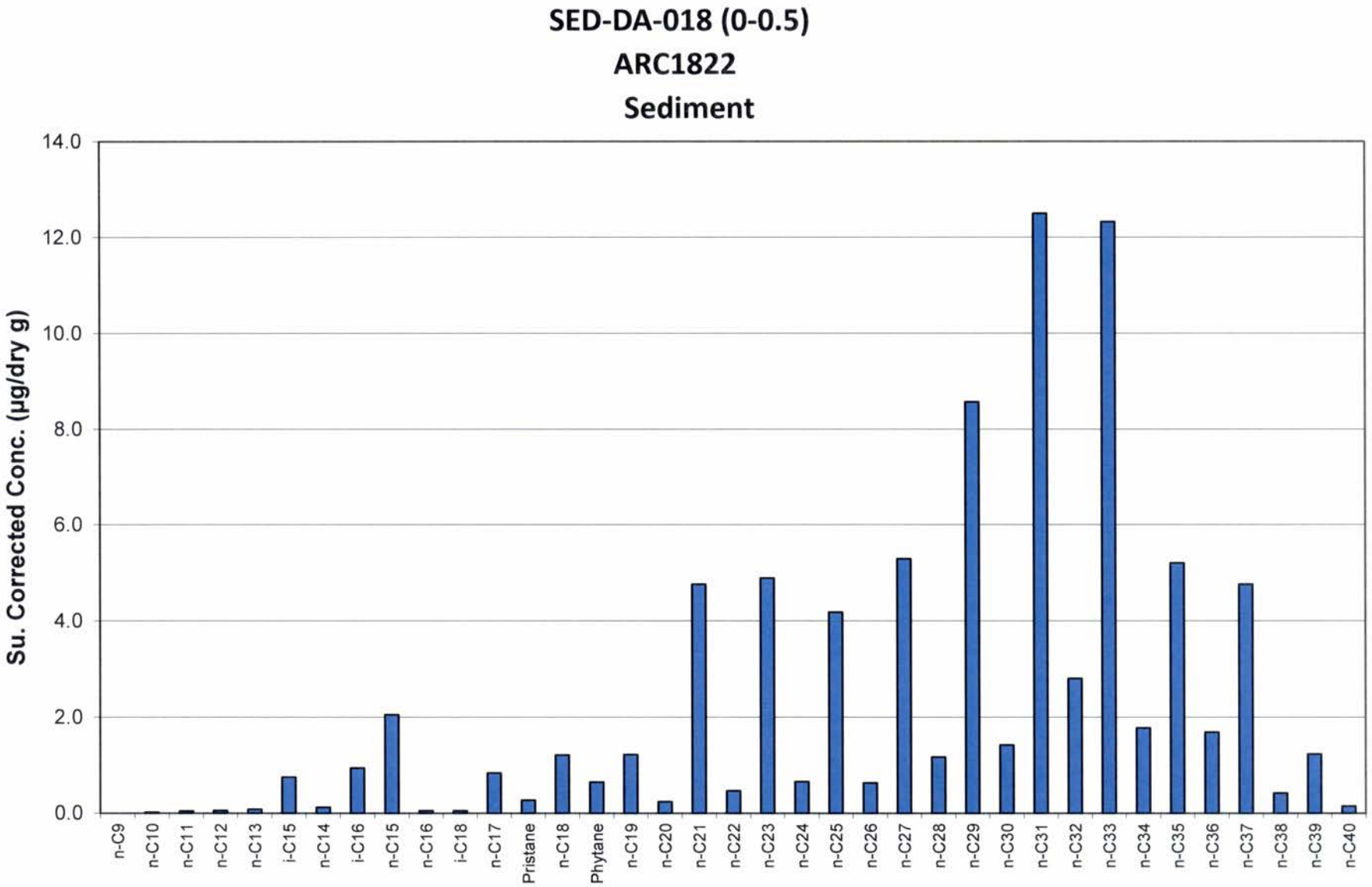
Surrogate (Su)	Su Recovery (%)
n-dodecane-d26	97
n-eicosane-d42	97
n-triacontane-d62	98

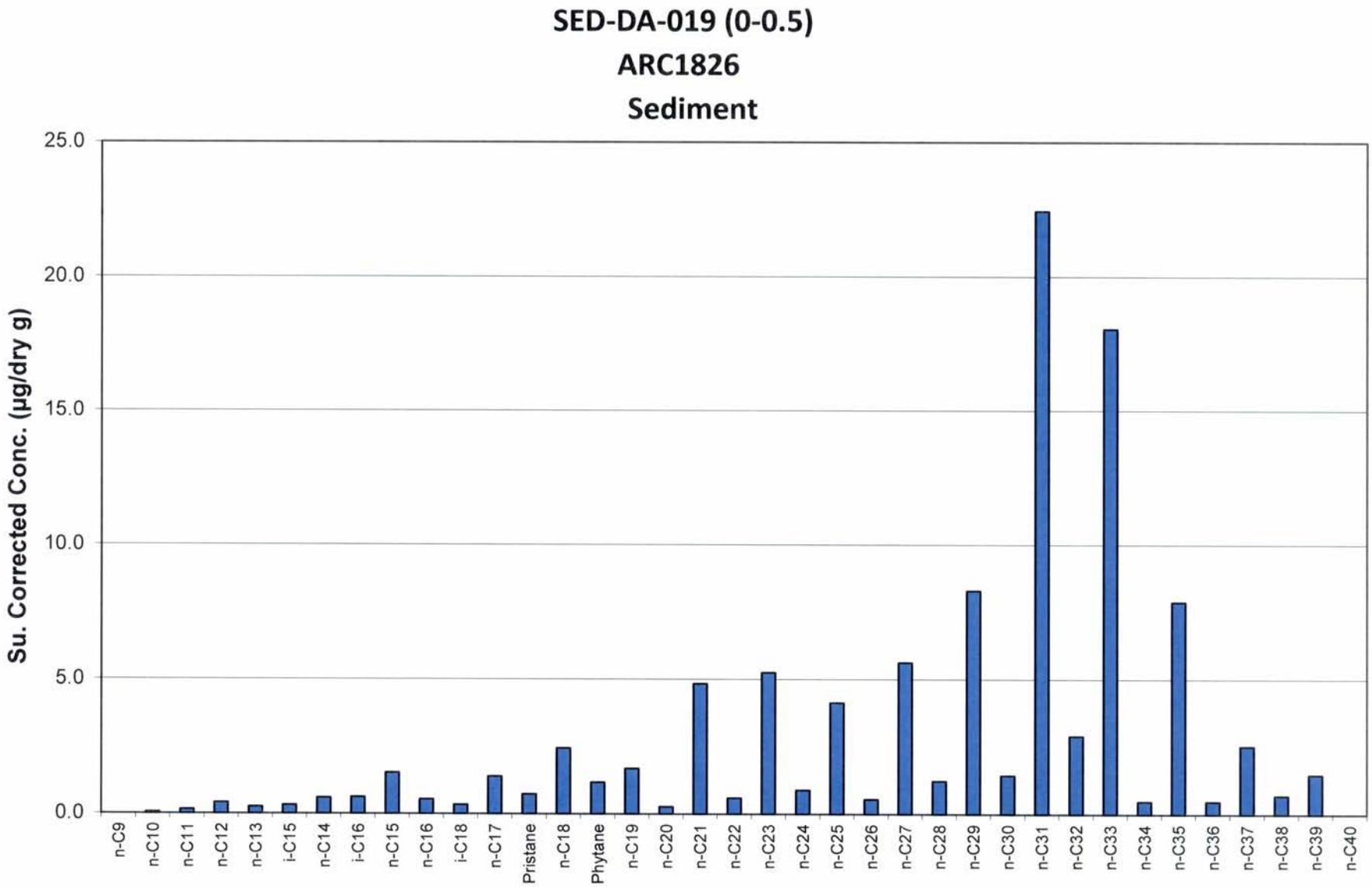
Aliphatic Hydrocarbon Histograms


SED-DA-045 (0-0.5)
ARC1816
Sediment
Su. Corrected Conc. (µg/dry g)
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-052 (0-0.5)
ARC1818
Sediment
Su. Corrected Conc. (µg/dry g)
25.0
20.0
15.0
10.0
5.0
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

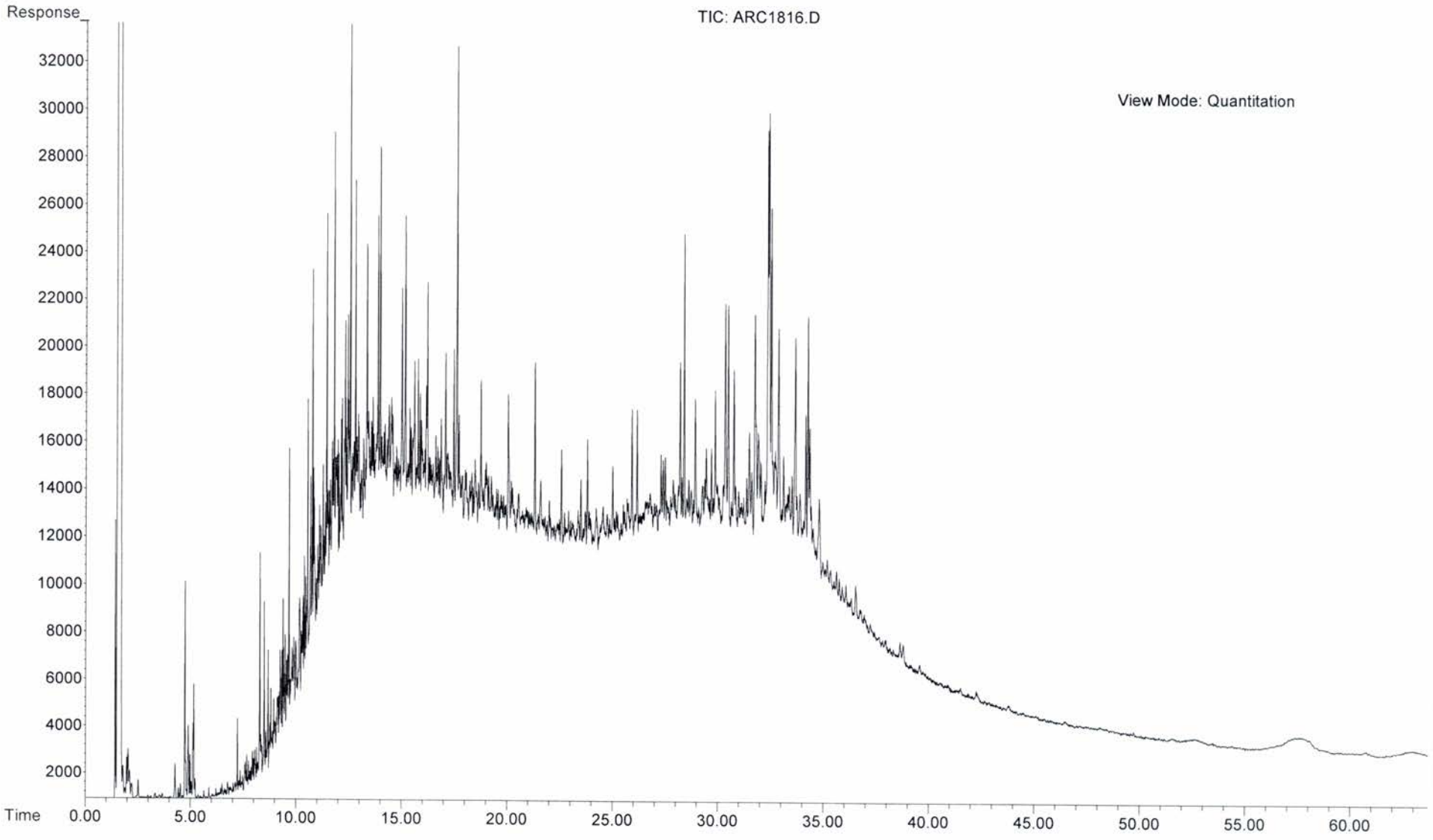

SED-DA-DUP-06-081013
ARC1821
Sediment
Su. Corrected Conc. (µg/dry g)
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
n-C9
n-C10
n-C11
n-C12
n-C13
i-C15
n-C14
i-C16
n-C15
n-C16
i-C18
n-C17
Pristane
n-C18
Phytane
n-C19
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C34
n-C35
n-C36
n-C37
n-C38
n-C39
n-C40


SED-DA-018 (0-0.5)
ARC1822
Sediment
Su. Corrected Conc. (µg/dry g)
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

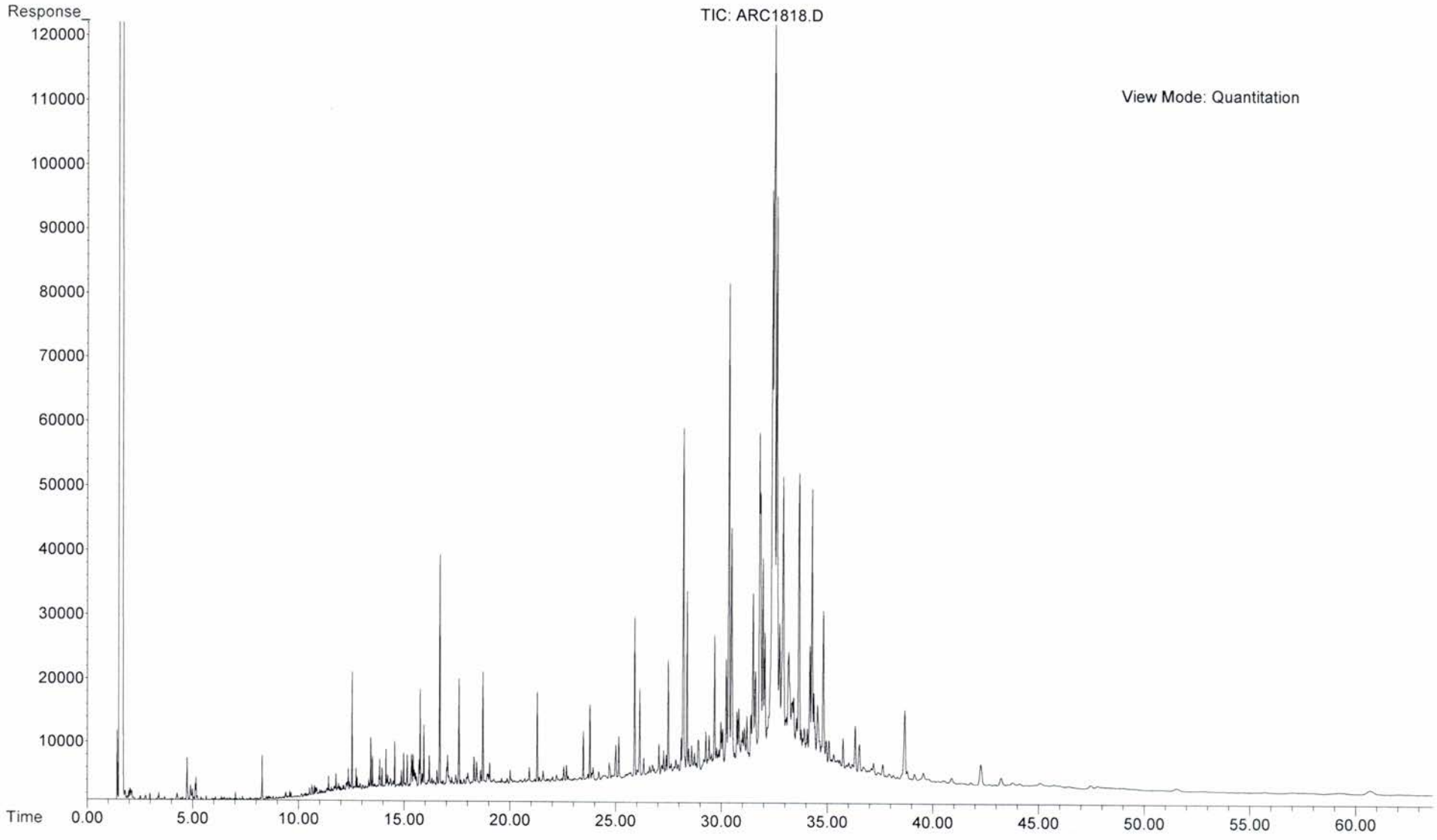

SED-DA-019 (0-0.5)
ARC1826
Sediment
Su. Corrected Conc. (µg/dry g)
25.0
20.0
15.0
10.0
5.0
0.0
n-C9
n-C10
n-C11
n-C12
n-C13
i-C15
n-C14
i-C16
n-C15
n-C16
i-C18
n-C17
Pristane
n-C18
Phytane
n-C19
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C34
n-C35
n-C36
n-C37
n-C38
n-C39
n-C40

Total Petroleum Hydrocarbons Chromatograms

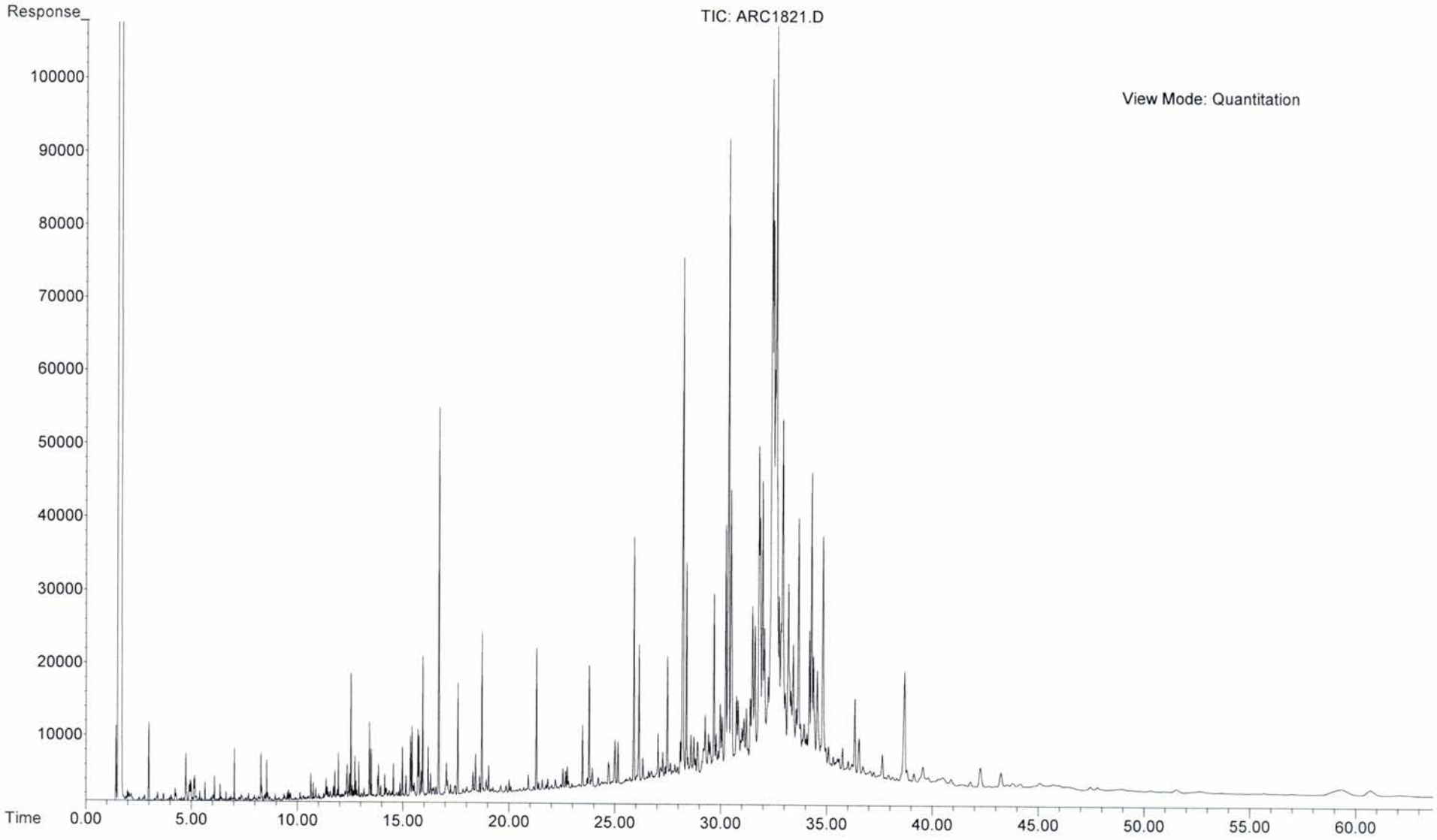
File :P:\2013\J13034\Aliphatics\ENV 3093\FID30052\ARC1816.D
Operator : Meghan Dailey
Acquired : 29-Aug-2013, 08:50 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: SED-DA-045 (0-0.5)
Misc Info :
Vial Number: 11



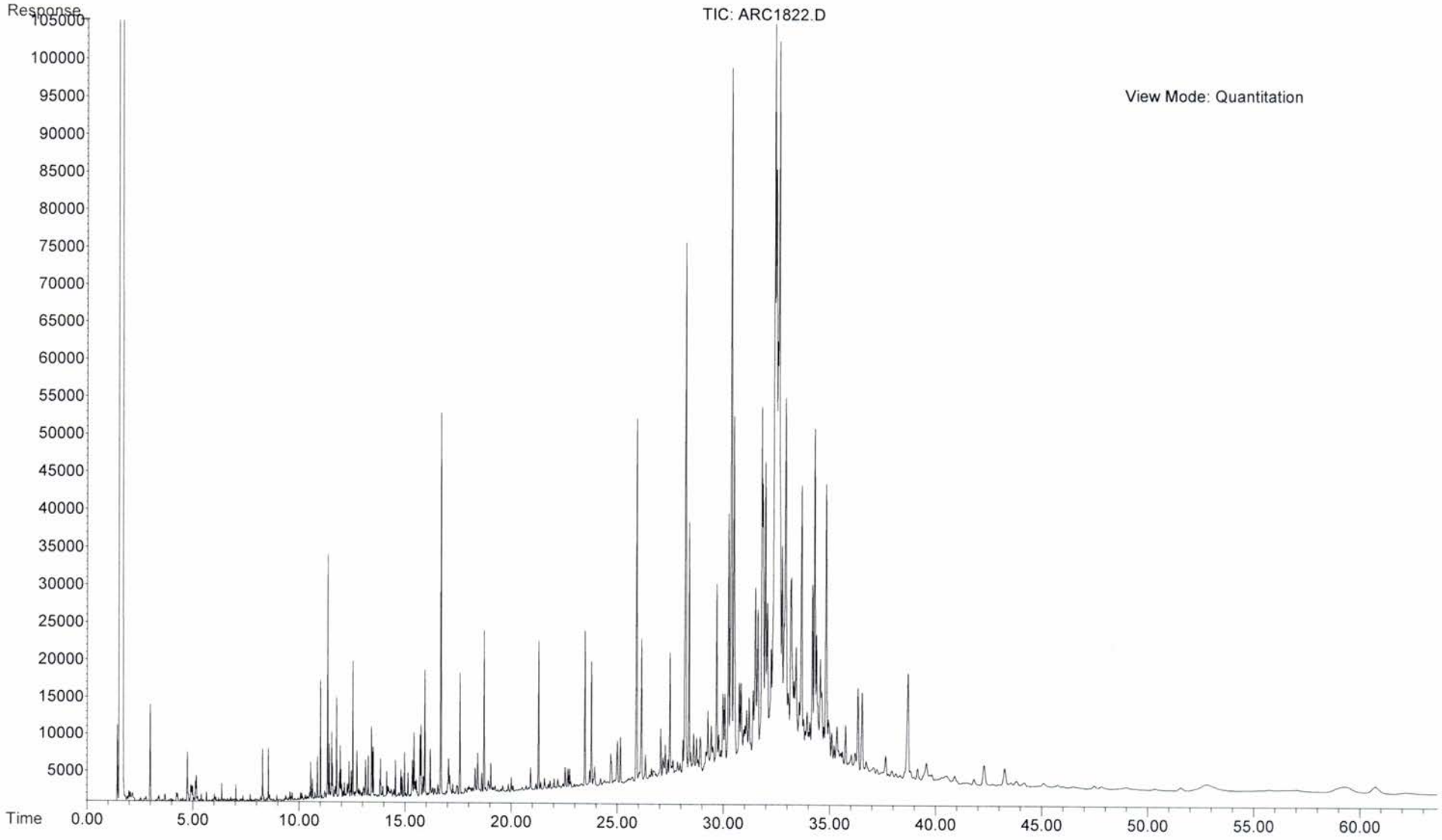
File :P:\2013\J13034\Aliphatics\ENV 3093\FID30052\ARC1818.D
Operator : Meghan Dailey
Acquired : 29-Aug-2013, 10:01 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: SED-DA-052 (0-0.5)
Misc Info :
Vial Number: 12



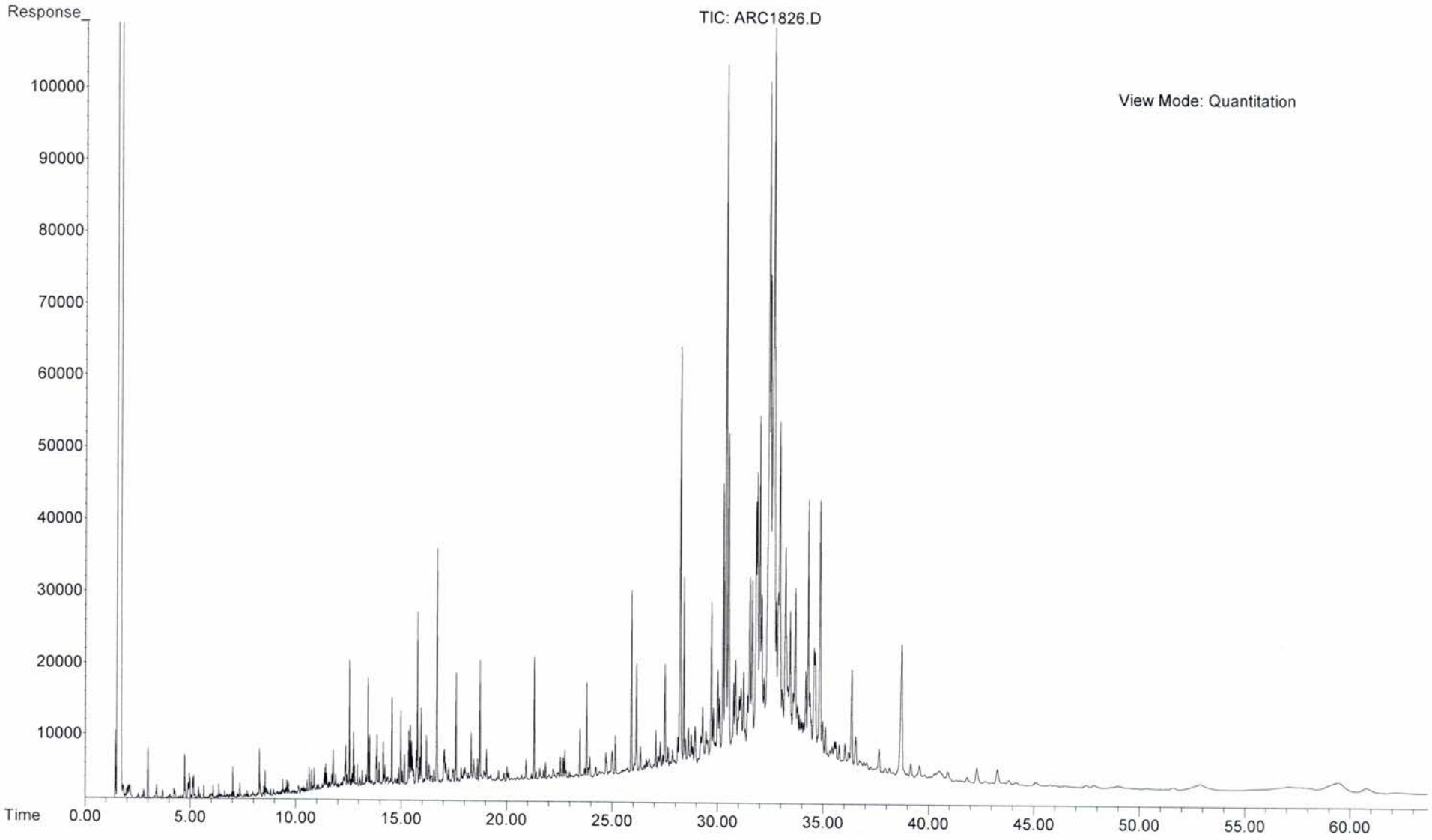
File :P:\2013\J13034\Aliphatics\ENV 3093\FID30052\ARC1821.D
Operator : Meghan Dailey
Acquired : 29-Aug-2013, 11:11 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: SED-DA-DUP-06-081013
Misc Info :
Vial Number: 13



File :P:\2013\J13034\Aliphatics\ENV 3093\FID30052\ARC1822.D
Operator : Meghan Dailey
Acquired : 29-Aug-2013, 12:22 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: SED-DA-018 (0-0.5)
Misc Info :
Vial Number: 14



File :P:\2013\J13034\Aliphatics\ENV 3093\FID30052\ARC1826.D
Operator : Meghan Dailey
Acquired : 29-Aug-2013, 13:32 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: SED-DA-019 (0-0.5)
Misc Info :
Vial Number: 15



Polycyclic Aromatic Hydrocarbon Concentration

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1816.D	ARC1817.D	ARC1818.D	ARC1819.D	ARC1820.D
Client Name	SED-DA-045 (0-0.5)	SED-DA-045 (0.5-1.0)	SED-DA-052 (0-0.5)	SED-DA-052 (0.5-1.0)	SED-DA-052 (1.0-1.5)
Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
Collection Date	08/10/13	08/10/13	08/10/13	08/10/13	08/10/13
Received Date	08/13/13	08/13/13	08/13/13	08/13/13	08/13/13
Extraction Date	08/23/13	08/23/13	08/23/13	08/23/13	08/23/13
Extraction Batch	ENV 3093	ENV 3093	ENV 3093	ENV 3093	ENV 3093
Date Acquired	9/3/13 13:24	9/3/13 14:33	9/3/13 16:54	9/3/13 18:03	9/3/13 19:13
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	5.1	15.1	15.0	15.1	15.1
% Dry	50	59	40	67	73
% Moisture	50	41	60	33	27
Dilution	5X	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	<1.9	U	NA		15.9		NA		NA	
C1-Decalins	<3.9	U	NA		<1.3	U	NA		NA	
C2-Decalins	<3.9	U	NA		<1.3	U	NA		NA	
C3-Decalins	<3.9	U	NA		<1.3	U	NA		NA	
C4-Decalins	<3.9	U	NA		<1.3	U	NA		NA	
Naphthalene	44.6		10.4		20.6		7.53		4.13	
C1-Naphthalenes	549		96.5		99.6		7.45		3.99	
C2-Naphthalenes	2538		426		290		15.1		11.7	
C3-Naphthalenes	4265		704		398		20.5		21.1	
C4-Naphthalenes	4045		631		345		25.9		54.1	
Benzothiophene	14.1		NA		2.14		NA		NA	
C1-Benzothiophenes	128		NA		47.6		NA		NA	
C2-Benzothiophenes	519		NA		53.2		NA		NA	
C3-Benzothiophenes	1257		NA		136		NA		NA	
C4-Benzothiophenes	1732		NA		148		NA		NA	
Biphenyl	80.5		NA		16.0		NA		NA	
Acenaphthylene	30.7		5.49		14.4		0.798		0.61	
Acenaphthene	26.8		7.83		7.31		1.07		0.12	
Dibenzofuran	72.7		NA		16.8		NA		NA	
Fluorene	179		33.4		31.6		8.93		7.41	
C1-Fluorenes	714		127		76.2		4.89		3.43	
C2-Fluorenes	2021		326		222		11.6		<0.4	U
C3-Fluorenes	2244		304		283		<0.4	U	<0.4	U
Carbazole	<2.2	U	NA		11.7		NA		NA	
Anthracene	38.0		6.97		19.2		0.959		0.583	
Phenanthrene	669		147		79.7		18.0		14.0	
C1-Phenanthrenes/Anthracenes	2302		533		199		10.8		7.18	
C2-Phenanthrenes/Anthracenes	4461		971		376		15.0		8.25	
C3-Phenanthrenes/Anthracenes	4853		1079		425		13.4		5.31	
C4-Phenanthrenes/Anthracenes	3212		841		352		13.8		5.15	
Dibenzothiophene	562		165		68.8		2.46		2.14	
C1-Dibenzothiophenes	2554		626		234		4.31		1.29	
C2-Dibenzothiophenes	5099		1152		399		7.05		3.20	
C3-Dibenzothiophenes	6541		1393		512		12.6		5.16	
C4-Dibenzothiophenes	4873		1067		418		10.6		5.20	
Fluoranthene	126		35.2		57.8		6.38		3.32	
Pyrene	193		46.0		58.2		3.75		1.41	
C1-Fluoranthenes/Pyrenes	1032		211		113		5.79		2.67	
C2-Fluoranthenes/Pyrenes	1704		419		210		<0.5	U	<0.5	U
C3-Fluoranthenes/Pyrenes	1924		313		161		<0.5	U	<0.5	U
C4-Fluoranthenes/Pyrenes	2082		368		224		<0.5	U	<0.5	U
Naphthobenzothiophene	499		NA		62.7		NA		NA	
C1-Naphthobenzothiophenes	1615		NA		187		NA		NA	
C2-Naphthobenzothiophenes	2633		NA		326		NA		NA	
C3-Naphthobenzothiophenes	2202		NA		281		NA		NA	
C4-Naphthobenzothiophenes	977		NA		136		NA		NA	
Benz(a)anthracene	60.0		12.4		19.2		1.48		0.569	
Chrysene/Triphenylene	275		57.6		61.8		3.71		1.07	
C1-Chrysenes	922		205		141		<0.2	U	<0.2	U
C2-Chrysenes	1336		245		153		<0.2	U	<0.2	U
C3-Chrysenes	1095		209		136		<0.2	U	<0.2	U
C4-Chrysenes	753		146		99.9		<0.2	U	<0.2	U
Benzo(b)fluoranthene	142		33.5		90.3		7.65		<0.2	U
Benzo(k,j)fluoranthene	41.4		10.8		23.0		1.44		<0.1	U
Benzo(a)fluoranthene	20.1		NA		15.9		NA		NA	
Benzo(e)pyrene	171		34.0		57.3		3.39		<0.2	U
Benzo(a)pyrene	90.9		16.0		24.8		1.94		<0.1	U
Perylene	133		371		112		157		52.8	
Indeno(1,2,3-c,d)pyrene	50.8		13.4		45.3		3.35		<0.1	U
Dibenzo(a,h)anthracene	32.6		6.77		12.5		2.33		<0.1	U
Benzo(g,h,i)perylene	189		35.4		81.1		5.33		<0.1	U
Total PAHs	75922		13441		8209		416		226	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1816.D	ARC1817.D	ARC1818.D	ARC1819.D	ARC1820.D
Client Name	SED-DA-045 (0-0.5)	SED-DA-045 (0.5-1.0)	SED-DA-052 (0-0.5)	SED-DA-052 (0.5-1.0)	SED-DA-052 (1.0-1.5)
Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
Collection Date	08/10/13	08/10/13	08/10/13	08/10/13	08/10/13
Received Date	08/13/13	08/13/13	08/13/13	08/13/13	08/13/13
Extraction Date	08/23/13	08/23/13	08/23/13	08/23/13	08/23/13
Extraction Batch	ENV 3093	ENV 3093	ENV 3093	ENV 3093	ENV 3093
Date Acquired	9/3/13 13:24	9/3/13 14:33	9/3/13 16:54	9/3/13 18:03	9/3/13 19:13
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	5.1	15.1	15.0	15.1	15.1
% Dry	50	59	40	67	73
% Moisture	50	41	60	33	27
Dilution	5X	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	492		87.5		90.8		7.78		4.00	
1-Methylnaphthalene	371		64.2		65.7		3.84		2.23	
2,6-Dimethylnaphthalene	1042		NA		120		NA		NA	
1,6,7-Trimethylnaphthalene	496		NA		49.2		NA		NA	
1-Methylfluorene	489		NA		56.6		NA		NA	
4-Methyldibenzothiophene	1236		NA		113		NA		NA	
2/3-Methyldibenzothiophene	982		NA		81.5		NA		NA	
1-Methyldibenzothiophene	638		NA		67.1		NA		NA	
3-Methylphenanthrene	677		NA		58.5		NA		NA	
2-Methylphenanthrene	728		NA		61.2		NA		NA	
2-Methylanthracene	68.6		NA		12.7		NA		NA	
4/9-Methylphenanthrene	1012		NA		70.4		NA		NA	
1-Methylphenanthrene	519		NA		57.0		NA		NA	
3,6-Dimethylphenanthrene	217		NA		26.0		NA		NA	
Retene	241		NA		28.5		NA		NA	
2-Methylfluoranthene	68.6		NA		10.6		NA		NA	
Benzo(b)fluorene	90.9		NA		12.4		NA		NA	
C29-Hopane	2538		NA		<2.9	U	NA		NA	
18a-Oleanane	<8.4	U	NA		<2.9	U	NA		NA	
C30-Hopane	3607		NA		<2.9	U	NA		NA	
C20-TAS	96.9		NA		<2.9	U	NA		NA	
C21-TAS	130		NA		<2.9	U	NA		NA	
C26(20S)-TAS	153		NA		<2.9	U	NA		NA	
C26(20R)/C27(20S)-TAS	458		NA		<2.9	U	NA		NA	
C28(20S)-TAS	455		NA		<2.9	U	NA		NA	
C27(20R)-TAS	354		NA		<2.9	U	NA		NA	
C28(20R)-TAS	365		NA		<2.9	U	NA		NA	
Surrogate Recovery										
Naphthalene-d8	59	D	46		74	D	75		74	
Acenaphthene-d10	77	D	76		83	D	73		76	
Phenanthrene-d10	89	D	98		76	D	74		74	
Chrysene-d12	90	D	98		74	D	59		55	
Perylene-d12	96	D	65		85	D	14		35	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1821.D	ARC1822.D	ARC1823.D	ARC1824.D	ARC1825.D
Client Name	SED-DA-DUP-06-081013	SED-DA-018 (0-0.5)	SED-DA-018 (0.5-1.0)	SED-DA-018 (1.0-1.5)	SED-DA-018 (1.5-2.0)
Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
Collection Date	08/10/13	08/10/13	08/10/13	08/10/13	08/10/13
Received Date	08/13/13	08/13/13	08/13/13	08/13/13	08/13/13
Extraction Date	08/23/13	08/23/13	08/23/13	08/23/13	08/23/13
Extraction Batch	ENV 3093	ENV 3093	ENV 3093	ENV 3093	ENV 3093
Date Acquired	9/3/13 20:23	9/3/13 21:33	9/3/13 22:42	9/3/13 23:52	9/4/13 1:02
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.2	15.1	15.1	15.1
% Dry	27	25	36	68	76
% Moisture	73	75	64	32	24
Dilution	5X	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	18.9		19.9		NA		NA		NA	
C1-Decalins	80.3		<1.3	U	NA		NA		NA	
C2-Decalins	<1.3	U	<1.3	U	NA		NA		NA	
C3-Decalins	<1.3	U	<1.3	U	NA		NA		NA	
C4-Decalins	<1.3	U	<1.3	U	NA		NA		NA	
Naphthalene	31.5		19.5		13.7		4.35		2.39	
C1-Naphthalenes	40.3		35.0		14.1		3.38		1.81	
C2-Naphthalenes	79.3		80.8		29.1		6.67		3.51	
C3-Naphthalenes	82.6		71.6		22.6		7.23		6.36	
C4-Naphthalenes	66.6		169		39.5		11.0		<0.7	U
Benzothiophene	<0.5	U	<0.5	U	NA		NA		NA	
C1-Benzothiophenes	<0.9	U	<0.9	U	NA		NA		NA	
C2-Benzothiophenes	<0.9	U	<0.9	U	NA		NA		NA	
C3-Benzothiophenes	<0.9	U	<0.9	U	NA		NA		NA	
C4-Benzothiophenes	<0.9	U	<0.9	U	NA		NA		NA	
Biphenyl	10.4		7.94		NA		NA		NA	
Acenaphthylene	10.6		12.6		5.47		0.473		0.136	
Acenaphthene	5.02		4.28		2.53		0.615		0.251	
Dibenzofuran	20.6		9.51		NA		NA		NA	
Fluorene	33.4		17.3		12.1		4.34		3.57	
C1-Fluorenes	22.3		21.3		10.5		2.25		1.63	
C2-Fluorenes	51.9		65.8		49.0		<0.4	U	<0.4	U
C3-Fluorenes	55.3		64.4		49.2		<0.4	U	<0.4	U
Carbazole	7.64		6.96		NA		NA		NA	
Anthracene	14.1		14.4		9.05		0.597		0.135	
Phenanthrene	64.9		35.6		36.1		11.2		7.38	
C1-Phenanthrenes/Anthracenes	49.0		47.5		42.8		7.40		5.08	
C2-Phenanthrenes/Anthracenes	80.2		84.4		82.8		6.88		5.28	
C3-Phenanthrenes/Anthracenes	102		89.5		125		<0.3	U	2.08	
C4-Phenanthrenes/Anthracenes	107		50.8		111		<0.3	U	<0.3	U
Dibenzothiophene	17.3		18.5		11.2		1.34		0.374	
C1-Dibenzothiophenes	30.9		40.8		27.9		1.72		0.637	
C2-Dibenzothiophenes	61.9		76.9		78.8		1.59		1.22	
C3-Dibenzothiophenes	113		113		174		2.02		1.98	
C4-Dibenzothiophenes	110		119		182		2.14		1.21	
Fluoranthene	44.9		43.5		36.9		3.15		1.20	
Pyrene	29.3		30.8		21.8		1.90		0.503	
C1-Fluoranthenes/Pyrenes	53.4		49.8		52.5		3.14		1.14	
C2-Fluoranthenes/Pyrenes	95.3		97.3		109		<0.5	U	<0.5	U
C3-Fluoranthenes/Pyrenes	81.5		57.6		97.2		<0.5	U	<0.5	U
C4-Fluoranthenes/Pyrenes	61.7		95.9		117		<0.5	U	<0.5	U
Naphthobenzothiophene	22.2		23.7		NA		NA		NA	
C1-Naphthobenzothiophenes	97.4		82.3		NA		NA		NA	
C2-Naphthobenzothiophenes	192		169		NA		NA		NA	
C3-Naphthobenzothiophenes	164		145		NA		NA		NA	
C4-Naphthobenzothiophenes	70.3		61.6		NA		NA		NA	
Benz(a)anthracene	12.4		12.2		10.9		0.794		0.206	
Chrysene/Triphenylene	33.0		35.5		38.1		3.41		0.502	
C1-Chrysenes	110		95.7		191		<0.2	U	<0.2	U
C2-Chrysenes	109		86.3		118		<0.2	U	<0.2	U
C3-Chrysenes	85.5		69.4		93.3		<0.2	U	<0.2	U
C4-Chrysenes	61.6		42.4		31.1		<0.2	U	<0.2	U
Benzo(b)fluoranthene	87.1		77.1		54.8		<0.2	U	0.686	
Benzo(k,j)fluoranthene	13.8		16.7		13.8		<0.1	U	0.186	
Benzo(a)fluoranthene	22.9		26.6		NA		NA		NA	
Benzo(e)pyrene	48.8		44.4		36.9		<0.2	U	0.372	
Benzo(a)pyrene	17.9		13.8		10.4		<0.1	U	0.308	
Perylene	192		171		330		321		13.9	
Indeno(1,2,3-c,d)pyrene	45.7		40.7		16.1		<0.1	U	0.423	
Dibenzo(a,h)anthracene	14.3		11.5		14.1		<0.1	U	0.167	
Benzo(g,h,i)perylene	73.2		66.3		<0.1	U	<0.1	U	0.592	
Total PAHs	3206		2962		2522		409		65.2	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1821.D	ARC1822.D	ARC1823.D	ARC1824.D	ARC1825.D
Client Name	SED-DA-DUP-06-081013	SED-DA-018 (0-0.5)	SED-DA-018 (0.5-1.0)	SED-DA-018 (1.0-1.5)	SED-DA-018 (1.5-2.0)
Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
Collection Date	08/10/13	08/10/13	08/10/13	08/10/13	08/10/13
Received Date	08/13/13	08/13/13	08/13/13	08/13/13	08/13/13
Extraction Date	08/23/13	08/23/13	08/23/13	08/23/13	08/23/13
Extraction Batch	ENV 3093	ENV 3093	ENV 3093	ENV 3093	ENV 3093
Date Acquired	9/3/13 20:23	9/3/13 21:33	9/3/13 22:42	9/3/13 23:52	9/4/13 1:02
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.2	15.1	15.1	15.1
% Dry	27	25	36	68	76
% Moisture	73	75	64	32	24
Dilution	5X	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	40.8		34.1		15.0		3.60		1.93	
1-Methylnaphthalene	22.2		20.8		7.01		1.67		0.882	
2,6-Dimethylnaphthalene	33.8		31.6		NA		NA		NA	
1,6,7-Trimethylnaphthalene	9.12		9.31		NA		NA		NA	
1-Methylfluorene	12.5		12.3		NA		NA		NA	
4-Methyldibenzothiophene	14.6		19.0		NA		NA		NA	
2/3-Methyldibenzothiophene	12.3		15.8		NA		NA		NA	
1-Methyldibenzothiophene	7.69		10.8		NA		NA		NA	
3-Methylphenanthrene	14.2		13.0		NA		NA		NA	
2-Methylphenanthrene	17.4		15.6		NA		NA		NA	
2-Methylanthracene	7.23		7.76		NA		NA		NA	
4/9-Methylphenanthrene	13.3		14.2		NA		NA		NA	
1-Methylphenanthrene	11.8		11.5		NA		NA		NA	
3,6-Dimethylphenanthrene	8.15		8.77		NA		NA		NA	
Retene	4.76		5.52		NA		NA		NA	
2-Methylfluoranthene	4.77		4.56		NA		NA		NA	
Benzo(b)fluorene	8.20		7.68		NA		NA		NA	
C29-Hopane	<2.9	U	<2.9	U	NA		NA		NA	
18a-Oleanane	<2.9	U	<2.9	U	NA		NA		NA	
C30-Hopane	<2.9	U	<2.9	U	NA		NA		NA	
C20-TAS	<2.9	U	<2.9	U	NA		NA		NA	
C21-TAS	<2.9	U	<2.9	U	NA		NA		NA	
C26(20S)-TAS	<2.9	U	<2.9	U	NA		NA		NA	
C26(20R)/C27(20S)-TAS	<2.9	U	<2.9	U	NA		NA		NA	
C28(20S)-TAS	<2.9	U	<2.9	U	NA		NA		NA	
C27(20R)-TAS	<2.9	U	<2.9	U	NA		NA		NA	
C28(20R)-TAS	<2.9	U	<2.9	U	NA		NA		NA	
Surrogate Recovery										
Naphthalene-d8	75	D	85	D	77		74		64	
Acenaphthene-d10	87	D	87	D	90		82		74	
Phenanthrene-d10	79	D	79	D	87		85		76	
Chrysene-d12	62	D	66	D	86		82		67	
Perylene-d12	92	D	86	D	62		55		49	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1826.D	ARC1829.D	ARC1830.D	ARC1833.D	ARC1834.D
Client Name	SED-DA-019 (0-0.5)	SED-DA-019 (0.5-1.0)	SED-DA-019 (1.0-1.5)	SO-DA-001 (0-0.5)	SO-DA-001 (0.5-1.0)
Matrix	Sediment	Sediment	Sediment	Soil	Soil
Collection Date	08/10/13	08/10/13	08/10/13	08/13/13	08/13/13
Received Date	08/13/13	08/13/13	08/13/13	08/14/13	08/14/13
Extraction Date	08/23/13	08/23/13	08/23/13	08/23/13	08/23/13
Extraction Batch	ENV 3093	ENV 3093	ENV 3093	ENV 3093	ENV 3093
Date Acquired	9/4/13 3:21	9/4/13 4:31	9/4/13 5:40	9/4/13 6:50	9/4/13 8:00
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.2	15.1	15.2	15.1	15.1
% Dry	15	35	72	82	82
% Moisture	85	65	28	18	18
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	30.8		NA		NA		NA		NA	
C1-Decalins	<1.3	U	NA		NA		NA		NA	
C2-Decalins	<1.3	U	NA		NA		NA		NA	
C3-Decalins	<1.3	U	NA		NA		NA		NA	
C4-Decalins	<1.3	U	NA		NA		NA		NA	
Naphthalene	20.5		11.0		4.21		12.0		13.4	
C1-Naphthalenes	41.0		8.94		2.57		13.1		10.8	
C2-Naphthalenes	125		37.3		5.57		25.1		16.5	
C3-Naphthalenes	178		24.8		6.41		15.2		9.49	
C4-Naphthalenes	180		114		<0.7	U	52.2		<0.7	U
Benzothiophene	<0.5	U	NA		NA		NA		NA	
C1-Benzothiophenes	<0.9	U	NA		NA		NA		NA	
C2-Benzothiophenes	<0.9	U	NA		NA		NA		NA	
C3-Benzothiophenes	<0.9	U	NA		NA		NA		NA	
C4-Benzothiophenes	<0.9	U	NA		NA		NA		NA	
Biphenyl	9.79		NA		NA		NA		NA	
Acenaphthylene	15.6		3.43		<0	U	1.19		0.621	
Acenaphthene	6.31		2.76		0.324		0.563		<0.1	U
Dibenzofuran	15.9		NA		NA		NA		NA	
Fluorene	25.8		10.5		3.20		14.9		8.16	
C1-Fluorenes	43.1		9.87		2.14		6.49		3.15	
C2-Fluorenes	127		18.9		<0.4	U	10.9		<0.4	U
C3-Fluorenes	140		22.5		<0.4	U	13.5		<0.4	U
Carbazole	11.3		NA		NA		NA		NA	
Anthracene	23.2		10.1		0.514		1.29		0.443	
Phenanthrene	70.6		32.5		8.72		43.2		22.6	
C1-Phenanthrenes/Anthracenes	108		30.4		6.81		15.9		10.1	
C2-Phenanthrenes/Anthracenes	210		53.5		<0.3	U	13.1		10.2	
C3-Phenanthrenes/Anthracenes	261		59.6		<0.3	U	<0.3	U	<0.3	U
C4-Phenanthrenes/Anthracenes	167		58.1		<0.3	U	<0.3	U	<0.3	U
Dibenzothiophene	32.2		7.94		1.03		2.38		1.43	
C1-Dibenzothiophenes	105		16.3		1.35		<0.1	U	<0.1	U
C2-Dibenzothiophenes	213		39.7		1.51		<0.2	U	<0.2	U
C3-Dibenzothiophenes	253		76.1		1.91		<0.2	U	<0.2	U
C4-Dibenzothiophenes	209		70.4		1.56		<0.2	U	<0.2	U
Fluoranthene	58.4		30.9		3.67		11.3		5.02	
Pyrene	50.1		16.3		1.94		7.95		2.93	
C1-Fluoranthenes/Pyrenes	86.1		40.8		3.66		9.68		4.02	
C2-Fluoranthenes/Pyrenes	165		<0.5	U	<0.5	U	12.5		6.39	
C3-Fluoranthenes/Pyrenes	126		<0.5	U	<0.5	U	<0.5	U	3.28	
C4-Fluoranthenes/Pyrenes	137		<0.5	U	<0.5	U	<0.5	U	<0.5	U
Naphthobenzothiophene	37.2		NA		NA		NA		NA	
C1-Naphthobenzothiophenes	93.7		NA		NA		NA		NA	
C2-Naphthobenzothiophenes	191		NA		NA		NA		NA	
C3-Naphthobenzothiophenes	185		NA		NA		NA		NA	
C4-Naphthobenzothiophenes	87.4		NA		NA		NA		NA	
Benz(a)anthracene	12.9		10.2		1.78		4.71		1.77	
Chrysene/Triphenylene	54.8		22.9		4.47		7.70		3.19	
C1-Chrysenes	101		<0.2	U	<0.2	U	7.18		3.51	
C2-Chrysenes	94.8		<0.2	U	<0.2	U	6.39		<0.2	U
C3-Chrysenes	104		<0.2	U	<0.2	U	<0.2	U	<0.2	U
C4-Chrysenes	85.1		<0.2	U	<0.2	U	<0.2	U	<0.2	U
Benzo(b)fluoranthene	98.6		40.8		5.22		9.91		5.59	
Benzo(k,j)fluoranthene	31.9		11.9		0.87		3.02		1.40	
Benzo(a)fluoranthene	19.2		NA		NA		NA		NA	
Benzo(e)pyrene	57.4		23.4		2.45		5.74		3.27	
Benzo(a)pyrene	24.1		11.9		0.930		2.31		1.04	
Perylene	200		334		158		1.11	J	<1.3	U
Indeno(1,2,3-c,d)pyrene	50.4		14.1		1.23		4.25		2.86	
Dibenzo(a,h)anthracene	12.6		<0.1	U	1.40		1.88		0.507	
Benzo(g,h,i)perylene	99.1		<0.1	U	1.07		4.05		2.52	
Total PAHs	4885		1276		234		341		154	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1826.D	ARC1829.D	ARC1830.D	ARC1833.D	ARC1834.D
Client Name	SED-DA-019 (0-0.5)	SED-DA-019 (0.5-1.0)	SED-DA-019 (1.0-1.5)	SO-DA-001 (0-0.5)	SO-DA-001 (0.5-1.0)
Matrix	Sediment	Sediment	Sediment	Soil	Soil
Collection Date	08/10/13	08/10/13	08/10/13	08/13/13	08/13/13
Received Date	08/13/13	08/13/13	08/13/13	08/14/13	08/14/13
Extraction Date	08/23/13	08/23/13	08/23/13	08/23/13	08/23/13
Extraction Batch	ENV 3093	ENV 3093	ENV 3093	ENV 3093	ENV 3093
Date Acquired	9/4/13 3:21	9/4/13 4:31	9/4/13 5:40	9/4/13 6:50	9/4/13 8:00
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.2	15.1	15.2	15.1	15.1
% Dry	15	35	72	82	82
% Moisture	85	65	28	18	18
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	41.2		9.51		2.62		13.9		11.5	
1-Methylnaphthalene	22.9		4.43		1.38		6.51		5.31	
2,6-Dimethylnaphthalene	54.5		NA		NA		NA		NA	
1,6,7-Trimethylnaphthalene	29.2		NA		NA		NA		NA	
1-Methylfluorene	28.0		NA		NA		NA		NA	
4-Methyldibenzothiophene	53.1		NA		NA		NA		NA	
2/3-Methyldibenzothiophene	34.4		NA		NA		NA		NA	
1-Methyldibenzothiophene	29.7		NA		NA		NA		NA	
3-Methylphenanthrene	31.0		NA		NA		NA		NA	
2-Methylphenanthrene	31.4		NA		NA		NA		NA	
2-Methylanthracene	12.4		NA		NA		NA		NA	
4/9-Methylphenanthrene	37.3		NA		NA		NA		NA	
1-Methylphenanthrene	28.6		NA		NA		NA		NA	
3,6-Dimethylphenanthrene	19.0		NA		NA		NA		NA	
Retene	17.5		NA		NA		NA		NA	
2-Methylfluoranthene	7.61		NA		NA		NA		NA	
Benzo(b)fluorene	14.2		NA		NA		NA		NA	
C29-Hopane	<2.9	U	NA		NA		NA		NA	
18a-Oleanane	<2.9	U	NA		NA		NA		NA	
C30-Hopane	<2.9	U	NA		NA		NA		NA	
C20-TAS	<2.9	U	NA		NA		NA		NA	
C21-TAS	<2.9	U	NA		NA		NA		NA	
C26(20S)-TAS	<2.9	U	NA		NA		NA		NA	
C26(20R)/C27(20S)-TAS	<2.9	U	NA		NA		NA		NA	
C28(20S)-TAS	<2.9	U	NA		NA		NA		NA	
C27(20R)-TAS	<2.9	U	NA		NA		NA		NA	
C28(20R)-TAS	<2.9	U	NA		NA		NA		NA	
Surrogate Recovery										
Naphthalene-d8	75	D	53		64		94		74	
Acenaphthene-d10	84	D	57		76		56		46	
Phenanthrene-d10	82	D	95		92		89		86	
Chrysene-d12	89	D	68		94		74		75	
Perylene-d12	98	D	81		51		1	L	1	L

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1835.D	ARC1839.D	ARC1840.D
Client Name	SO-DA-001 (1.0-1.5)	SO-DA-002 (0.5-1.0)	SO-DA-002 (1.0-1.5)
Matrix	Soil	Soil	Soil
Collection Date	08/13/13	08/13/13	08/13/13
Received Date	08/14/13	08/14/13	08/14/13
Extraction Date	08/23/13	08/23/13	08/23/13
Extraction Batch	ENV 3093	ENV 3093	ENV 3093
Date Acquired	9/4/13 9:10	9/4/13 10:20	9/4/13 11:30
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.1	15.1
% Dry	90	81	78
% Moisture	10	19	22
Dilution	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
cis/trans Decalin	NA		NA		NA	
C1-Decalins	NA		NA		NA	
C2-Decalins	NA		NA		NA	
C3-Decalins	NA		NA		NA	
C4-Decalins	NA		NA		NA	
Naphthalene	4.46		18.5		9.21	
C1-Naphthalenes	3.15		16.4		8.51	
C2-Naphthalenes	5.78		28.2		15.1	
C3-Naphthalenes	5.64		26.8		19.0	
C4-Naphthalenes	<0.7	U	11.2		15.2	
Benzothiophene	NA		NA		NA	
C1-Benzothiophenes	NA		NA		NA	
C2-Benzothiophenes	NA		NA		NA	
C3-Benzothiophenes	NA		NA		NA	
C4-Benzothiophenes	NA		NA		NA	
Biphenyl	NA		NA		NA	
Acenaphthylene	<0	U	1.17		1.27	
Acenaphthene	<0.1	U	1.79		0.990	
Dibenzofuran	NA		NA		NA	
Fluorene	<0.2	U	20.0		9.90	
C1-Fluorenes	<0.4	U	9.62		4.86	
C2-Fluorenes	<0.4	U	<0.4	U	<0.4	U
C3-Fluorenes	<0.4	U	<0.4	U	<0.4	U
Carbazole	NA		NA		NA	
Anthracene	0.218		0.681		1.55	
Phenanthrene	4.98		47.1		26.6	
C1-Phenanthrenes/Anthracenes	5.79		16.4		13.9	
C2-Phenanthrenes/Anthracenes	<0.3	U	12.8		13.3	
C3-Phenanthrenes/Anthracenes	<0.3	U	5.20		5.74	
C4-Phenanthrenes/Anthracenes	<0.3	U	<0.3	U	<0.3	U
Dibenzothiophene	0.446		3.80		1.80	
C1-Dibenzothiophenes	<0.1	U	2.83		2.29	
C2-Dibenzothiophenes	<0.2	U	3.47		2.12	
C3-Dibenzothiophenes	<0.2	U	2.08		2.21	
C4-Dibenzothiophenes	<0.2	U	<0.2	U	1.35	
Fluoranthene	1.22		7.95		8.29	
Pyrene	0.539		3.79		5.42	
C1-Fluoranthenes/Pyrenes	<0.5	U	3.22		5.42	
C2-Fluoranthenes/Pyrenes	<0.5	U	3.97		7.35	
C3-Fluoranthenes/Pyrenes	<0.5	U	<0.5	U	4.39	
C4-Fluoranthenes/Pyrenes	<0.5	U	<0.5	U	<0.5	U
Naphthobenzothiophene	NA		NA		NA	
C1-Naphthobenzothiophenes	NA		NA		NA	
C2-Naphthobenzothiophenes	NA		NA		NA	
C3-Naphthobenzothiophenes	NA		NA		NA	
C4-Naphthobenzothiophenes	NA		NA		NA	
Benz(a)anthracene	0.331		0.816		2.24	
Chrysene/Triphenylene	1.18		2.75		5.64	
C1-Chrysenes	<0.2	U	2.12		4.39	
C2-Chrysenes	<0.2	U	<0.2	U	<0.2	U
C3-Chrysenes	<0.2	U	<0.2	U	<0.2	U
C4-Chrysenes	<0.2	U	<0.2	U	<0.2	U
Benzo(b)fluoranthene	1.15		4.85		9.75	
Benzo(k,j)fluoranthene	0.167		0.701		1.48	
Benzo(a)fluoranthene	NA		NA		NA	
Benzo(e)pyrene	0.619		2.49		4.53	
Benzo(a)pyrene	0.106		0.598		2.66	
Perylene	<1.3	U	0.184	J	0.873	J
Indeno(1,2,3-c,d)pyrene	0.453		1.42		1.68	
Dibenzo(a,h)anthracene	0.147		0.544		1.15	
Benzo(g,h,i)perylene	0.271		1.88		3.38	
Total PAHs	36.7		265		223	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1835.D	ARC1839.D	ARC1840.D
Client Name	SO-DA-001 (1.0-1.5)	SO-DA-002 (0.5-1.0)	SO-DA-002 (1.0-1.5)
Matrix	Soil	Soil	Soil
Collection Date	08/13/13	08/13/13	08/13/13
Received Date	08/14/13	08/14/13	08/14/13
Extraction Date	08/23/13	08/23/13	08/23/13
Extraction Batch	ENV 3093	ENV 3093	ENV 3093
Date Acquired	9/4/13 9:10	9/4/13 10:20	9/4/13 11:30
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.1	15.1
% Dry	90	81	78
% Moisture	10	19	22
Dilution	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
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	3.23		17.7		8.44	
1-Methylnaphthalene	1.70		7.82		4.88	
2,6-Dimethylnaphthalene	NA		NA		NA	
1,6,7-Trimethylnaphthalene	NA		NA		NA	
1-Methylfluorene	NA		NA		NA	
4-Methyldibenzothiophene	NA		NA		NA	
2/3-Methyldibenzothiophene	NA		NA		NA	
1-Methyldibenzothiophene	NA		NA		NA	
3-Methylphenanthrene	NA		NA		NA	
2-Methylphenanthrene	NA		NA		NA	
2-Methylanthracene	NA		NA		NA	
4/9-Methylphenanthrene	NA		NA		NA	
1-Methylphenanthrene	NA		NA		NA	
3,6-Dimethylphenanthrene	NA		NA		NA	
Retene	NA		NA		NA	
2-Methylfluoranthene	NA		NA		NA	
Benzo(b)fluorene	NA		NA		NA	
C29-Hopane	NA		NA		NA	
18a-Oleanane	NA		NA		NA	
C30-Hopane	NA		NA		NA	
C20-TAS	NA		NA		NA	
C21-TAS	NA		NA		NA	
C26(20S)-TAS	NA		NA		NA	
C26(20R)/C27(20S)-TAS	NA		NA		NA	
C28(20S)-TAS	NA		NA		NA	
C27(20R)-TAS	NA		NA		NA	
C28(20R)-TAS	NA		NA		NA	
Surrogate Recovery						
Naphthalene-d8	66		70		74	
Acenaphthene-d10	57		84		85	
Phenanthrene-d10	82		77		81	
Chrysene-d12	84		62		68	
Perylene-d12	0	L	13		79	

Sample Name	ENV3093A.D
Client Name	Procedural Blank
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	08/23/13
Extraction Batch	ENV 3093
Date Acquired	9/3/13 7:33
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	<0.3	U	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	0.171	J	0.881	0.294
Acenaphthylene	<0	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	0.104	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	0.1	J	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	0.412			

Sample Name	ENV3093A.D
Client Name	Procedural Blank
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	08/23/13
Extraction Batch	ENV 3093
Date Acquired	9/3/13 7:33
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	83
Phenanthrene-d10	98
Chrysene-d12	96
Perylene-d12	90

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Matrix Spike Report

Sample Name	ARC1826.D	ENV3093C.D	ENV3093D.D
Client Name	SED-DA-019 (0-0.5)	SED-DA-019 (0-0.5) MS	SED-DA-019 (0-0.5) MSD
Matrix	Sediment	Sediment	Sediment
Collection Date	08/10/13	08/10/13	08/10/13
Received Date	08/13/13	08/13/13	08/13/13
Extraction Date	08/23/13	08/23/13	08/23/13
Extraction Batch	ENV 3093	ENV 3093	ENV 3093
Date Acquired	9/4/13 3:21	9/3/13 9:54	9/3/13 11:04
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.2	15.2	15.2
% Dry	15	15	14
% Moisture	85	85	86
Dilution	5X	5X	5X

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	30.8		37.7		107		Y	36.6		88		Y	3		98.9
C1-Decalins	<1.3	U	NA					NA							
C2-Decalins	<1.3	U	NA					NA							
C3-Decalins	<1.3	U	NA					NA							
C4-Decalins	<1.3	U	NA					NA							
Naphthalene	20.5		30.1		146		Y	18.0		-39		Y	50		100
C1-Naphthalenes	41.0		NA					NA							
C2-Naphthalenes	125		NA					NA							
C3-Naphthalenes	178		NA					NA							
C4-Naphthalenes	180		NA					NA							
Benzothiophene	<0.5	U	6.3		96			7.3		111			14		99.4
C1-Benzothiophenes	<0.9	U	NA					NA							
C2-Benzothiophenes	<0.9	U	NA					NA							
C3-Benzothiophenes	<0.9	U	NA					NA							
C4-Benzothiophenes	<0.9	U	NA					NA							
Biphenyl	9.79		17.2		114		Y	14.4		71		Y	18		99.1
Acenaphthylene	15.6		15.6		1		Y	16.0		6		Y	2		99.2
Acenaphthene	6.31		15.8		144		Y	7.6		19		Y	71		100
Dibenzofuran	15.9		26.3		158		Y	14.1		-27		Y	60		100
Fluorene	25.8		38.0		186		Y	22.0		-57		Y	53		100
C1-Fluorenes	43.1		NA					NA							
C2-Fluorenes	127		NA					NA							
C3-Fluorenes	140		NA					NA							
Carbazole	11.3		14.4		48		Y	15.2		61		Y	6		99.1
Anthracene	23.2		20.2		-45		Y	22.1		-16		Y	9		100
Phenanthrene	70.6		88.5		276		Y	49.4		-323		Y	57		99.1
C1-Phenanthrenes/Anthracenes	108		NA					NA							
C2-Phenanthrenes/Anthracenes	210		NA					NA							
C3-Phenanthrenes/Anthracenes	261		NA					NA							
C4-Phenanthrenes/Anthracenes	167		NA					NA							
Dibenzothiophene	32.2		37.8		87		Y	37.9		86		Y	0		98.6
C1-Dibenzothiophenes	105		NA					NA							
C2-Dibenzothiophenes	213		NA					NA							
C3-Dibenzothiophenes	253		NA					NA							
C4-Dibenzothiophenes	209		NA					NA							
Fluoranthene	58.4		62.0		56		Y	60.1		27		Y	3		100
Pyrene	50.1		40.2		-150		Y	43.7		-97		Y	8		100
C1-Fluoranthenes/Pyrenes	86.1		NA					NA							
C2-Fluoranthenes/Pyrenes	165		NA					NA							
C3-Fluoranthenes/Pyrenes	126		NA					NA							
C4-Fluoranthenes/Pyrenes	137		NA					NA							
Naphthobenzothiophene	37.2		NA					NA							
C1-Naphthobenzothiophenes	93.7		NA					NA							
C2-Naphthobenzothiophenes	191		NA					NA							
C3-Naphthobenzothiophenes	185		NA					NA							
C4-Naphthobenzothiophenes	87.4		NA					NA							
Benz(a)anthracene	12.9		18.0		78		Y	18.6		86		Y	3		100
Chrysene/Triphenylene	54.8		39.7		-230		Y	41.6		-200		Y	5		99.4
C1-Chrysenes	101		NA					NA							
C2-Chrysenes	94.8		NA					NA							
C3-Chrysenes	104		NA					NA							
C4-Chrysenes	85.1		NA					NA							
Benzo(b)fluoranthene	98.6		87.7		-163		Y	87.4		-169		Y	0		100
Benzo(k,j)fluoranthene	31.9		33.3		22		Y	33.1		17		Y	1		100
Benzo(a)fluoranthene	19.2		NA					NA							
Benzo(e)pyrene	57.4		51.8		-84		Y	55.9		-24		Y	7		100
Benzo(a)pyrene	24.1		25.8		25		Y	32.1		120		Y	22		100
Perylene	200		163		-549		Y	208		127		Y	24		100
Indeno(1,2,3-c,d)pyrene	50.4		44.6		-87		Y	42.0		-128		Y	6		98.3
Dibenzo(a,h)anthracene	12.6		14.5		30		Y	15.7		48		Y	8		99.1
Benzo(g,h,i)perylene	99.1		80.7		-279		Y	82.6		-252		Y	2		99.1
Average % Recovery					3	*				-6	*				

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Matrix Spike Report

Sample Name	ARC1826.D	ENV3093C.D	ENV3093D.D
Client Name	SED-DA-019 (0-0.5)	SED-DA-019 (0-0.5) MS	SED-DA-019 (0-0.5) MSD
Matrix	Sediment	Sediment	Sediment
Collection Date	08/10/13	08/10/13	08/10/13
Received Date	08/13/13	08/13/13	08/13/13
Extraction Date	08/23/13	08/23/13	08/23/13
Extraction Batch	ENV 3093	ENV 3093	ENV 3093
Date Acquired	9/4/13 3:21	9/3/13 9:54	9/3/13 11:04
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.2	15.2	15.2
% Dry	15	15	14
% Moisture	85	85	86
Dilution	5X	5X	5X

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	41.2		45.4		65		Y	37.6		-54		Y	19		100
1-Methylnaphthalene	22.9		26.3		52		Y	25.1		33		Y	5		100
2,6-Dimethylnaphthalene	54.5		53.1		-20		Y	58.2		56		Y	9		100
1,6,7-Trimethylnaphthalene	29.2		22.8		-97		Y	24.6		-70		Y	8		100
1-Methylfluorene	28.0		30.3		35		Y	28.9		13		Y	5		101
4-Methyldibenzothiophene	53.1		40.6		-188		Y	45.6		-113		Y	12		101
2/3-Methyldibenzothiophene	34.4		NA					NA							
1-Methyldibenzothiophene	29.7		NA					NA							
3-Methylphenanthrene	31.0		NA					NA							
2-Methylphenanthrene	31.4		NA					NA							
2-Methylanthracene	12.4		NA					NA							
4/9-Methylphenanthrene	37.3		NA					NA							
1-Methylphenanthrene	28.6		28.3		-5		Y	27.6		-15		Y	2		98.9
3,6-Dimethylphenanthrene	19.0		16.8		-34		Y	18.7		-6		Y	10		100
Retene	17.5		27.1		163		Y	30.4		218		Y	11		89
2-Methylfluoranthene	7.61		9.26		25		Y	10.0		36		Y	8		101
Benzo(b)fluorene	14.2		16.5		35		Y	17.1		45		Y	4		101
C29-Hopane	<2.9	U	NA					NA							
18a-Oleanane	<2.9	U	NA					NA							
C30-Hopane	<2.9	U	NA					NA							
C20-TAS	<2.9	U	NA					NA							
C21-TAS	<2.9	U	NA					NA							
C26(20S)-TAS	<2.9	U	NA					NA							
C26(20R)/C27(20S)-TAS	<2.9	U	5.9		90			7.8		118			27		100
C28(20S)-TAS	<2.9	U	NA					NA							
C27(20R)-TAS	<2.9	U	NA					NA							
C28(20R)-TAS	<2.9	U	NA					NA							

Surrogate Recovery						
Naphthalene-d8	75	D	81	D	77	D
Acenaphthene-d10	84	D	86	D	86	D
Phenanthrene-d10	82	D	96	D	91	D
Chrysene-d12	89	D	71	D	67	D
Perylene-d12	98	D	99	D	94	D

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Duplicate Report

Sample Name	ARC1816.D	ENV3093E.D
Client Name	SED-DA-045 (0-0.5)	Dupl. (SED-DA-045 (0-0.5))
Matrix	Sediment	Sediment
Collection Date	08/10/13	08/10/13
Received Date	08/13/13	08/13/13
Extraction Date	08/23/13	08/23/13
Extraction Batch	ENV 3093	ENV 3093
Date Acquired	9/3/13 13:24	9/3/13 12:14
Method	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	5.1	5.1
% Dry	50	50
% Moisture	50	50
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	<1.9	U	<1.9	U			5.78	1.93
C1-Decalins	<3.9	U	<3.9	U			11.6	3.85
C2-Decalins	<3.9	U	<3.9	U			11.6	3.85
C3-Decalins	<3.9	U	<3.9	U			11.6	3.85
C4-Decalins	<3.9	U	<3.9	U			11.6	3.85
Naphthalene	44.6		45.6		2		15.0	5.00
C1-Naphthalenes	549		528		4		45.2	15.1
C2-Naphthalenes	2538		2417		5		30.0	10.0
C3-Naphthalenes	4265		4034		6		30.0	10.0
C4-Naphthalenes	4045		3784		7		30.0	10.0
Benzothiophene	14.1		13.1		7		3.95	1.32
C1-Benzothiophenes	128		149		15		7.90	2.63
C2-Benzothiophenes	519		500		4		7.90	2.63
C3-Benzothiophenes	1257		1239		1		7.90	2.63
C4-Benzothiophenes	1732		1690		2		7.90	2.63
Biphenyl	80.5		77.1		4		12.9	4.29
Acenaphthylene	30.7		30.0		2		1.79	0.596
Acenaphthene	26.8		28.0		4		4.50	1.50
Dibenzofuran	72.7		72.8		0		8.96	2.99
Fluorene	179		163		9		8.04	2.68
C1-Fluorenes	714		649		9		16.1	5.36
C2-Fluorenes	2021		1868		8		16.1	5.36
C3-Fluorenes	2244		1995		12		16.1	5.36
Carbazole	<2.2	U	<2.2	U			6.56	2.19
Anthracene	38.0		36.2		5		5.06	1.69
Phenanthrene	669		613		9		9.12	3.04
C1-Phenanthrenes/Anthracenes	2302		2236		3		3.39	1.13
C2-Phenanthrenes/Anthracenes	4461		4512		1		12.5	4.17
C3-Phenanthrenes/Anthracenes	4853		4580		6		12.5	4.17
C4-Phenanthrenes/Anthracenes	3212		3706		14		12.5	4.17
Dibenzothiophene	562		577		3		5.09	1.70
C1-Dibenzothiophenes	2554		2608		2		2.80	0.93
C2-Dibenzothiophenes	5099		5120		0		10.2	3.39
C3-Dibenzothiophenes	6541		6139		6		10.2	3.39
C4-Dibenzothiophenes	4873		4660		4		10.2	3.39
Fluoranthene	126		127		1		14.6	4.86
Pyrene	193		195		1		5.97	1.99
C1-Fluoranthenes/Pyrenes	1032		1066		3		20.6	6.85
C2-Fluoranthenes/Pyrenes	1704		1773		4		20.6	6.85
C3-Fluoranthenes/Pyrenes	1924		1923		0		20.6	6.85
C4-Fluoranthenes/Pyrenes	2082		2158		4		20.6	6.85
Naphthobenzothiophene	499		563		12		5.61	1.87
C1-Naphthobenzothiophenes	1615		1638		1		11.2	3.74
C2-Naphthobenzothiophenes	2633		2553		3		11.2	3.74
C3-Naphthobenzothiophenes	2202		2104		5		11.2	3.74
C4-Naphthobenzothiophenes	977		1043		7		11.2	3.74
Benz(a)anthracene	60.0		53.3		12		8.43	2.81
Chrysene/Triphenylene	275		292		6		5.08	1.69
C1-Chrysenes	922		884		4		10.2	3.39
C2-Chrysenes	1336		1130		17		10.2	3.39
C3-Chrysenes	1095		1197		9		10.2	3.39
C4-Chrysenes	753		713		5		10.2	3.39
Benzo(b)fluoranthene	142		121		16		8.90	2.97
Benzo(k,j)fluoranthene	41.4		34.2		19		4.30	1.43
Benzo(a)fluoranthene	20.1		17.1		16		4.30	1.43
Benzo(e)pyrene	171		151		13		7.75	2.58
Benzo(a)pyrene	90.9		73.6		21		4.44	1.48
Perylene	133		117		12		55.6	18.5
Indeno(1,2,3-c,d)pyrene	50.8		48.7		4		2.20	0.734
Dibenzo(a,h)anthracene	32.6		31.0		5		2.82	0.940
Benzo(g,h,i)perylene	189		165		14		3.85	1.28
Total PAHs	75922		74243		2			

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Duplicate Report

Sample Name	ARC1816.D	ENV3093E.D
Client Name	SED-DA-045 (0-0.5)	Dupl. (SED-DA-045 (0-0.5))
Matrix	Sediment	Sediment
Collection Date	08/10/13	08/10/13
Received Date	08/13/13	08/13/13
Extraction Date	08/23/13	08/23/13
Extraction Batch	ENV 3093	ENV 3093
Date Acquired	9/3/13 13:24	9/3/13 12:14
Method	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	5.1	5.1
% Dry	50	50
% Moisture	50	50
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	492		467		5		56.8	18.9
1-Methylnaphthalene	371		363		2		24.0	7.99
2,6-Dimethylnaphthalene	1042		1000		4		11.4	3.81
1,6,7-Trimethylnaphthalene	496		502		1		5.59	1.86
1-Methylfluorene	489		477		2		8.39	2.80
4-Methyldibenzothiophene	1236		1317		6		4.01	1.34
2/3-Methyldibenzothiophene	982		918		7		4.01	1.34
1-Methyldibenzothiophene	638		680		6		4.01	1.34
3-Methylphenanthrene	677		659		3		4.26	1.42
2-Methylphenanthrene	728		670		8		4.26	1.42
2-Methylanthracene	68.6		60.5		13		4.26	1.42
4/9-Methylphenanthrene	1012		938		8		4.26	1.42
1-Methylphenanthrene	519		589		13		4.26	1.42
3,6-Dimethylphenanthrene	217		182		18		4.82	1.61
Retene	241		282		16		10.14	3.38
2-Methylfluoranthene	68.6		67.6		1		9.77	3.26
Benzo(b)fluorene	90.9		79.9		13		5.47	1.82
C29-Hopane	2538		2510		1		25.2	8.41
18a-Oleanane	<8.4	U	<8.4	U			25.2	8.41
C30-Hopane	3607		3041		17		25.2	8.41
C20-TAS	97		102		5		25.2	8.41
C21-TAS	130		138		6		25.2	8.41
C26(20S)-TAS	153		142		7		25.2	8.41
C26(20R)/C27(20S)-TAS	458		436		5		25.2	8.41
C28(20S)-TAS	455		407		11		25.2	8.41
C27(20R)-TAS	354		292		19		25.2	8.41
C28(20R)-TAS	365		320		13		25.2	8.41

Surrogate Recovery				
Naphthalene-d8	59	D	60	D
Acenaphthene-d10	77	D	69	D
Phenanthrene-d10	89	D	90	D
Chrysene-d12	90	D	97	D
Perylene-d12	96	D	93	D

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

Sample Name	ENV3093B.D
Client Name	SRM 1941b
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	08/23/13
Extraction Batch	ENV 3093
Date Acquired	9/3/13 8:43
Method	PAH-2012.M
Sample Dry Weight (g)	4.1
% 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	67.3					
C1-Decalins	10.3					
C2-Decalins	16.1					
C3-Decalins	35.3					
C4-Decalins	70.6					
Naphthalene	1049		21	848 ± 95	527	1226
C1-Naphthalenes	309					
C2-Naphthalenes	282					
C3-Naphthalenes	234					
C4-Naphthalenes	141					
Benzothiophene	42.5					
C1-Benzothiophenes	42.2					
C2-Benzothiophenes	31.5					
C3-Benzothiophenes	25.1					
C4-Benzothiophenes	21.8					
Biphenyl	91.7					
Acenaphthylene	93.2					
Acenaphthene	44.1					
Dibenzofuran	117					
Fluorene	66.3		25	85 ± 15	49.0	130
C1-Fluorenes	62.2					
C2-Fluorenes	183					
C3-Fluorenes	229					
Carbazole	33.7					
Anthracene	247		29	184 ± 18	116	263
Phenanthrene	557		31	406 ± 44	253	585
C1-Phenanthrenes/Anthracenes	406					
C2-Phenanthrenes/Anthracenes	415					
C3-Phenanthrenes/Anthracenes	369					
C4-Phenanthrenes/Anthracenes	198					
Dibenzothiophene	82.1					
C1-Dibenzothiophenes	96.2					
C2-Dibenzothiophenes	184					
C3-Dibenzothiophenes	193					
C4-Dibenzothiophenes	133					
Fluoranthene	1042	*	46	651 ± 50	421	911
Pyrene	606		4	581 ± 39	379	806
C1-Fluoranthenes/Pyrenes	604					
C2-Fluoranthenes/Pyrenes	689					
C3-Fluoranthenes/Pyrenes	314					
C4-Fluoranthenes/Pyrenes	309					
Naphthobenzothiophene	202					
C1-Naphthobenzothiophenes	167					
C2-Naphthobenzothiophenes	164					
C3-Naphthobenzothiophenes	126					
C4-Naphthobenzothiophenes	58.9					
Benz(a)anthracene	463		32	335 ± 25	217	468
Chrysene/Triphenylene	560		34	399 ± 36	254	566
C1-Chrysenes	425					
C2-Chrysenes	251					
C3-Chrysenes	156					
C4-Chrysenes	59.1					
Benzo(b)fluoranthene	545		18	453 ± 21	302	616
Benzo(k,j)fluoranthene	510		14	442 ± 23	293	605
Benzo(a)fluoranthene	86.0					
Benzo(e)pyrene	369		13	325 ± 25	210	455
Benzo(a)pyrene	308		15	358 ± 17	239	488
Perylene	378		5	397 ± 45	246	575
Indeno(1,2,3-c,d)pyrene	311		9	341 ± 57	199	517
Dibenzo(a,h)anthracene	62.7		17	53 ± 10	30.1	81.9
Benzo(g,h,i)perylene	293		5	307 ± 45	183	458
Total PAHs	15240					

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

Sample Name	ENV3093B.D
Client Name	SRM 1941b
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	08/23/13
Extraction Batch	ENV 3093
Date Acquired	9/3/13 8:43
Method	PAH-2012.M
Sample Dry Weight (g)	4.1
% 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	325					
1-Methylnaphthalene	157					
2,6-Dimethylnaphthalene	95.4					
1,6,7-Trimethylnaphthalene	29.8					
1-Methylfluorene	44.4					
4-Methyldibenzothiophene	53.5					
2/3-Methyldibenzothiophene	38.3					
1-Methyldibenzothiophene	15.7					
3-Methylphenanthrene	122		15	105 ± 13	64.4	153
2-Methylphenanthrene	166					
2-Methylanthracene	50.8					
4/9-Methylphenanthrene	126					
1-Methylphenanthrene	64.7		12	73.2 ± 5.9	47.1	103
3,6-Dimethylphenanthrene	42.2					
Retene	45.3					
2-Methylfluoranthene	91.0					
Benzo(b)fluorene	118					
C29-Hopane	268					
18a-Oleanane	43.9					
C30-Hopane	362					
C20-TAS	11.1					
C21-TAS	3.69					
C26(20S)-TAS	2.65					
C26(20R)/C27(20S)-TAS	10.6					
C28(20S)-TAS	6.79					
C27(20R)-TAS	7.75					
C28(20R)-TAS	5.91					

Surrogate Recovery	
Naphthalene-d8	43
Acenaphthene-d10	46
Phenanthrene-d10	55
Chrysene-d12	43
Perylene-d12	29

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

Sample Name	MS60146K.D
Client Name	AR-SRM2779-WK-4.0-002
Matrix	Gulf of Mexico Crude Oil
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3093
Date Acquired	9/3/13 6:23
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	722						
C1-Decalins	919						
C2-Decalins	870						
C3-Decalins	780						
C4-Decalins	509						
Naphthalene	649			27	855 ± 46	647	1081
C1-Naphthalenes	1396						
C2-Naphthalenes	1712						
C3-Naphthalenes	1216						
C4-Naphthalenes	655						
Benzothiophene	7.04	J					
C1-Benzothiophenes	31.4						
C2-Benzothiophenes	29.4						
C3-Benzothiophenes	30.8						
C4-Benzothiophenes	28.7						
Biphenyl	141						
Acenaphthylene	7.25	J					
Acenaphthene	12.1						
Dibenzofuran	27.5						
Fluorene	109						
C1-Fluorenes	235						
C2-Fluorenes	380						
C3-Fluorenes	335						
Carbazole	4.5	J					
Anthracene	3.8	J		11	3.42 ± 0.59	2.26	4.81
Phenanthrene	187			32	258 ± 27	185	342
C1-Phenanthrenes/Anthracenes	493						
C2-Phenanthrenes/Anthracenes	578						
C3-Phenanthrenes/Anthracenes	419						
C4-Phenanthrenes/Anthracenes	263						
Dibenzothiophene	45.4			13	51.8 ± 2.1	39.8	64.7
C1-Dibenzothiophenes	109						
C2-Dibenzothiophenes	167						
C3-Dibenzothiophenes	124						
C4-Dibenzothiophenes	60.9						
Fluoranthene	4.91	J		12	4.36 ± 0.40	3.17	5.71
Pyrene	11.8			22	14.81 ± 0.39	11.5	18.2
C1-Fluoranthenes/Pyrenes	78.0						
C2-Fluoranthenes/Pyrenes	142						
C3-Fluoranthenes/Pyrenes	157						
C4-Fluoranthenes/Pyrenes	110						
Naphthobenzothiophene	20.6						
C1-Naphthobenzothiophenes	45.7						
C2-Naphthobenzothiophenes	55.5						
C3-Naphthobenzothiophenes	58.3						
C4-Naphthobenzothiophenes	23.2						
Benz(a)anthracene	5.87	J		18	7.03 ± 0.85	4.94	9.5
Chrysene/Triphenylene	38.4			21	47.4 ± 1.7	36.6	58.9
C1-Chrysenes	107						
C2-Chrysenes	129						
C3-Chrysenes	104						
C4-Chrysenes	59.6						
Benzo(b)fluoranthene	4.87	J		14	5.62 ± 0.34	4.22	7.15
Benzo(k,j)fluoranthene	0.682	J					
Benzo(a)fluoranthene	<10	U					
Benzo(e)pyrene	9.42	J		13	10.78 ± 0.60	8.14	13.7
Benzo(a)pyrene	0.989	J					
Perylene	0.520	J					
Indeno(1,2,3-c,d)pyrene	0.639	J					
Dibenzo(a,h)anthracene	0.476	J		19	0.574 ± 0.091	0.386	0.798
Benzo(g,h,i)perylene	2.19	J		4	2.11 ± 0.26	1.48	2.84
Total PAHs	14425						

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

Sample Name	MS60146K.D
Client Name	AR-SRM2779-WK-4.0-002
Matrix	Gulf of Mexico Crude Oil
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3093
Date Acquired	9/3/13 6:23
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	1292			23	1630 ± 50	1264	2016
1-Methylnaphthalene	899			24	1140 ± 20	896	1392
2,6-Dimethylnaphthalene	785						
1,6,7-Trimethylnaphthalene	230						
1-Methylfluorene	193						
4-Methyldibenzothiophene	65.5						
2/3-Methyldibenzothiophene	32.6						
1-Methyldibenzothiophene	23.6						
3-Methylphenanthrene	136		*	41	206 ± 32	139	286
2-Methylphenanthrene	165		*	33	230 ± 14	173	293
2-Methylanthracene	10.6						
4/9-Methylphenanthrene	194			18	232 ± 19	170	301
1-Methylphenanthrene	136			21	169 ± 10	127	215
3,6-Dimethylphenanthrene	72.8						
Retene	18.4						
2-Methylfluoranthene	3.07	J					
Benzo(b)fluorene	14.3						
C29-Hopane	21.5						
18a-Oleanane	<10	U					
C30-Hopane	39.9						
C20-TAS	3.06	J					
C21-TAS	5.28	J					
C26(20S)-TAS	3.54	J					
C26(20R)/C27(20S)-TAS	11.6						
C28(20S)-TAS	7.62	J					
C27(20R)-TAS	7.29	J					
C28(20R)-TAS	5.19	J					

Surrogate Recovery	
Naphthalene-d8	84
Acenaphthene-d10	96
Phenanthrene-d10	94
Chrysene-d12	82
Perylene-d12	94

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

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

Sample Name	MS60146J.D
Client Name	AR-WKCC-250-038
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3093
Date Acquired	9/3/13 5:11
Method	PAH-2012.M
Sample Volume (mL)	1.0

Target Compounds	Concentration (ng/mL)	Q	RPD (%)	LCM Certified Conc. (ng/mL)	-15% Certified Conc. (ng/mL)	+15% Certified Conc. (ng/mL)
cis/trans Decalin	250		0.9	247	210	284
C1-Decalins	NA					
C2-Decalins	NA					
C3-Decalins	NA					
C4-Decalins	NA					
Naphthalene	245		1.9	250	213	288
C1-Naphthalenes	NA					
C2-Naphthalenes	NA					
C3-Naphthalenes	NA					
C4-Naphthalenes	NA					
Benzothiophene	243		2.4	249	211	286
C1-Benzothiophenes	NA					
C2-Benzothiophenes	NA					
C3-Benzothiophenes	NA					
C4-Benzothiophenes	NA					
Biphenyl	236		5.0	248	211	285
Acenaphthylene	229		7.8	248	211	285
Acenaphthene	235		6.5	251	213	288
Dibenzofuran	238		4.5	249	211	286
Fluorene	232		7.8	251	213	288
C1-Fluorenes	NA					
C2-Fluorenes	NA					
C3-Fluorenes	NA					
Carbazole	246		0.6	248	211	285
Anthracene	234		6.8	251	213	288
Phenanthrene	235		5.4	248	211	285
C1-Phenanthrenes/Anthracenes	NA					
C2-Phenanthrenes/Anthracenes	NA					
C3-Phenanthrenes/Anthracenes	NA					
C4-Phenanthrenes/Anthracenes	NA					
Dibenzothiophene	254		3.0	247	210	283
C1-Dibenzothiophenes	NA					
C2-Dibenzothiophenes	NA					
C3-Dibenzothiophenes	NA					
C4-Dibenzothiophenes	NA					
Fluoranthene	247		1.2	250	213	288
Pyrene	238		4.9	250	213	288
C1-Fluoranthenes/Pyrenes	NA					
C2-Fluoranthenes/Pyrenes	NA					
C3-Fluoranthenes/Pyrenes	NA					
C4-Fluoranthenes/Pyrenes	NA					
Naphthobenzothiophene	243		3.6	252	214	289
C1-Naphthobenzothiophenes	NA					
C2-Naphthobenzothiophenes	NA					
C3-Naphthobenzothiophenes	NA					
C4-Naphthobenzothiophenes	NA					
Benz(a)anthracene	241		3.5	250	212	287
Chrysene/Triphenylene	264		6.0	249	211	286
C1-Chrysenes	NA					
C2-Chrysenes	NA					
C3-Chrysenes	NA					
C4-Chrysenes	NA					
Benzo(b)fluoranthene	242		3.6	251	213	288
Benzo(k,j)fluoranthene	247		0.8	249	212	286
Benzo(a)fluoranthene	NA					
Benzo(e)pyrene	241		3.3	249	212	286
Benzo(a)pyrene	239		4.1	250	212	287
Perylene	239		4.5	250	213	288
Indeno(1,2,3-c,d)pyrene	233		5.4	246	209	283
Dibenzo(a,h)anthracene	238		4.1	248	211	285
Benzo(g,h,i)perylene	237		4.3	248	211	285

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

Sample Name	MS60146J.D
Client Name	AR-WKCC-250-038
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3093
Date Acquired	9/3/13 5:11
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	237		5.4	250	213	288
1-Methylnaphthalene	237		5.1	250	212	287
2,6-Dimethylnaphthalene	233		7.1	250	213	288
1,6,7-Trimethylnaphthalene	236		5.9	250	213	288
1-Methylfluorene	218		14.6	252	214	290
4-Methyldibenzothiophene	242		4.0	252	214	290
2/3-Methyldibenzothiophene	NA					
1-Methyldibenzothiophene	NA					
3-Methylphenanthrene	NA					
2-Methylphenanthrene	NA					
2-Methylanthracene	NA					
4/9-Methylphenanthrene	NA					
1-Methylphenanthrene	251		1.4	247	210	284
3,6-Dimethylphenanthrene	246		1.8	250	213	288
Retene	202		10.0	223	190	257
2-Methylfluoranthene	222		12.4	252	214	289
Benzo(b)fluorene	219		14.2	252	214	290
C29-Hopane	NA					
18a-Oleanane	NA					
C30-Hopane	238		5.0	250	213	288
C20-TAS	NA					
C21-TAS	NA					
C26(20S)-TAS	NA					
C26(20R)/C27(20S)-TAS	221		12.2	250	213	288
C28(20S)-TAS	NA					
C27(20R)-TAS	NA					
C28(20R)-TAS	NA					

Surrogate Recovery	
Naphthalene-d8	96
Acenaphthene-d10	94
Phenanthrene-d10	98
Chrysene-d12	104
Perylene-d12	92

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

Sample Name	MS60146I.D
Client Name	AR-WKICV-250-004
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3093
Date Acquired	9/3/13 4:01
Method	PAH-2012.M
Sample Volume (mL)	1.0

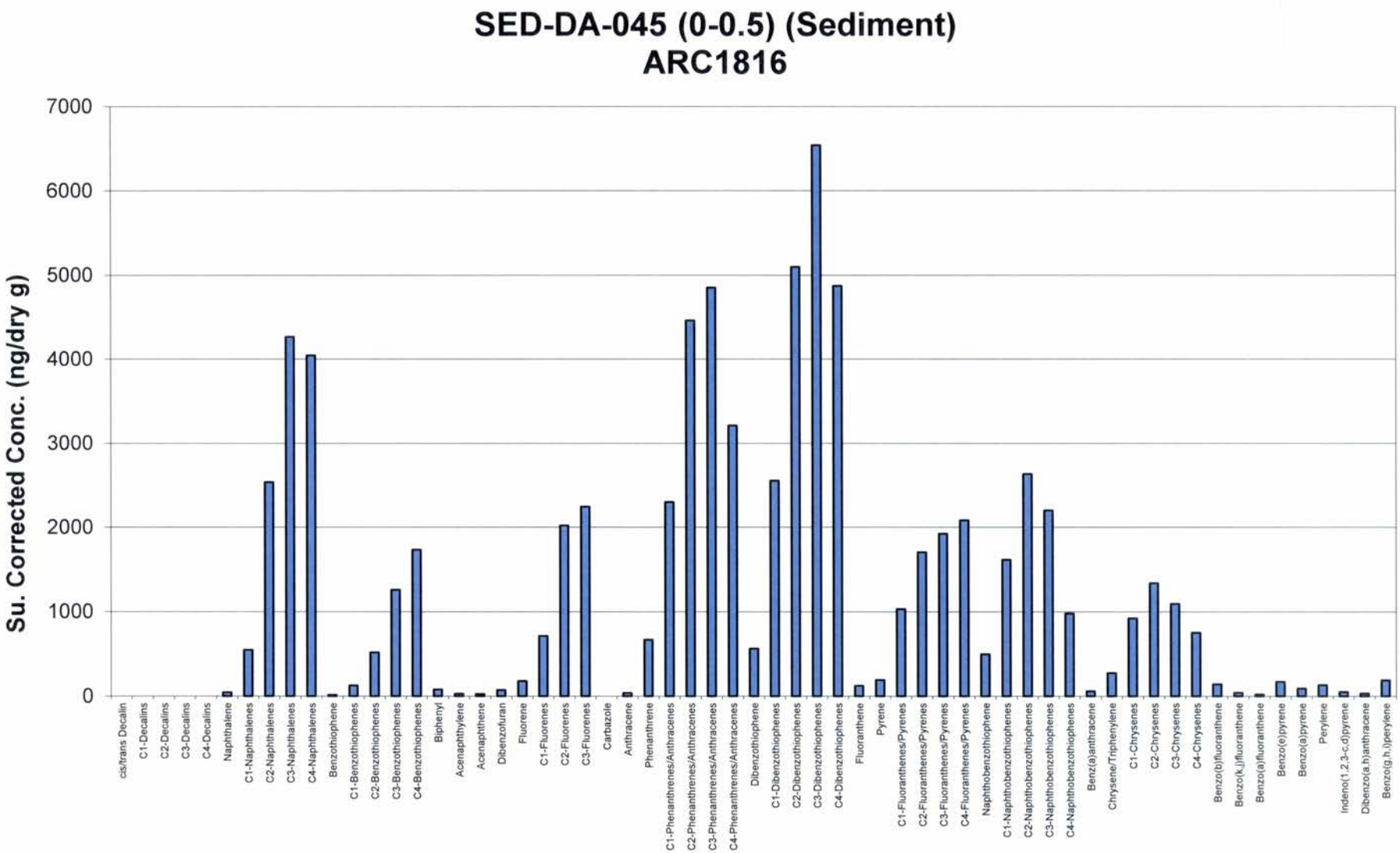
Target Compounds	Concentration (ng/mL)	Q	RPD (%)	ICV Certified Conc. (ng/mL)	-20% Certified Conc. (ng/mL)	+20% Certified Conc. (ng/mL)
cis/trans Decalin	270		7.6	250	200	300
C1-Decalins	NA					
C2-Decalins	NA					
C3-Decalins	NA					
C4-Decalins	NA					
Naphthalene	275		9.5	250	200	300
C1-Naphthalenes	NA					
C2-Naphthalenes	NA					
C3-Naphthalenes	NA					
C4-Naphthalenes	NA					
Benzothiophene	281		11.5	250	200	300
C1-Benzothiophenes	NA					
C2-Benzothiophenes	NA					
C3-Benzothiophenes	NA					
C4-Benzothiophenes	NA					
Biphenyl	279		10.7	251	201	301
Acenaphthylene	278					
Acenaphthene	281		11.6	250	200	300
Dibenzofuran	285		13.1	250	200	300
Fluorene	278		10.5	250	200	300
C1-Fluorenes	NA					
C2-Fluorenes	NA					
C3-Fluorenes	NA					
Carbazole	278		10.7	250	200	300
Anthracene	264		5.5	250	200	300
Phenanthrene	262		4.6	250	200	300
C1-Phenanthrenes/Anthracenes	NA					
C2-Phenanthrenes/Anthracenes	NA					
C3-Phenanthrenes/Anthracenes	NA					
C4-Phenanthrenes/Anthracenes	NA					
Dibenzothiophene	277		10.2	250	200	300
C1-Dibenzothiophenes	NA					
C2-Dibenzothiophenes	NA					
C3-Dibenzothiophenes	NA					
C4-Dibenzothiophenes	NA					
Fluoranthene	275		9.3	250	200	300
Pyrene	272		8.5	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	292		15.3	250	200	300
Chrysene/Triphenylene	297		17.3	250	200	300
C1-Chrysenes	NA					
C2-Chrysenes	NA					
C3-Chrysenes	NA					
C4-Chrysenes	NA					
Benzo(b)fluoranthene	289		14.4	250	200	300
Benzo(k,j)fluoranthene	300		18.1	250	200	300
Benzo(a)fluoranthene	NA					
Benzo(e)pyrene	287		13.7	250	200	300
Benzo(a)pyrene	286		13.4	250	200	300
Perylene	279		10.7	251	200	301
Indeno(1,2,3-c,d)pyrene	289		14.3	250	200	300
Dibenzo(a,h)anthracene	288		13.9	250	200	300
Benzo(g,h,i)perylene	284		12.5	250	200	300

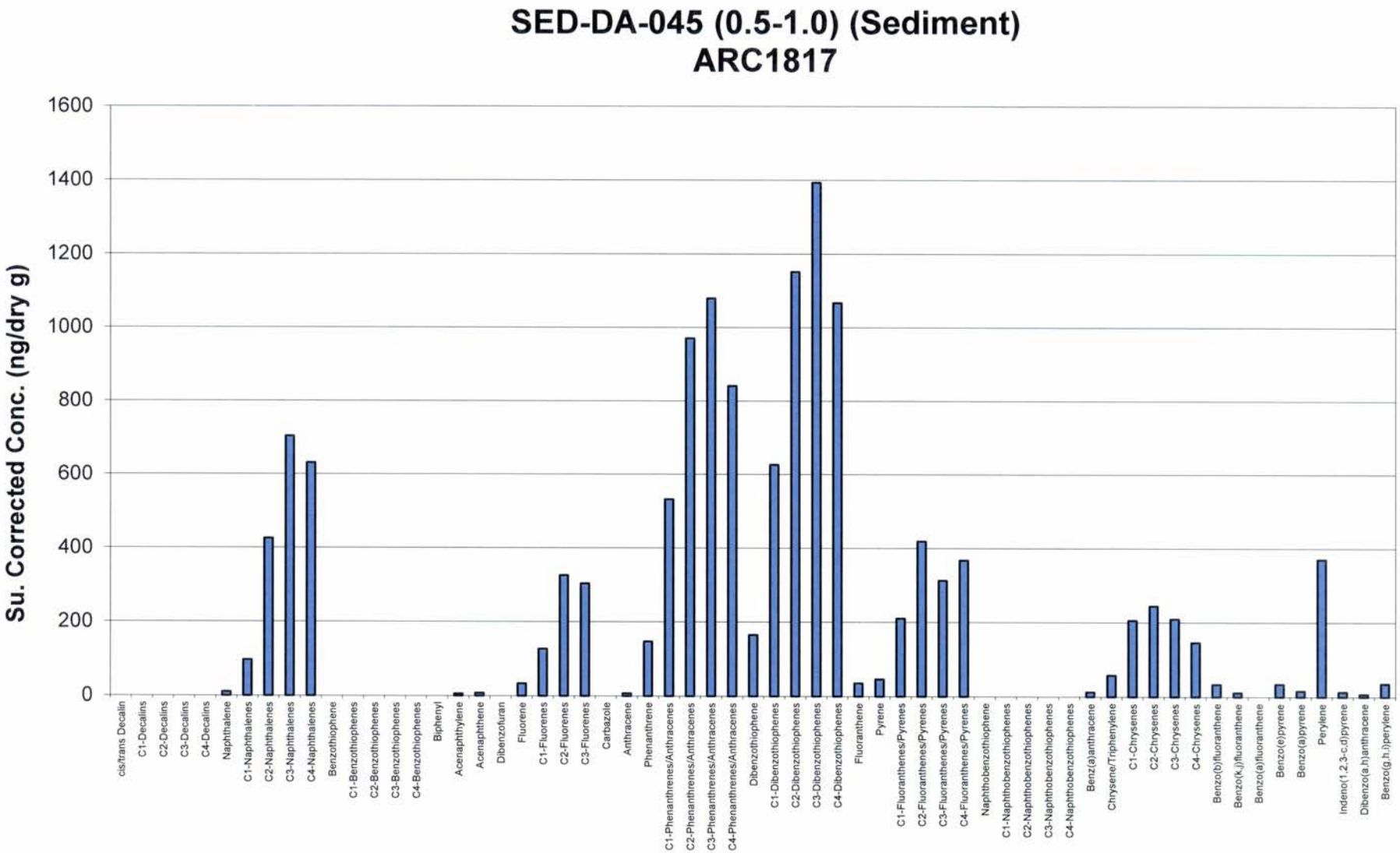
Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Control Material Report

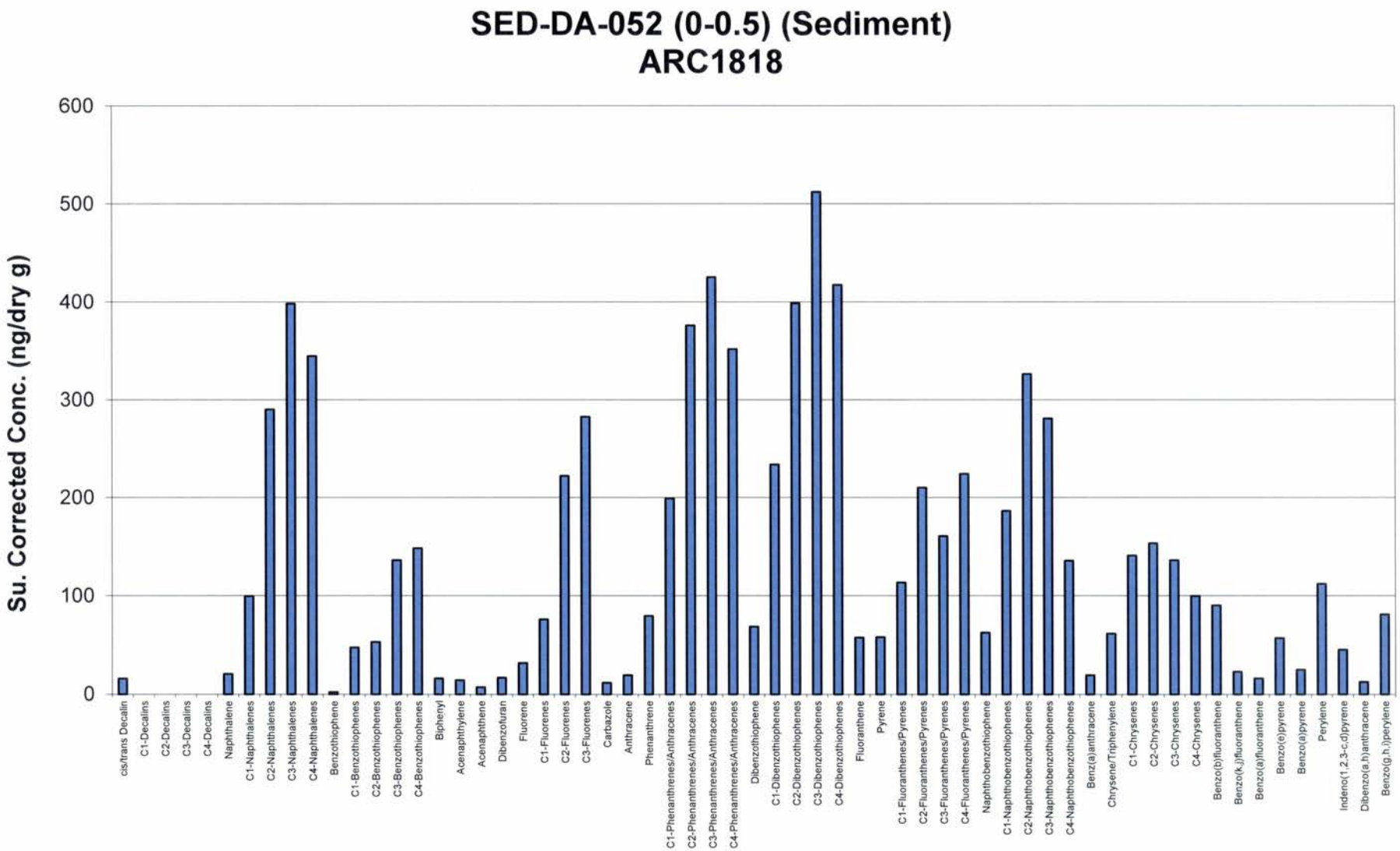
Sample Name	MS60146I.D
Client Name	AR-WKICV-250-004
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3093
Date Acquired	9/3/13 4:01
Method	PAH-2012.M
Sample Volume (mL)	1.0

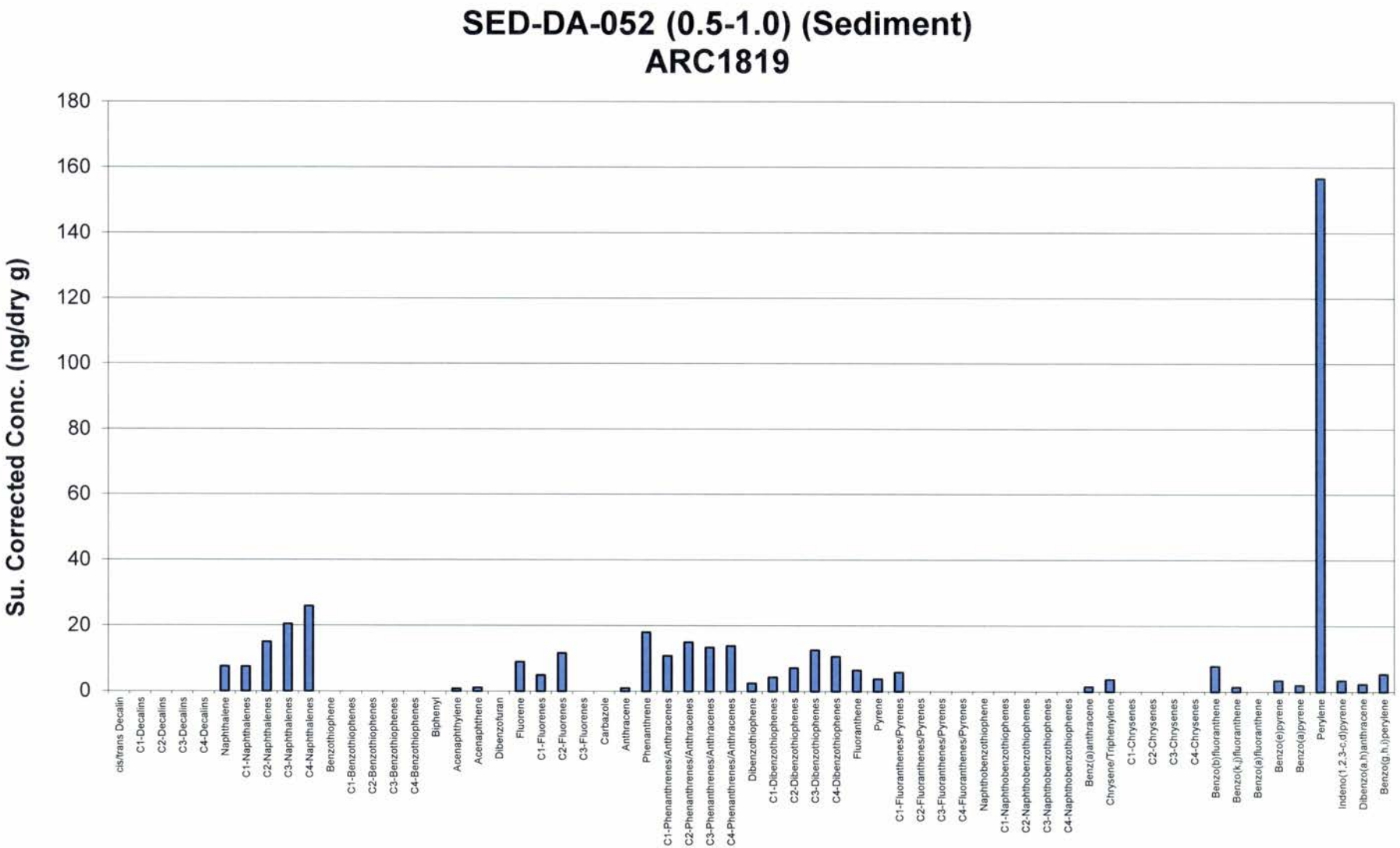
Target Compounds	Concentration (ng/mL)	Q	RPD (%)	ICV Certified Conc. (ng/mL)	-20% Certified Conc. (ng/mL)	+20% Certified Conc. (ng/mL)
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	289		14.3	250	200	301
1-Methylnaphthalene	289		14.2	251	200	301
2,6-Dimethylnaphthalene	282		12.1	250	200	300
1,6,7-Trimethylnaphthalene	289		14.2	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	278		10.5	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	233		7.1	250	200	300
Acenaphthene-d10	227		9.7	250	200	300
Phenanthrene-d10	224		10.8	250	200	300
Chrysene-d12	241		3.7	250	200	300
Perylene-d12	225		10.7	250	200	300

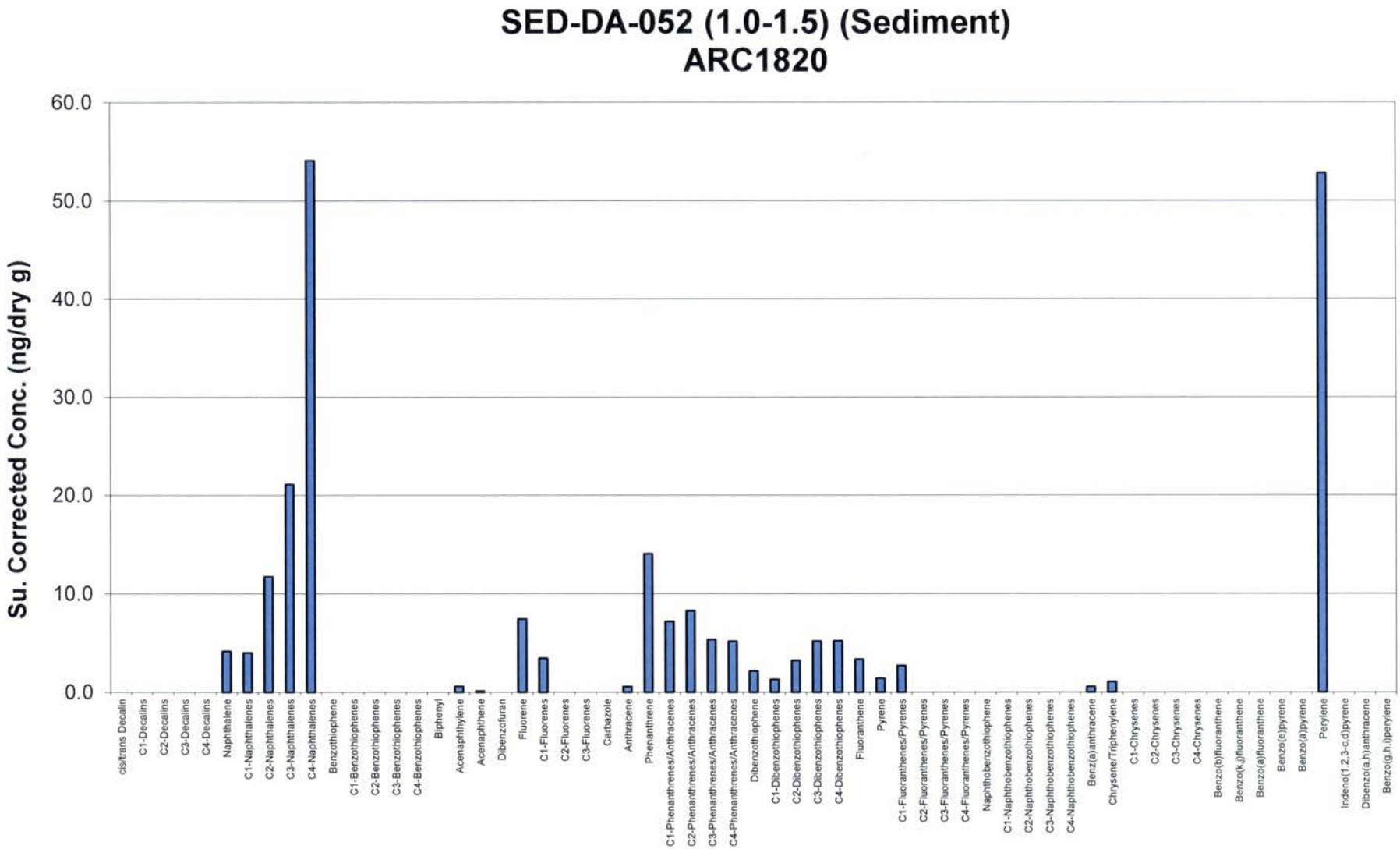
Polycyclic Aromatic Hydrocarbon Histograms

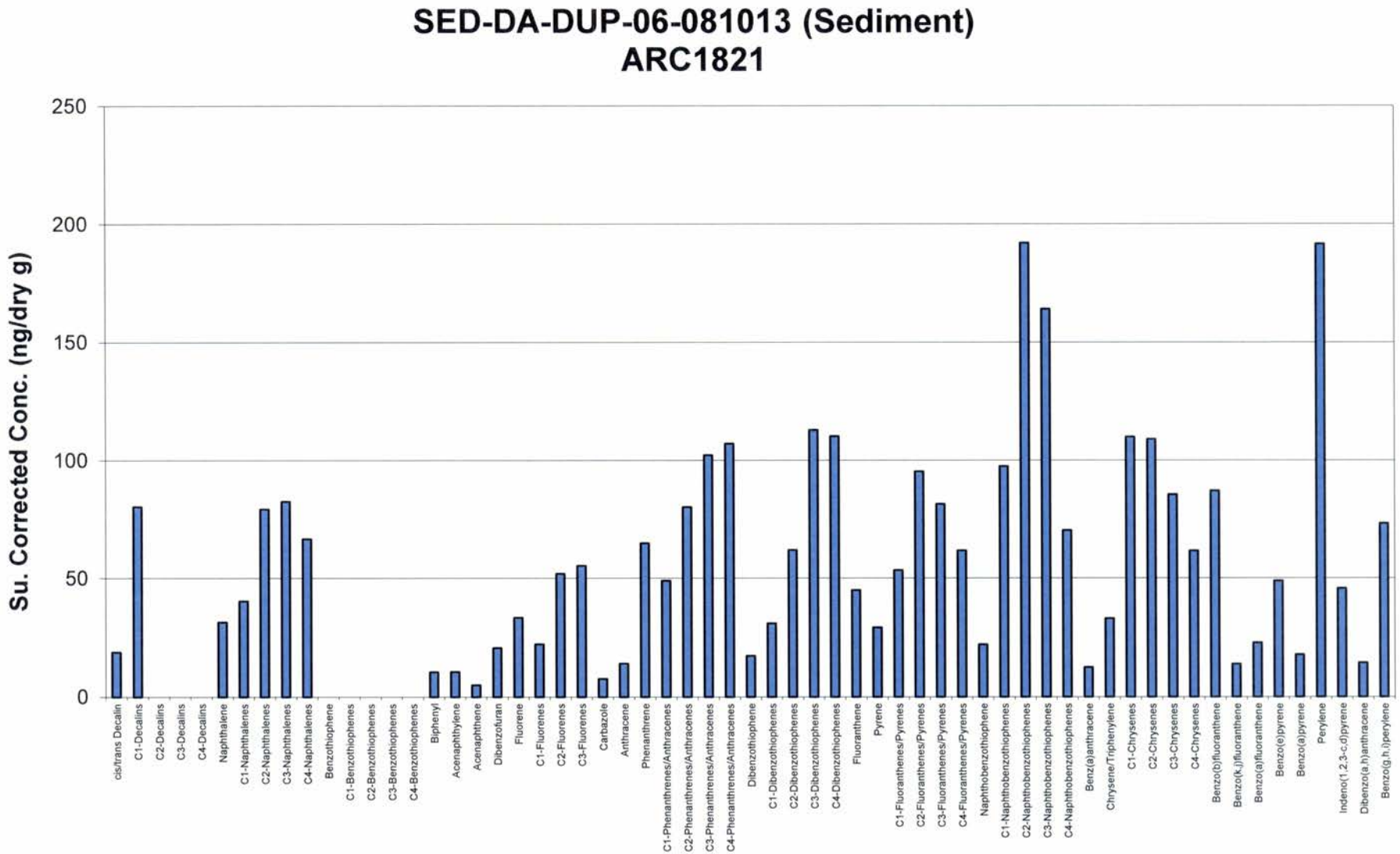

SED-DA-045 (0-0.5) (Sediment)
ARC1816
Su. Corrected Conc. (ng/dry g)
7000
6000
5000
4000
3000
2000
1000
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
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

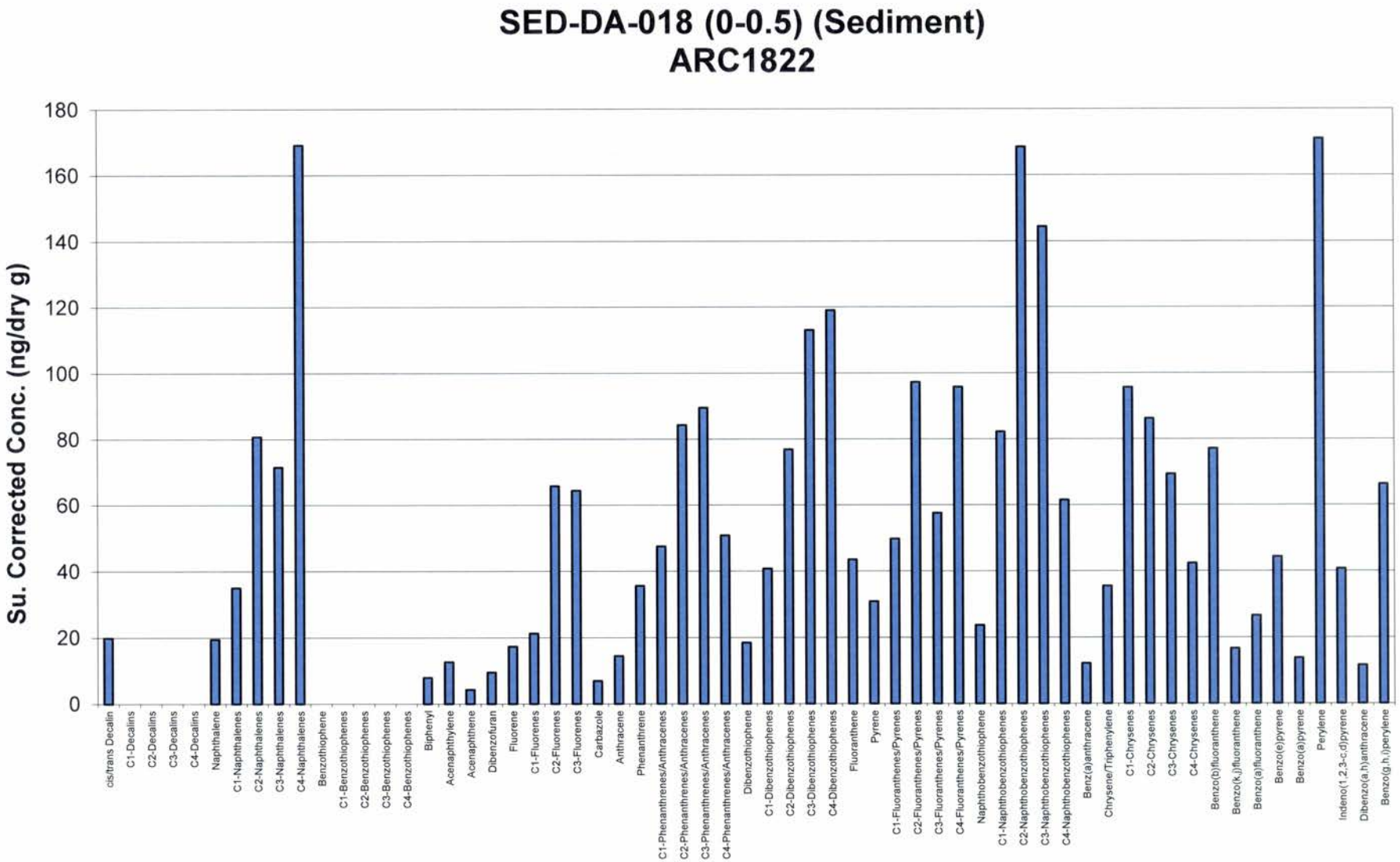

SED-DA-045 (0.5-1.0) (Sediment)
ARC1817
Su. Corrected Conc. (ng/dry g)
1600
1400
1200
1000
800
600
400
200
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

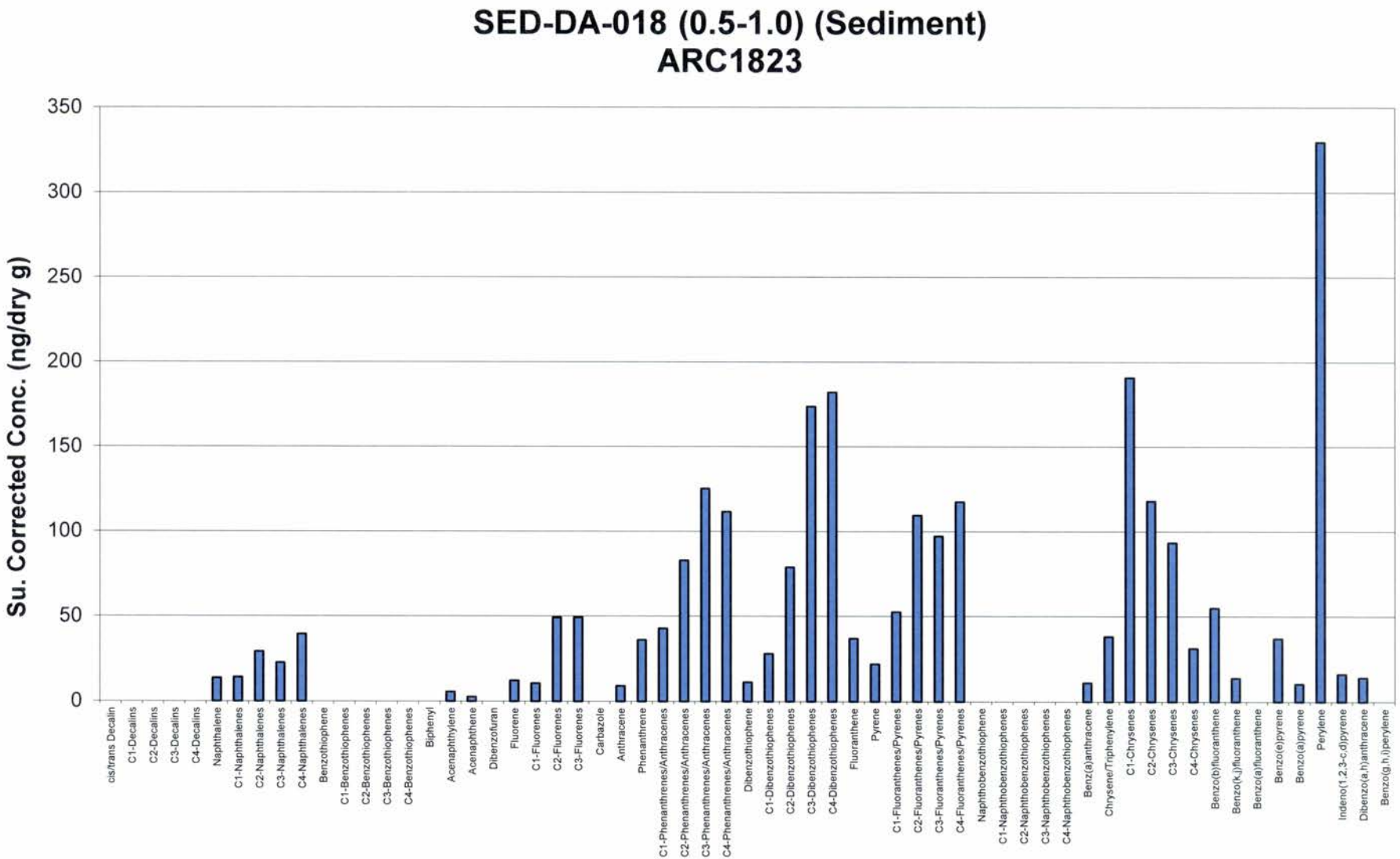

SED-DA-052 (0-0.5) (Sediment)
ARC1818
Su. Corrected Conc. (ng/dry g)
600
500
400
300
200
100
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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

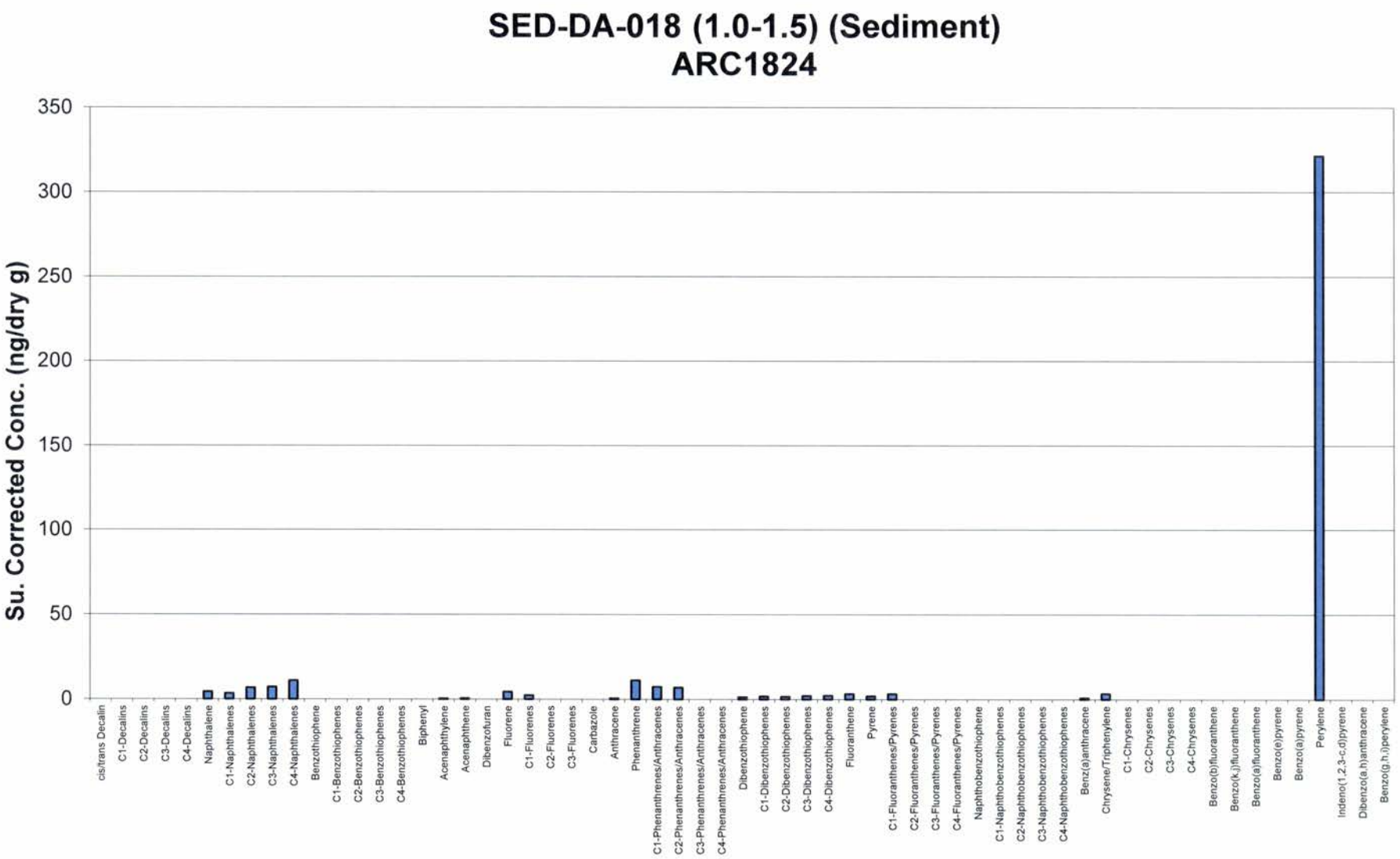

SED-DA-052 (0.5-1.0) (Sediment)
ARC1819
Su. Corrected Conc. (ng/dry g)
180
160
140
120
100
80
60
40
20
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

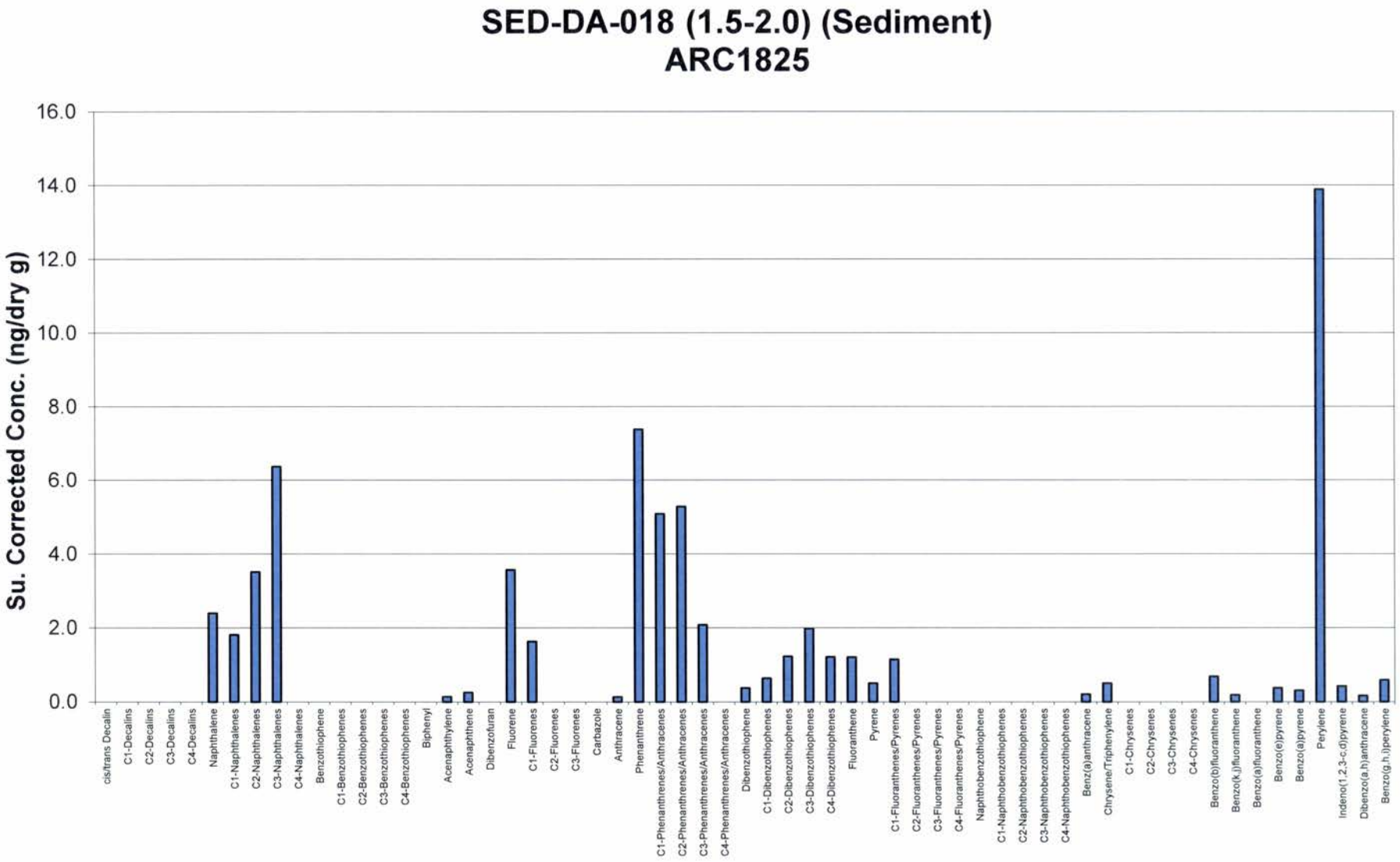

SED-DA-052 (1.0-1.5) (Sediment)
ARC1820
Su. Corrected Conc. (ng/dry g)
60.0
50.0
40.0
30.0
20.0
10.0
0.0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene


SED-DA-DUP-06-081013 (Sediment)
ARC1821
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

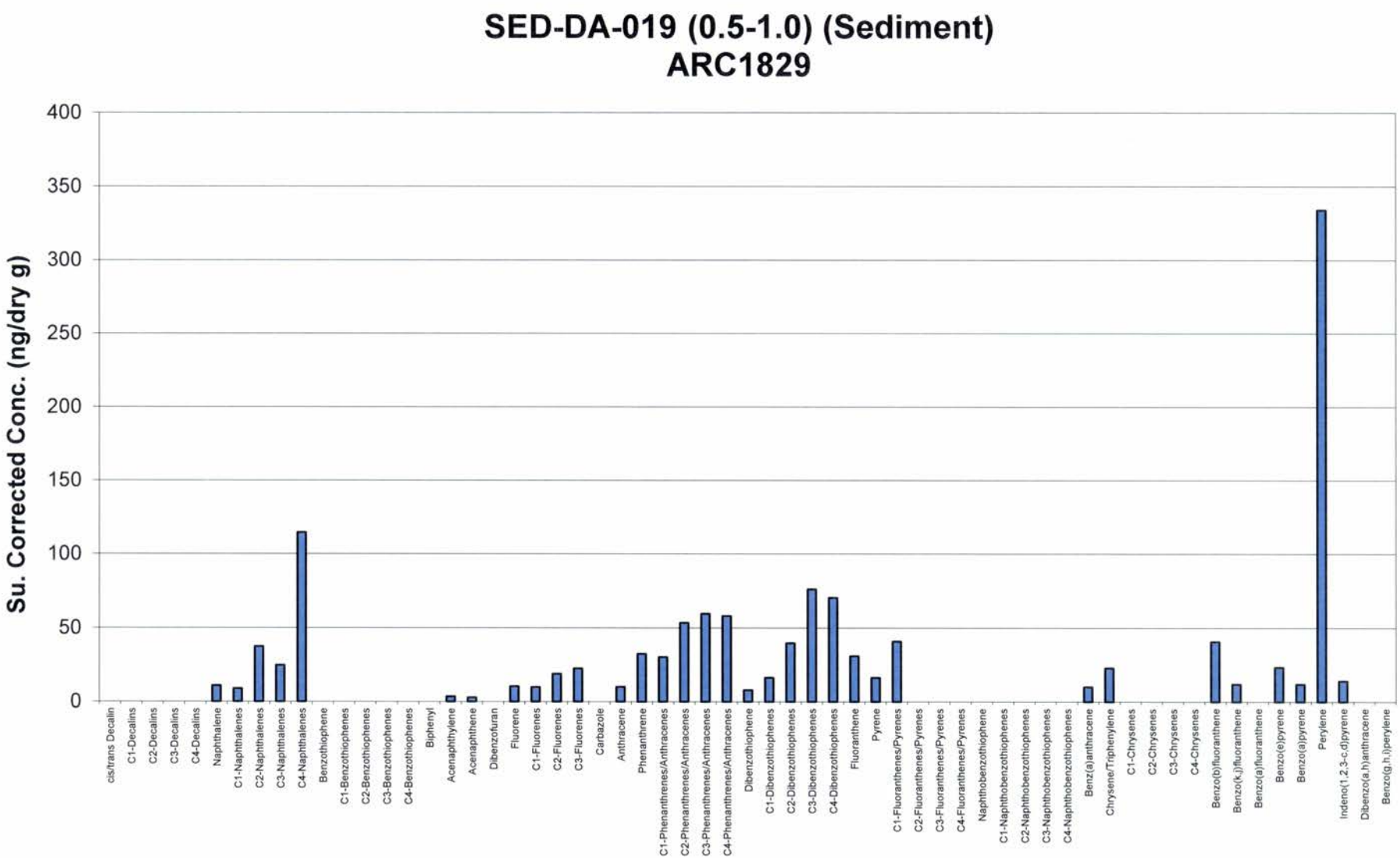

SED-DA-018 (0-0.5) (Sediment)
ARC1822
Su. Corrected Conc. (ng/dry g)
0
20
40
60
80
100
120
140
160
180
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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

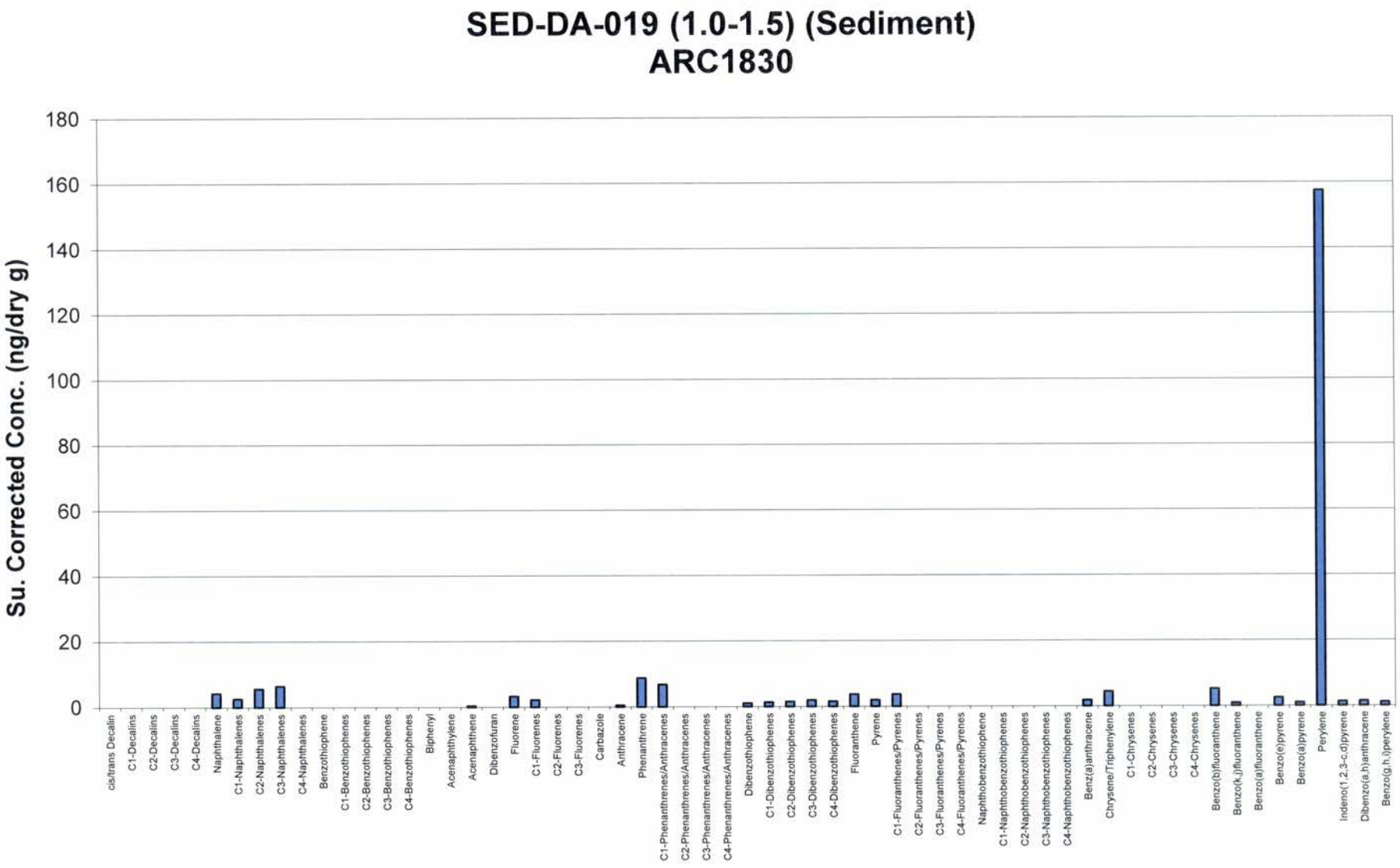

SED-DA-018 (0.5-1.0) (Sediment)
ARC1823
Su. Corrected Conc. (ng/dry g)
350
300
250
200
150
100
50
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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

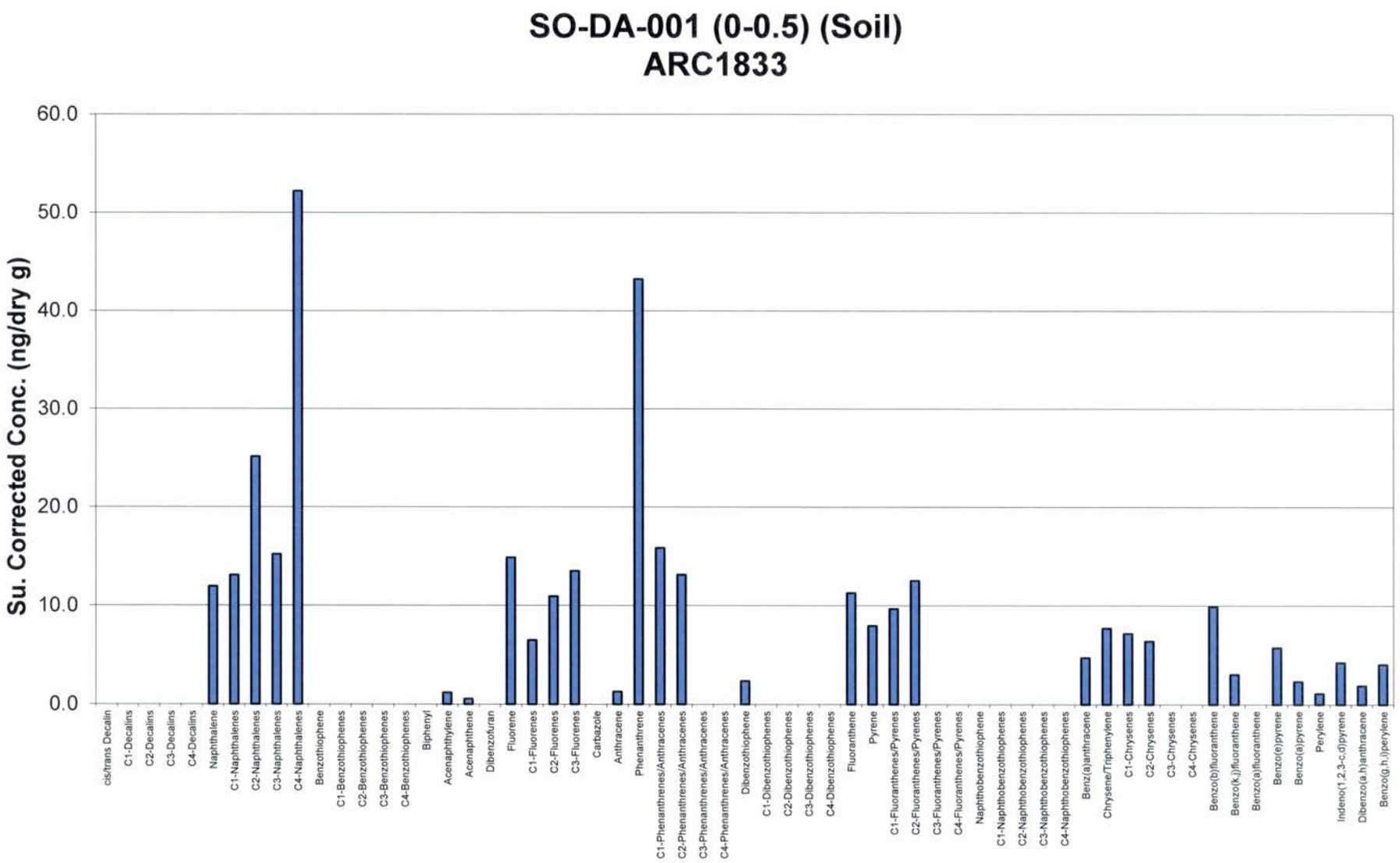

SED-DA-018 (1.0-1.5) (Sediment)
ARC1824
Su. Corrected Conc. (ng/dry g)
350
300
250
200
150
100
50
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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

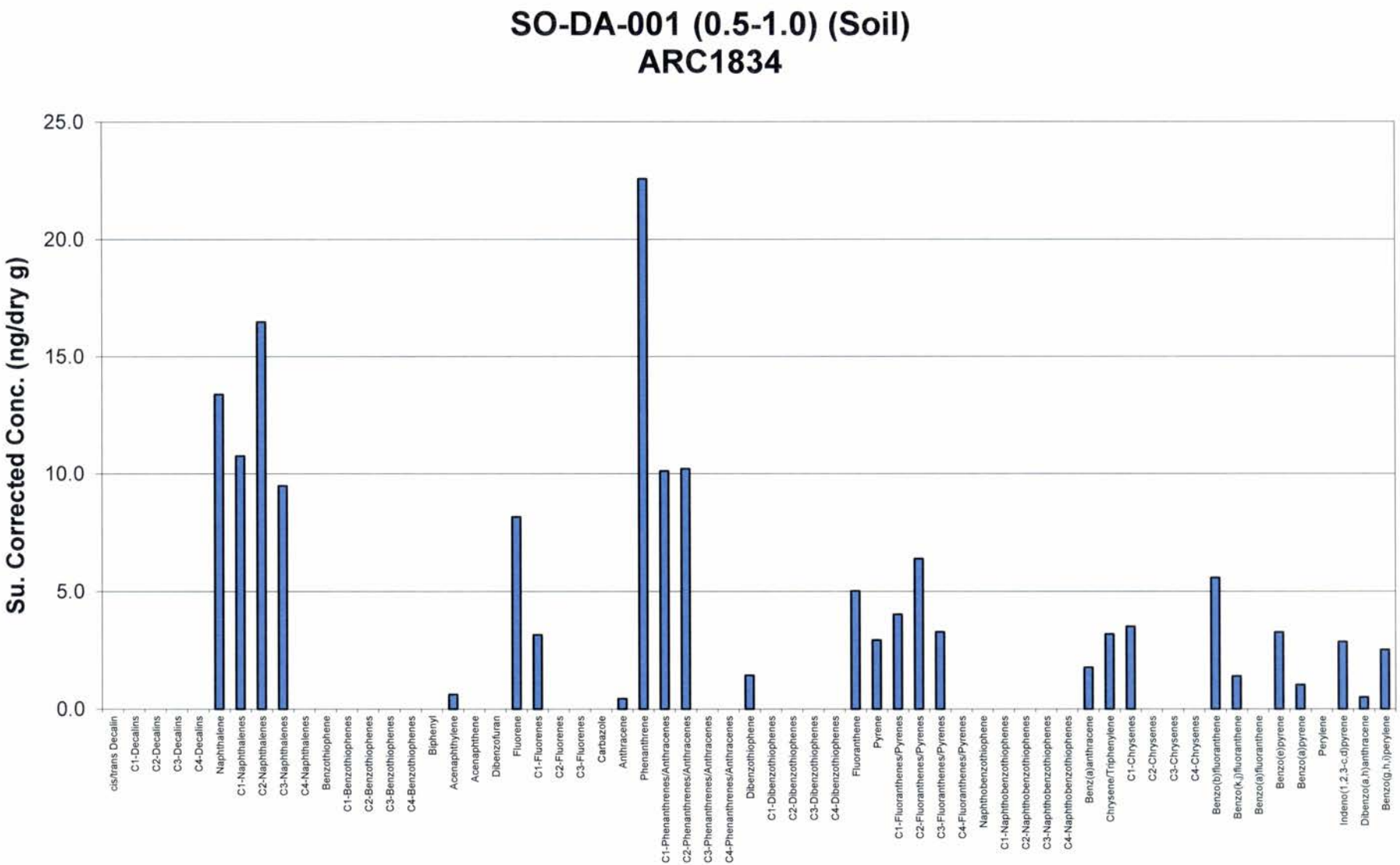

SED-DA-018 (1.5-2.0) (Sediment)
ARC1825
Su. Corrected Conc. (ng/dry g)
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

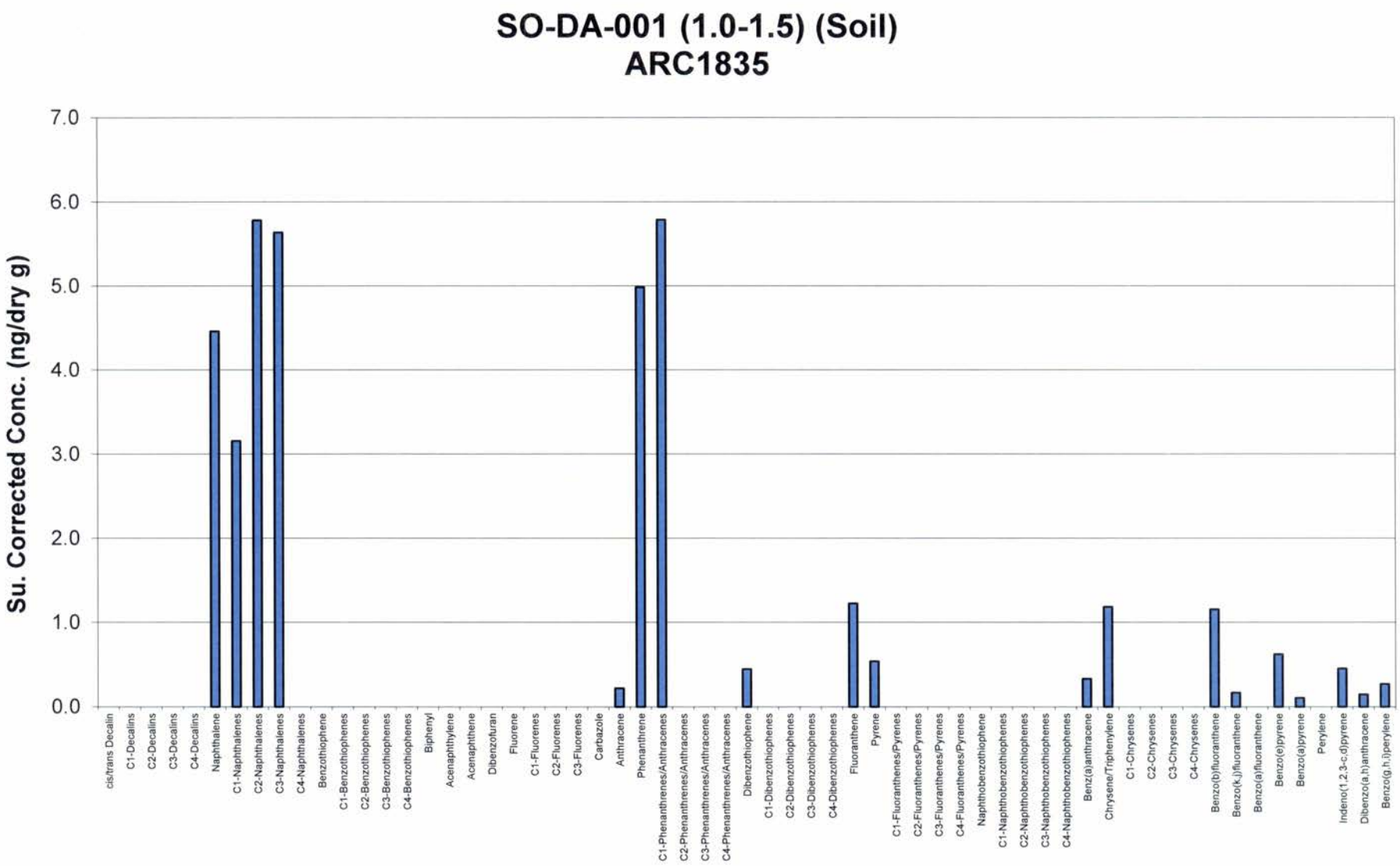
SED-DA-019 (0-0.5) (Sediment)
ARC1826
Su. Corrected Conc. (ng/dry g)
0
50
100
150
200
250
300
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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

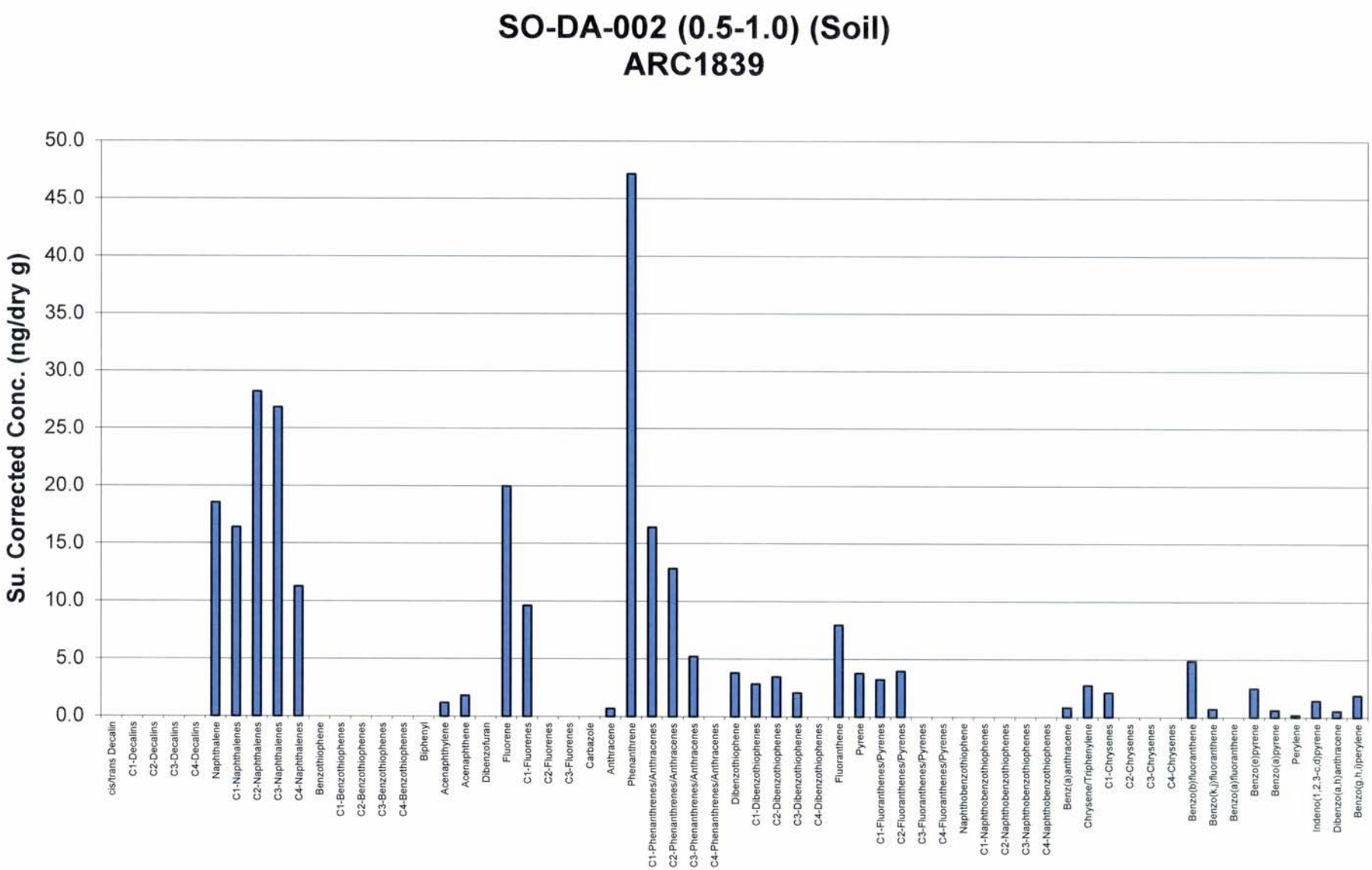

SED-DA-019 (0.5-1.0) (Sediment)
ARC1829
Su. Corrected Conc. (ng/dry g)
400
350
300
250
200
150
100
50
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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

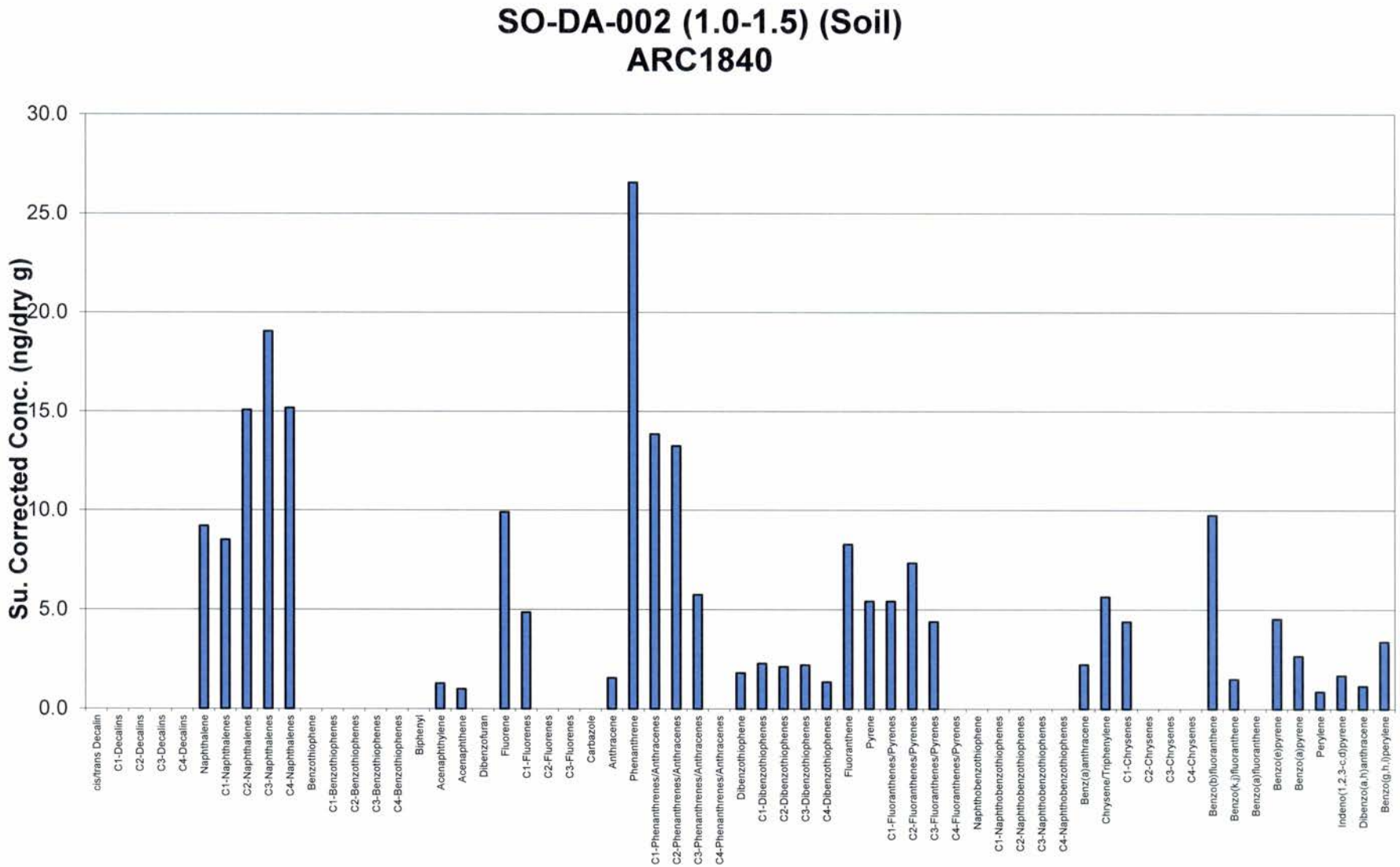

SED-DA-019 (1.0-1.5) (Sediment)
ARC1830
Su. Corrected Conc. (ng/dry g)
180
160
140
120
100
80
60
40
20
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene


SO-DA-001 (0-0.5) (Soil)
ARC1833
Su. Corrected Conc. (ng/dry g)
60.0
50.0
40.0
30.0
20.0
10.0
0.0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene


SO-DA-001 (0.5-1.0) (Soil)
ARC1834
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

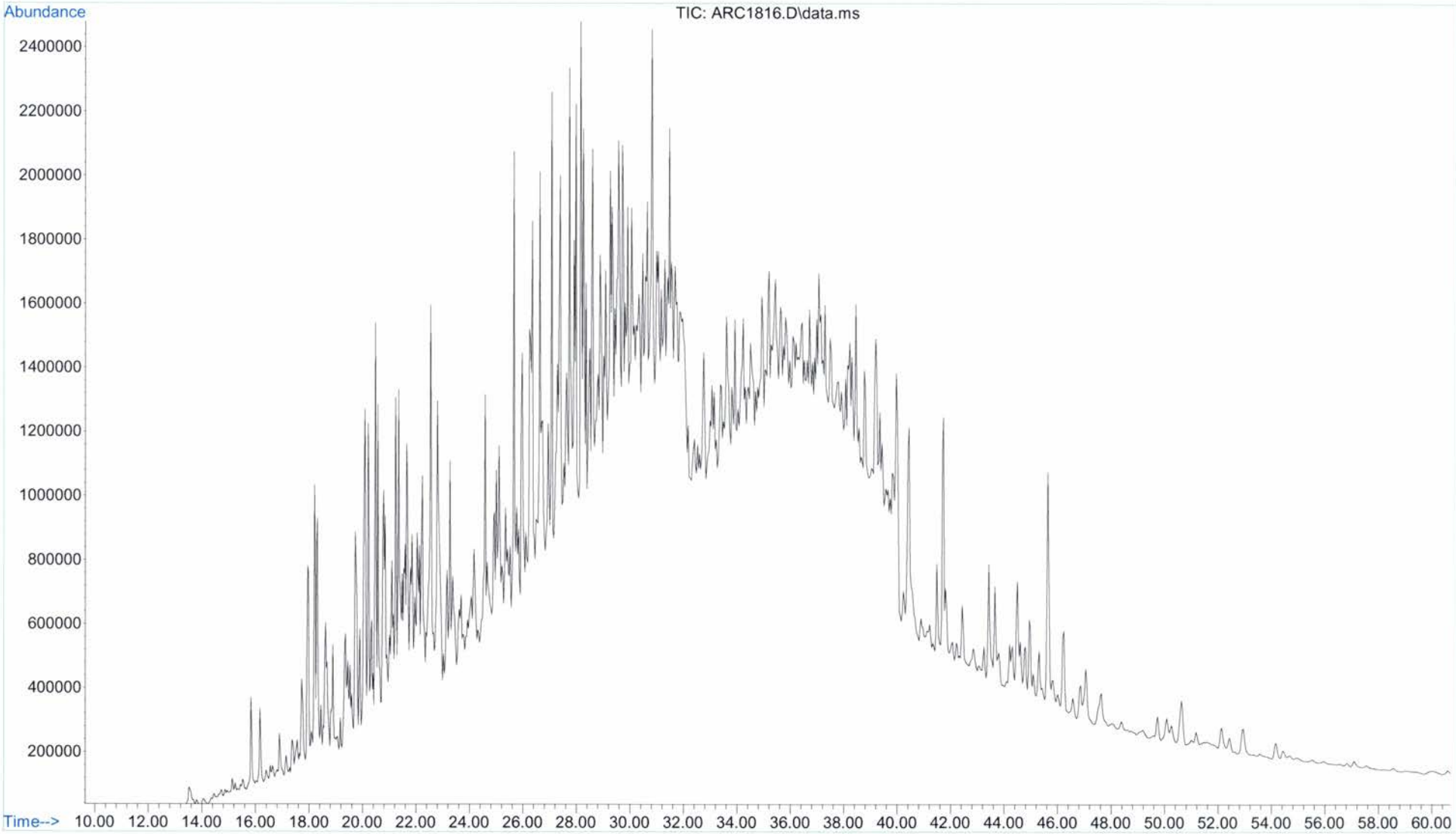

SO-DA-001 (1.0-1.5) (Soil)
ARC1835
Su. Corrected Conc. (ng/dry g)
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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


SO-DA-002 (0.5-1.0) (Soil)
ARC1839
Su. Corrected Conc. (ng/dry g)
50.0
45.0
40.0
35.0
30.0
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

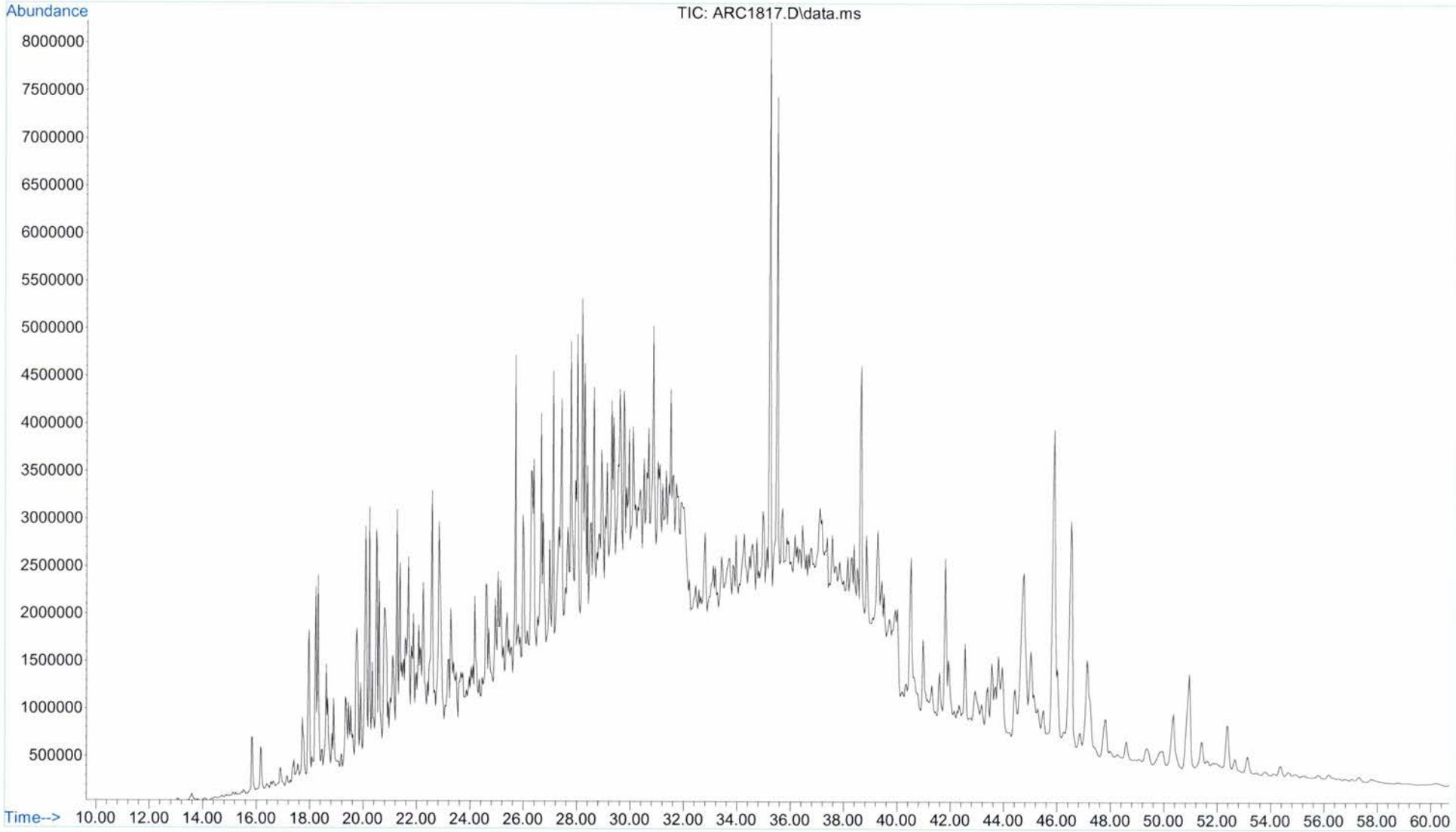

SO-DA-002 (1.0-1.5) (Soil)
ARC1840
Su. Corrected Conc. (ng/dry g)
30.0
25.0
20.0
15.0
10.0
5.0
0.0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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

Polycyclic Aromatic Hydrocarbon Total Ion Chromatograms

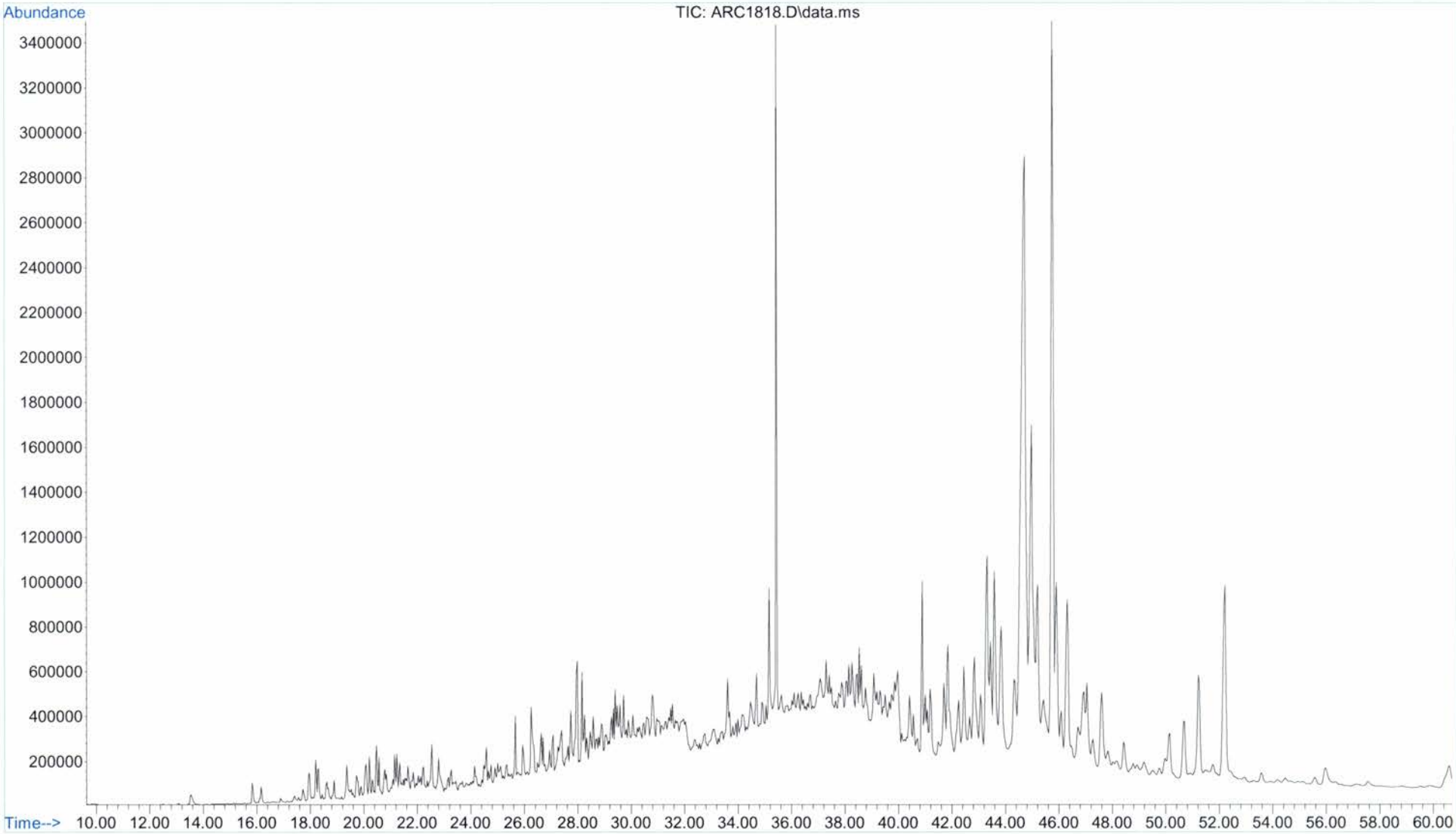
File :C:\GCMS6\MS60146\ARC1816.D
Operator : YM
Acquired : 3 Sep 2013 13:24 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-045 (0-0.5)
Misc Info :
Vial Number: 17



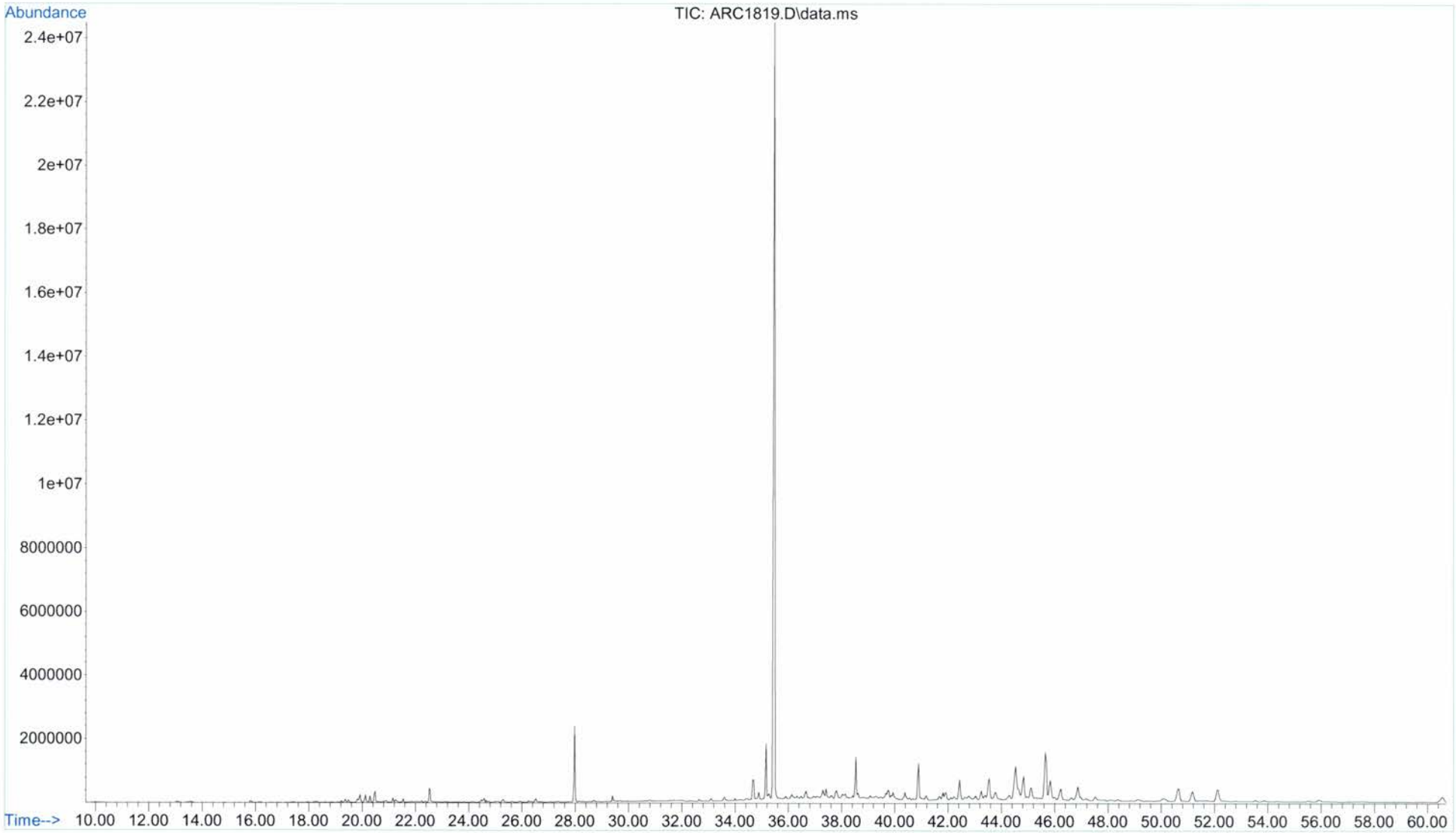
File :C:\GCMS6\MS60146\ARC1817.D
Operator : YM
Acquired : 3 Sep 2013 14:33 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-045 (0.5-1.0)
Misc Info :
Vial Number: 18



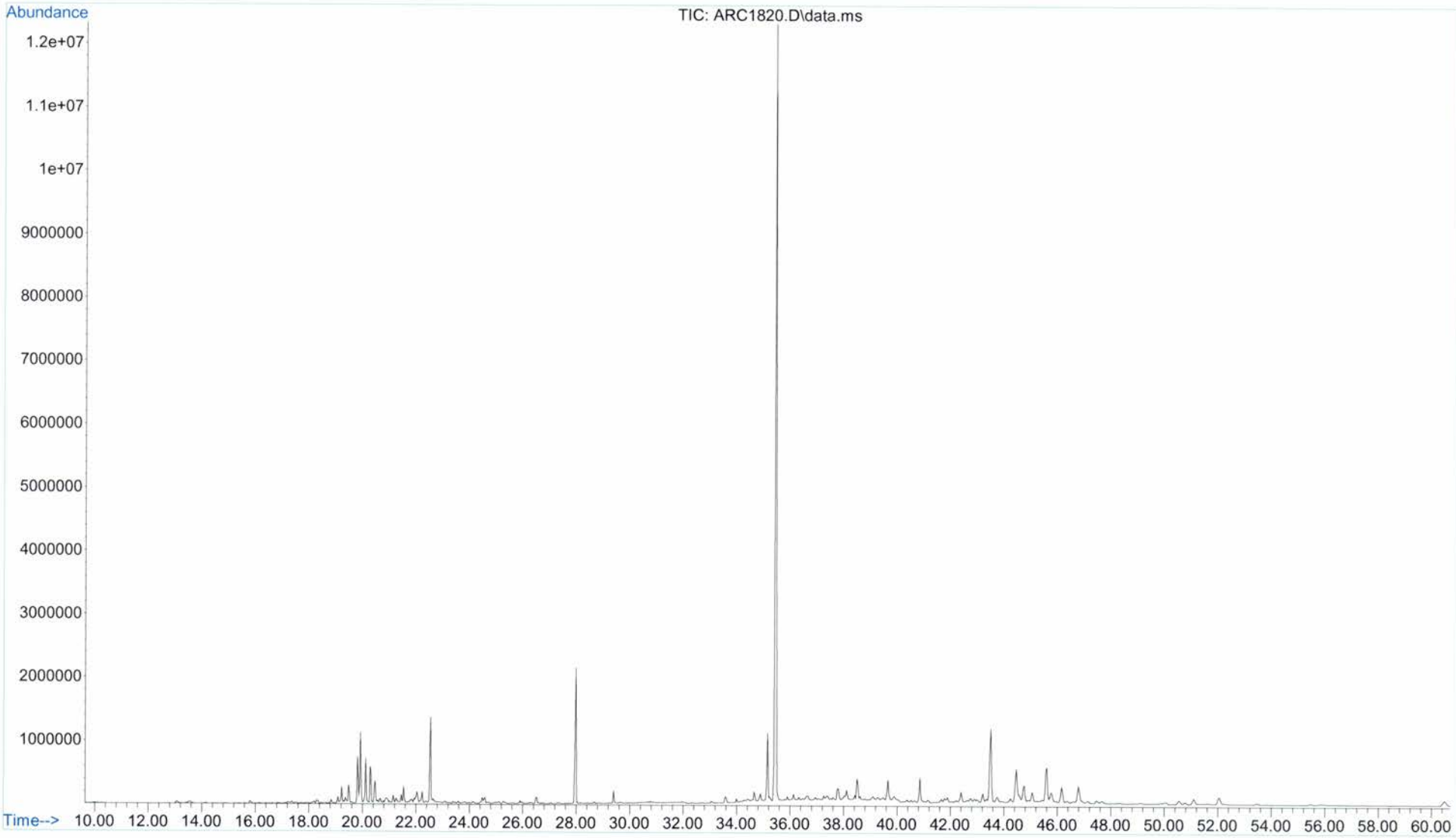
File :C:\GCMS6\MS60146\ARC1818.D
Operator : YM
Acquired : 3 Sep 2013 16:54 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-052 (0-0.5)
Misc Info :
Vial Number: 20



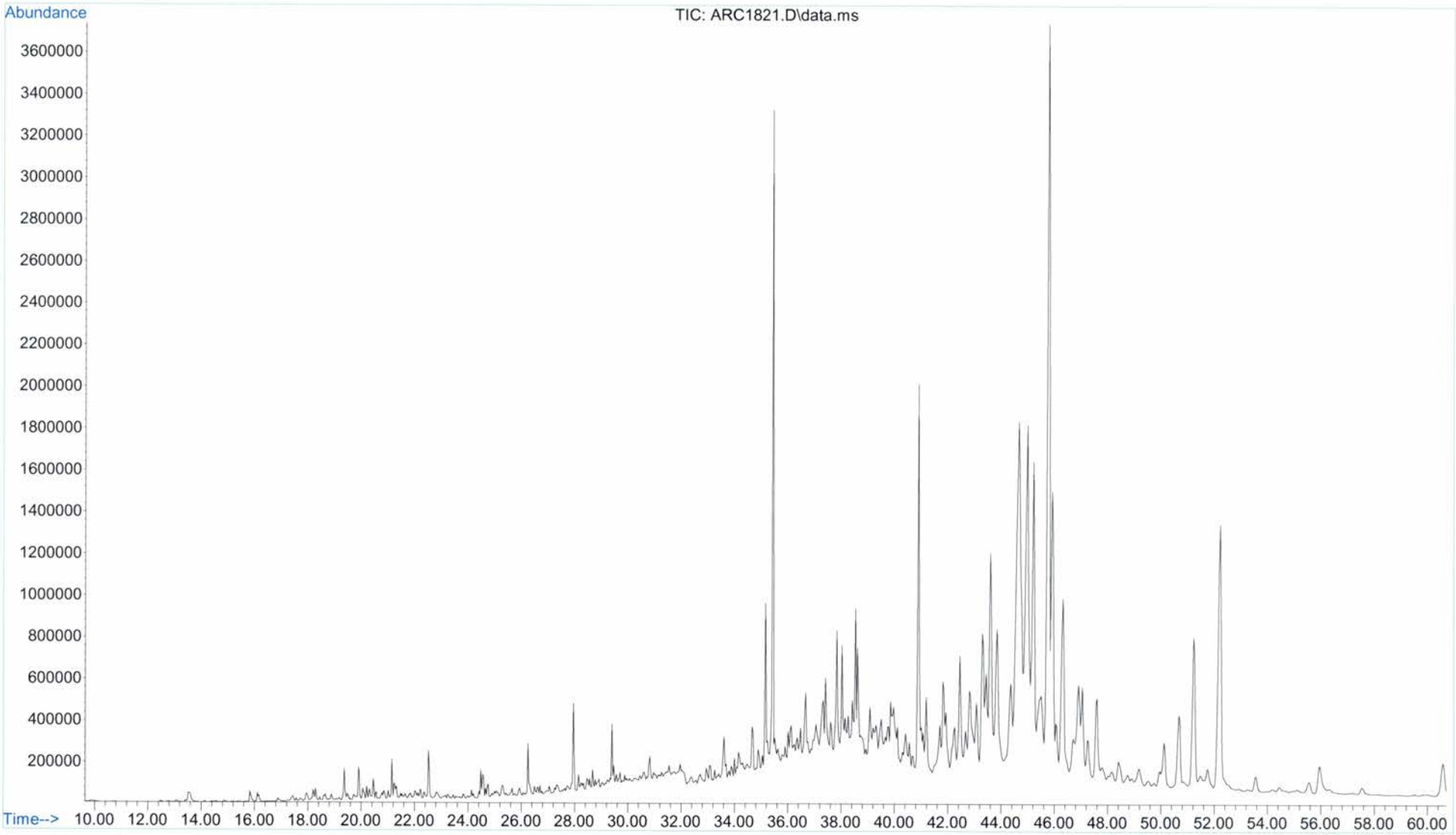
File :C:\GCMS6\MS60146\ARC1819.D
Operator : YM
Acquired : 3 Sep 2013 18:03 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-052 (0.5-1.0)
Misc Info :
Vial Number: 21



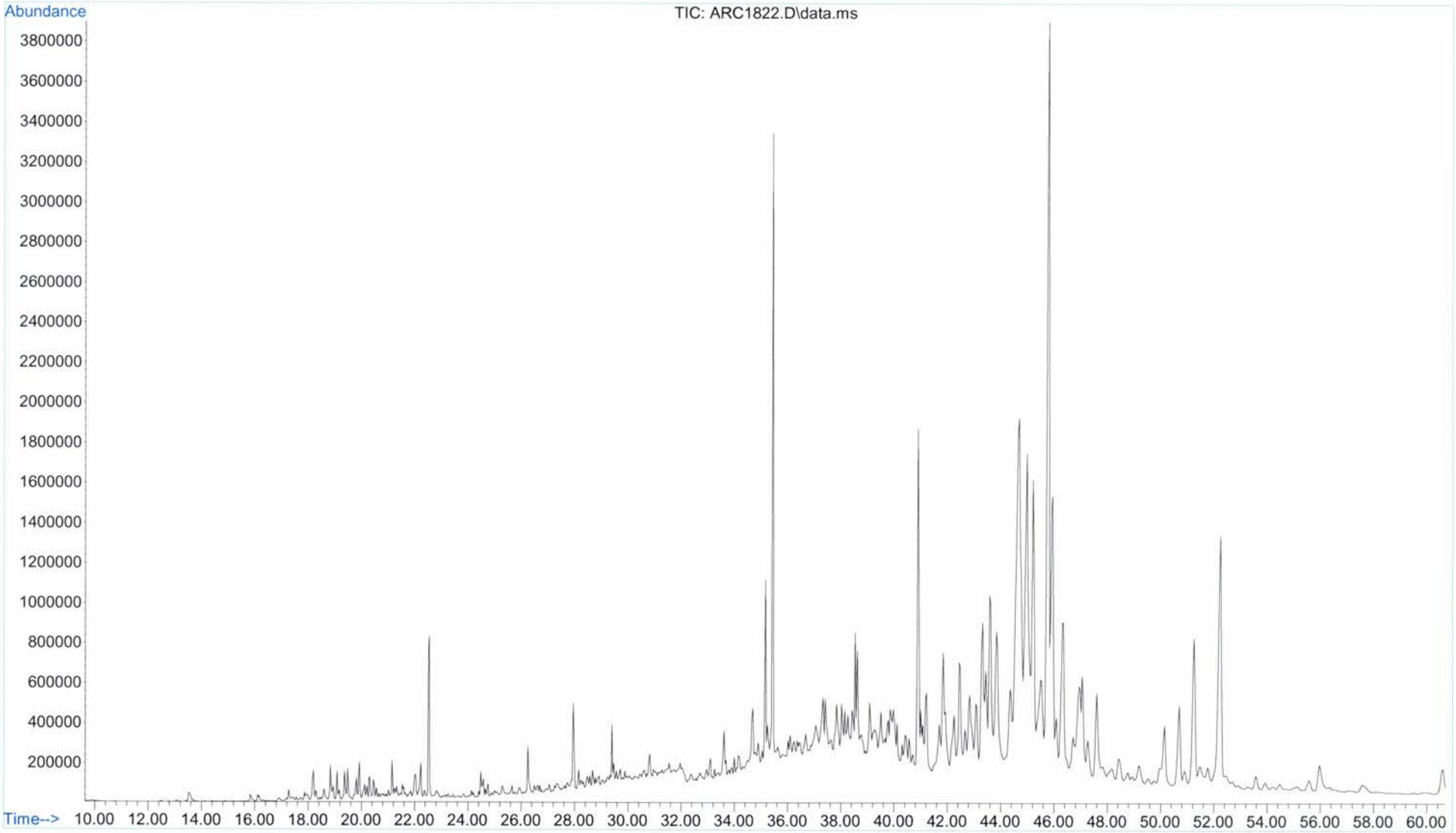
File :C:\GCMS6\MS60146\ARC1820.D
Operator : YM
Acquired : 3 Sep 2013 19:13 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-052 (1.0-1.5)
Misc Info :
Vial Number: 22



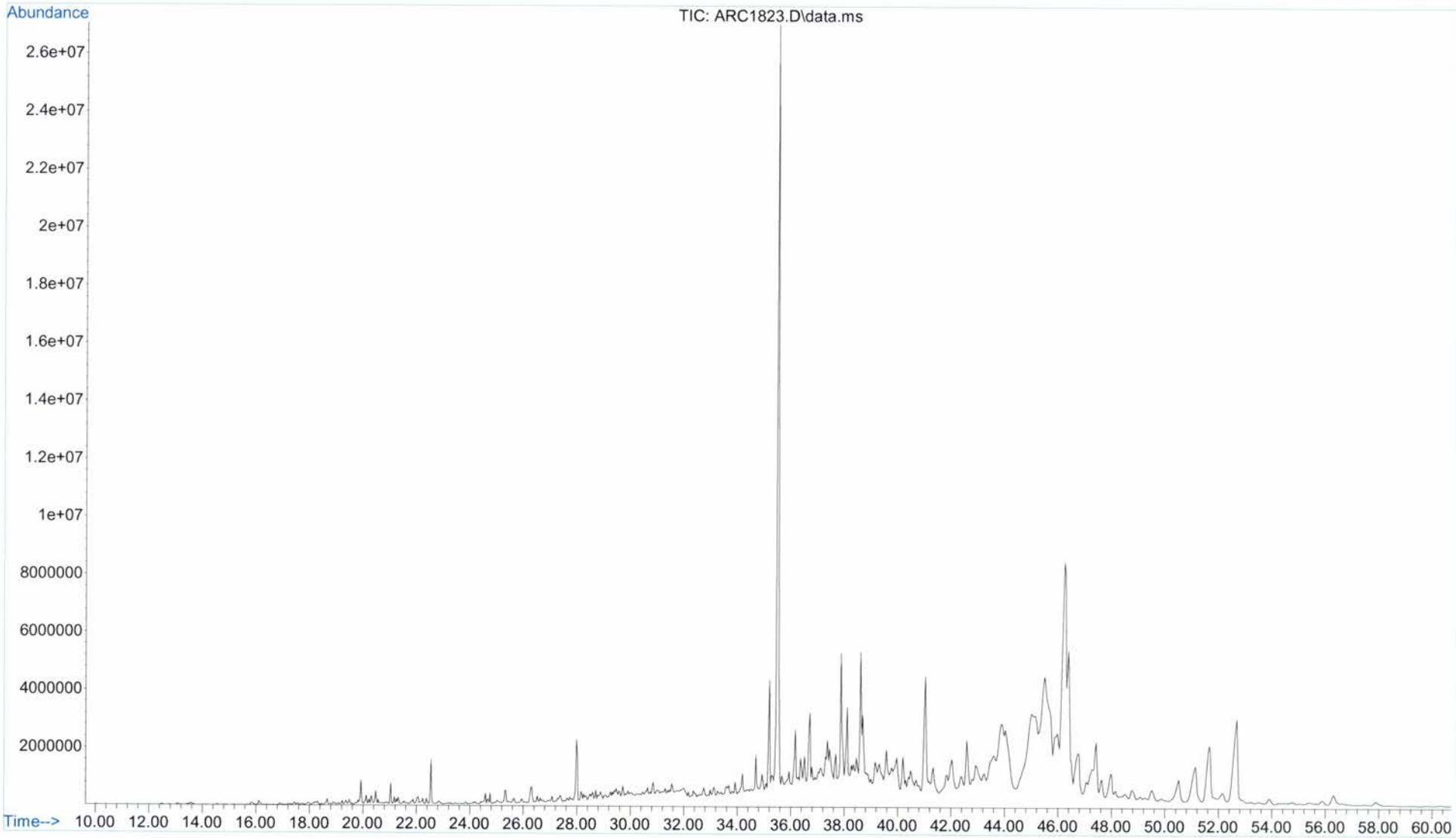
File :C:\GCMS6\MS60146\ARC1821.D
Operator : YM
Acquired : 3 Sep 2013 20:23 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-DUP-06-081013
Misc Info :
Vial Number: 23



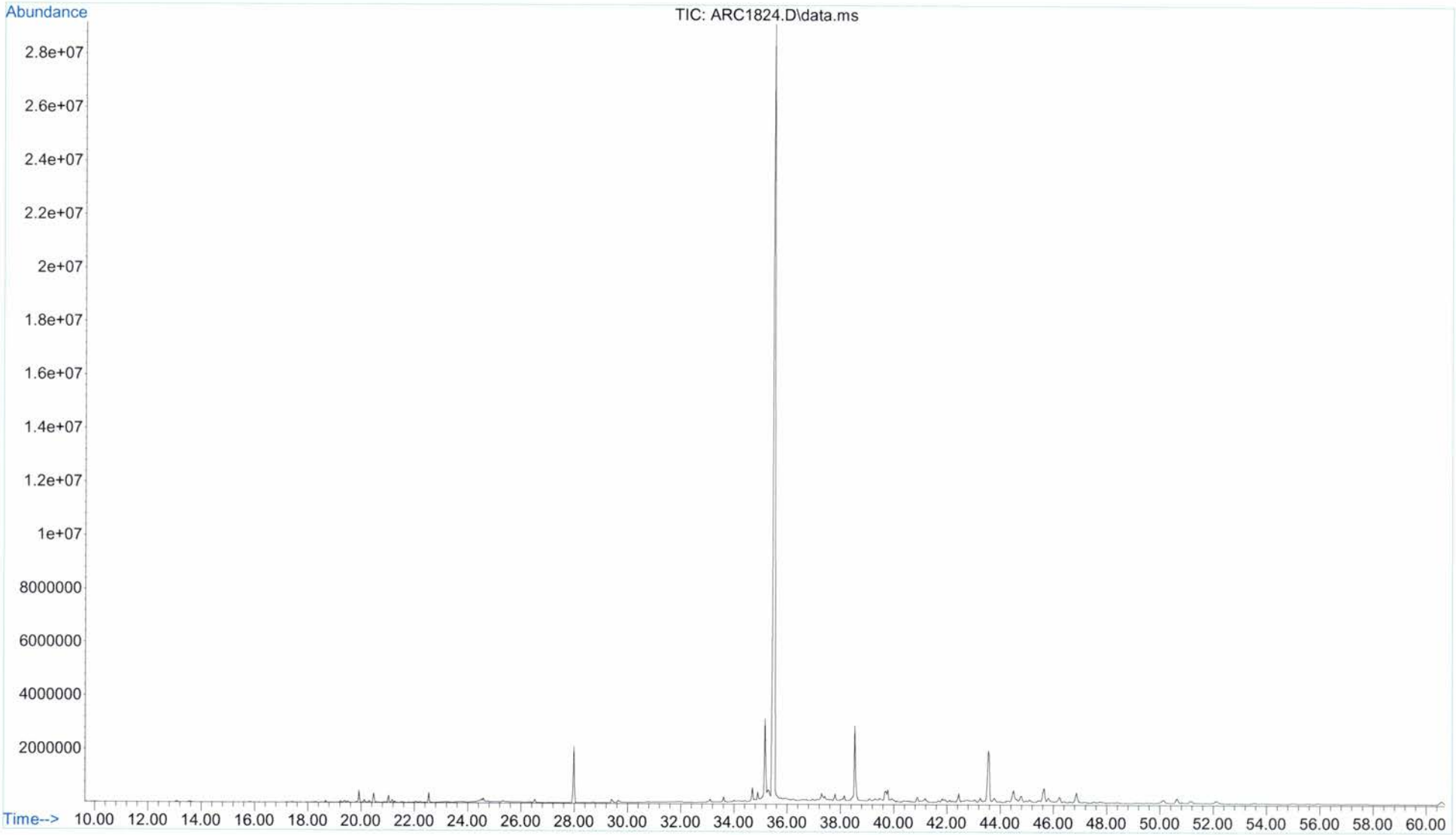
File :C:\GCMS6\MS60146\ARC1822.D
Operator : YM
Acquired : 3 Sep 2013 21:33 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-018 (0-0.5)
Misc Info :
Vial Number: 24



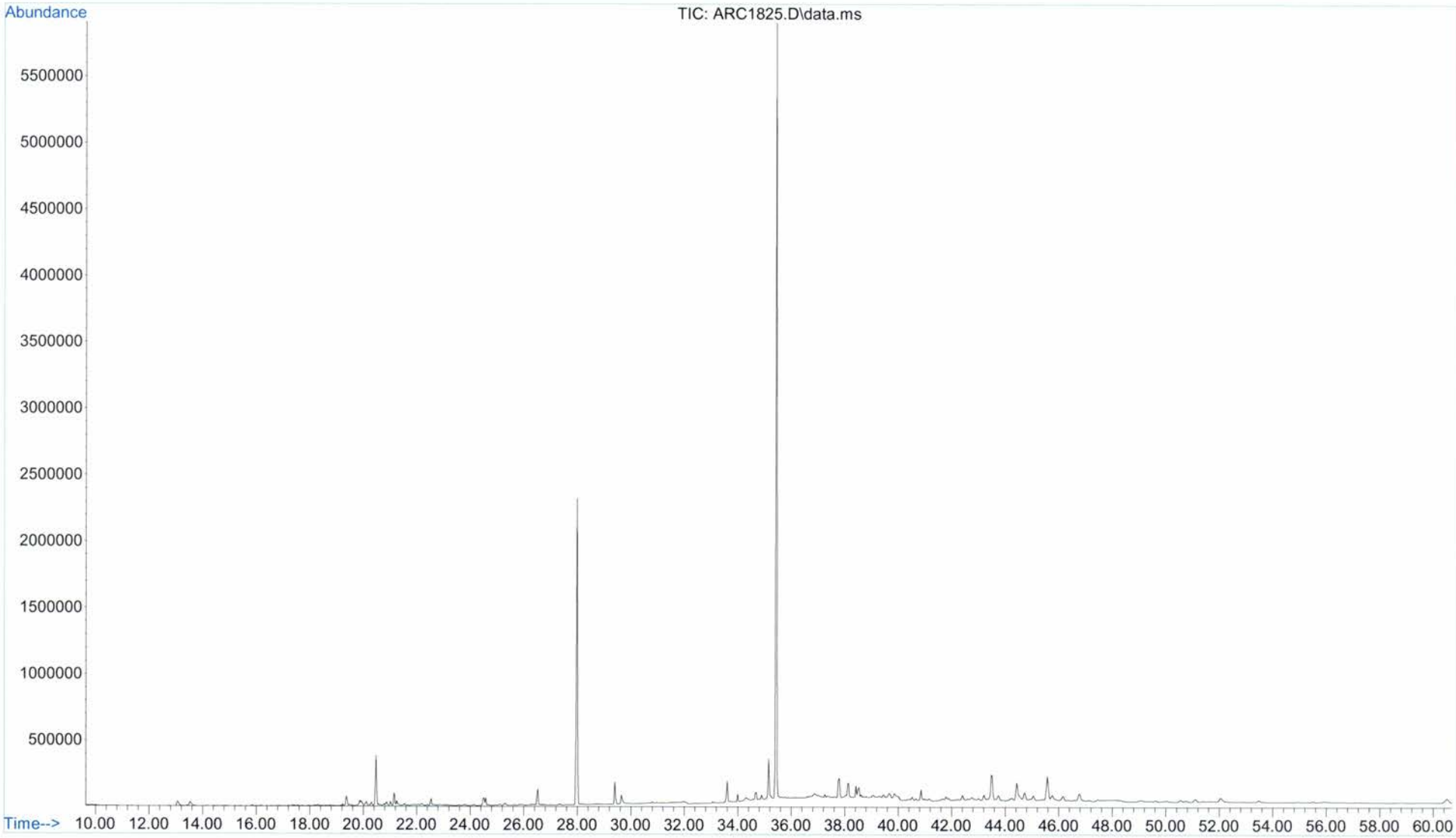
File :C:\GCMS6\MS60146\ARC1823.D
Operator : YM
Acquired : 3 Sep 2013 22:42 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-018 (0.5-1.0)
Misc Info :
Vial Number: 25



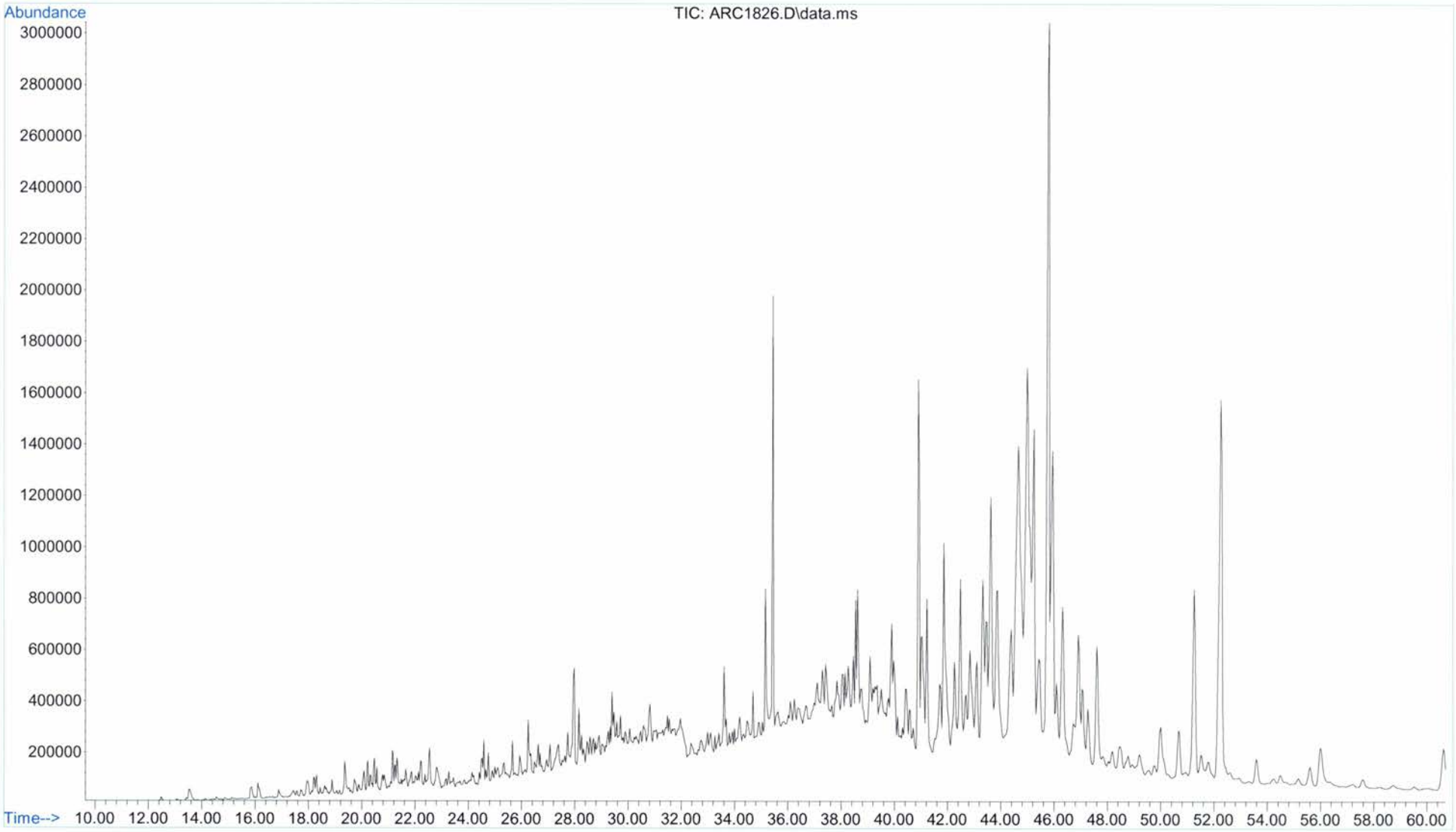
File :C:\GCMS6\MS60146\ARC1824.D
Operator : YM
Acquired : 3 Sep 2013 23:52 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-018 (1.0-1.5)
Misc Info :
Vial Number: 26



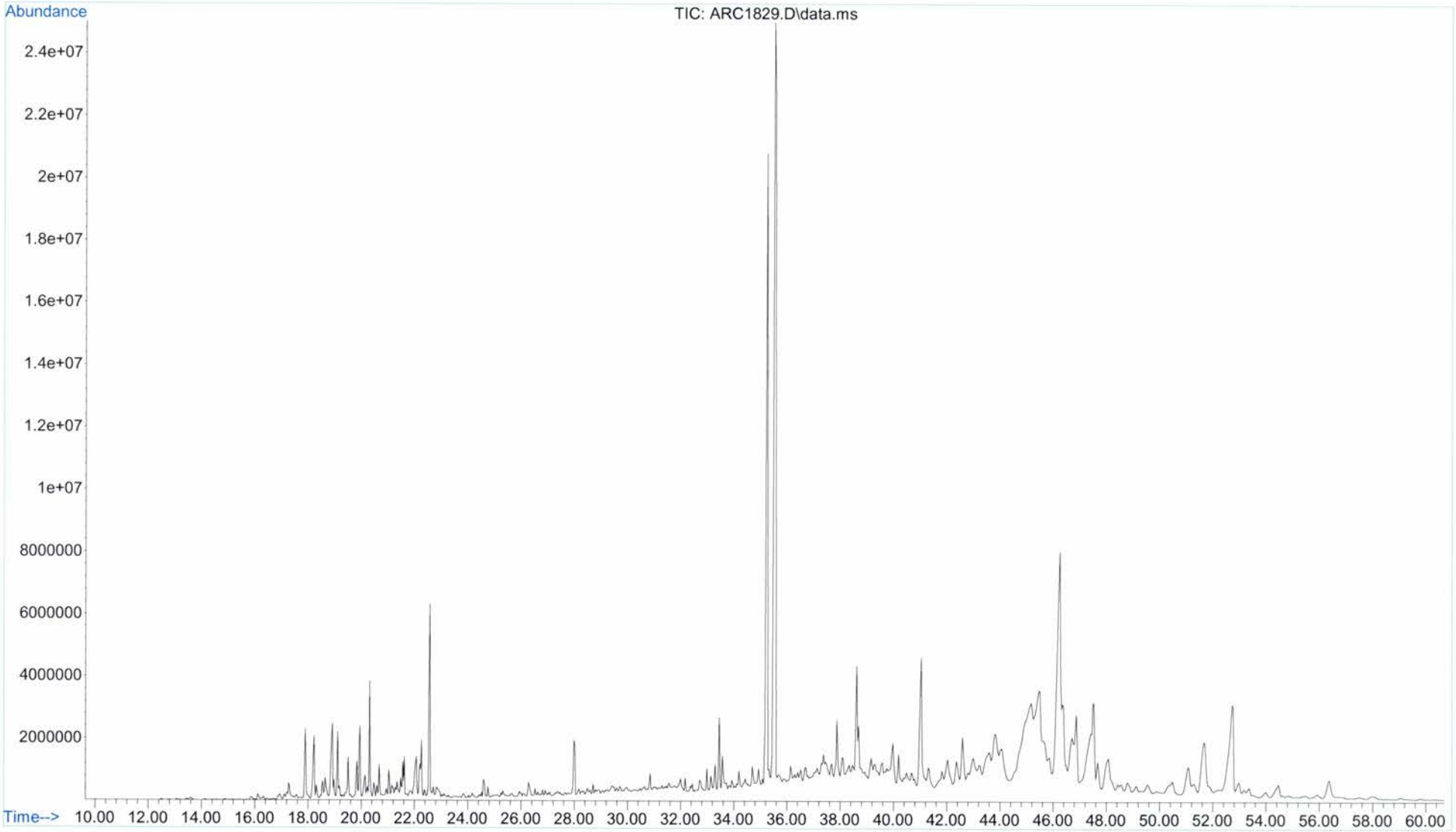
File :C:\GCMS6\MS60146\ARC1825.D
Operator : YM
Acquired : 4 Sep 2013 1:02 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-018 (1.5-2.0)
Misc Info :
Vial Number: 27



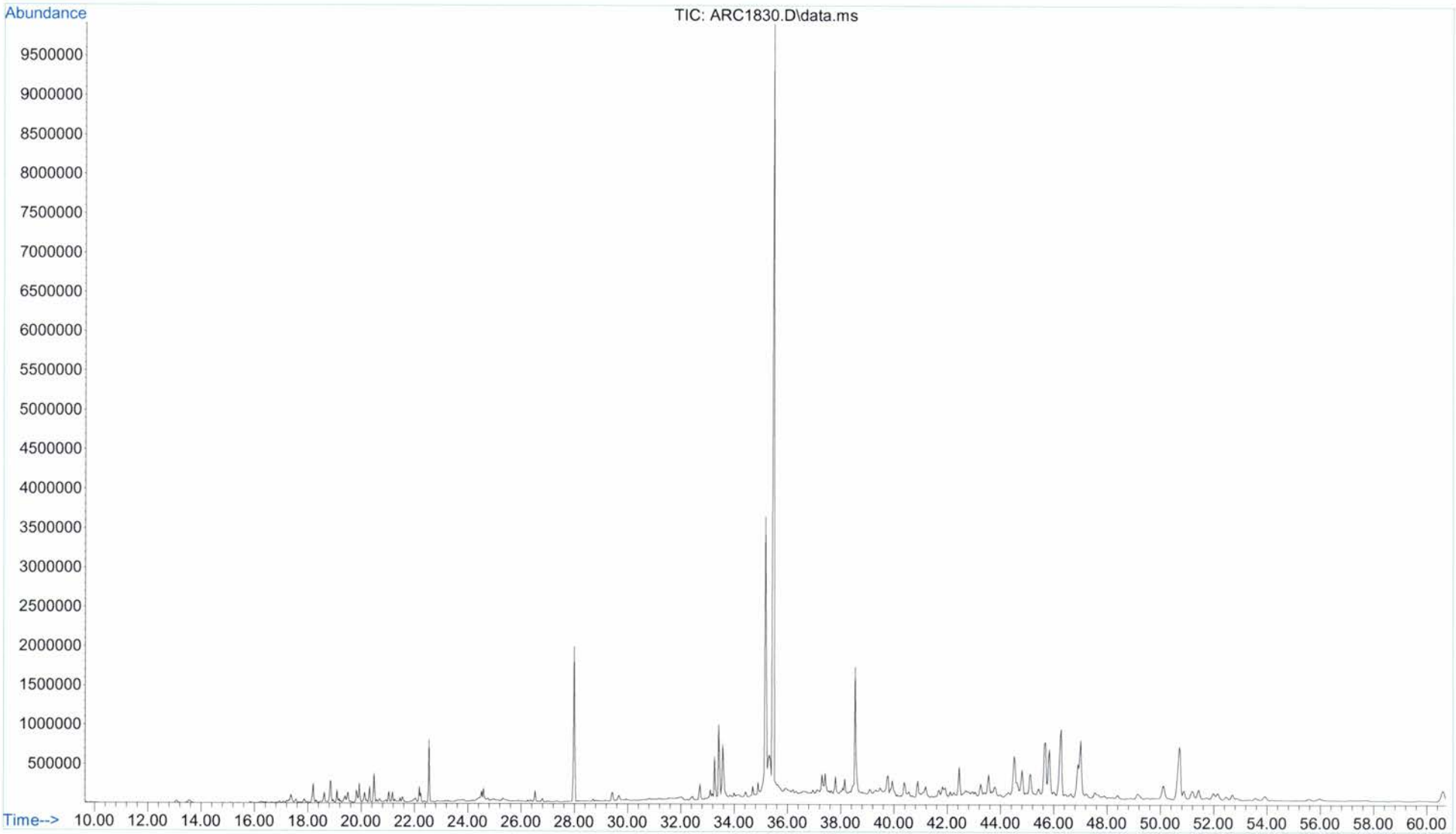
File :C:\GCMS6\MS60146\ARC1826.D
Operator : YM
Acquired : 4 Sep 2013 3:21 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-019 (0-0.5)
Misc Info :
Vial Number: 29



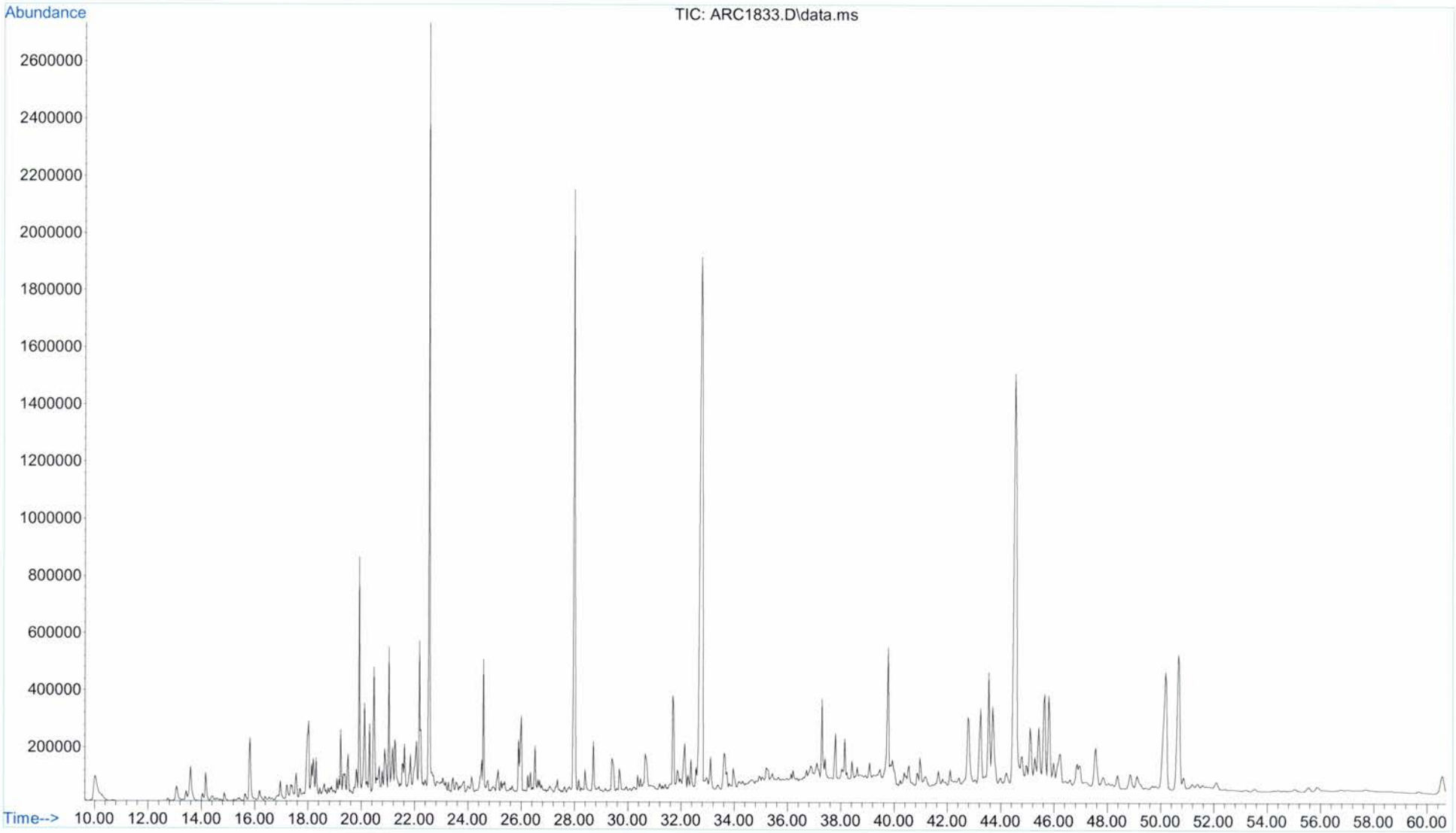
File :C:\GCMS6\MS60146\ARC1829.D
Operator : YM
Acquired : 4 Sep 2013 4:31 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-019 (0.5-1.0)
Misc Info :
Vial Number: 30



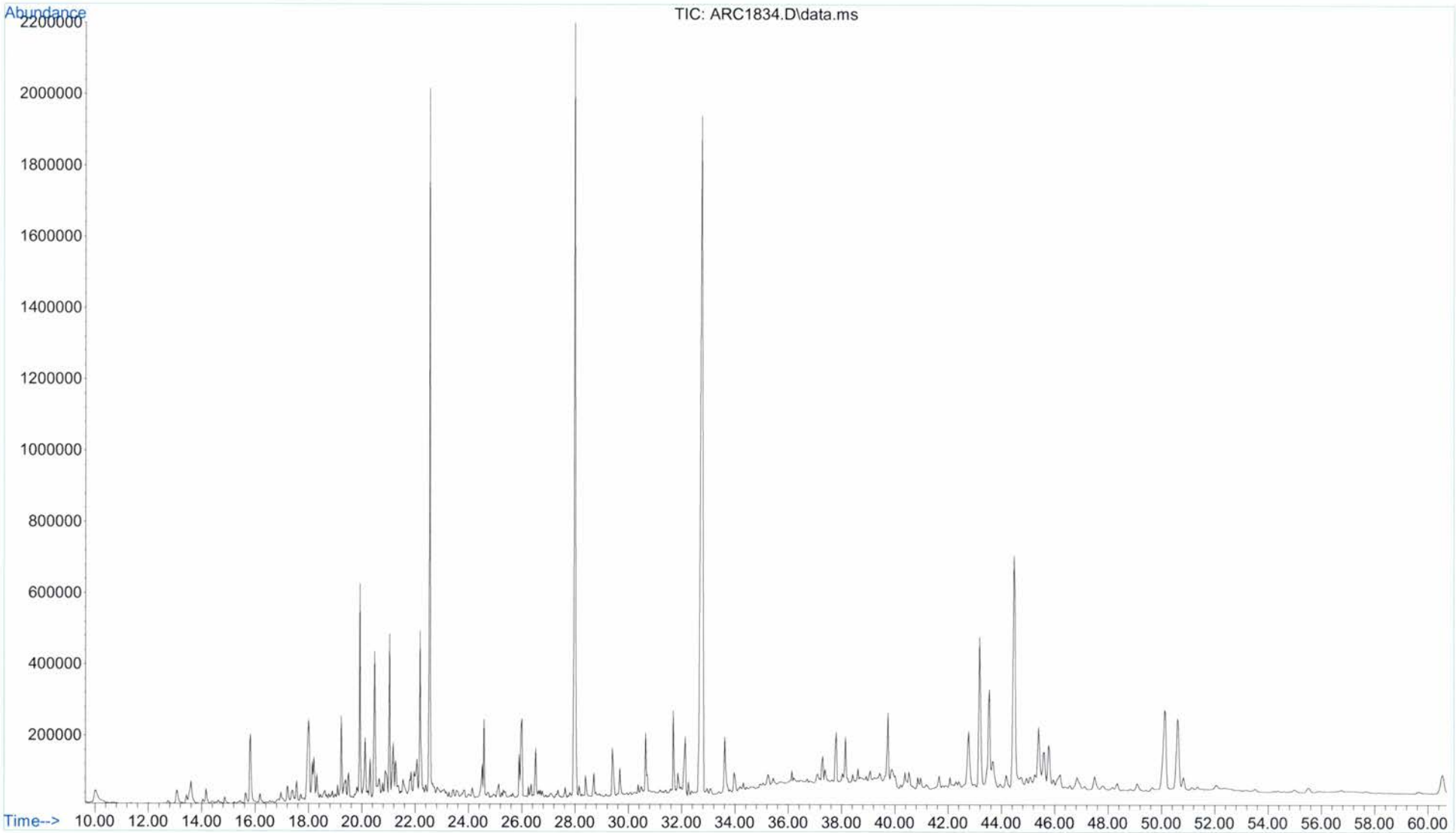
File :C:\GCMS6\MS60146\ARC1830.D
Operator : YM
Acquired : 4 Sep 2013 5:40 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-019 (1.0-1.5)
Misc Info :
Vial Number: 31



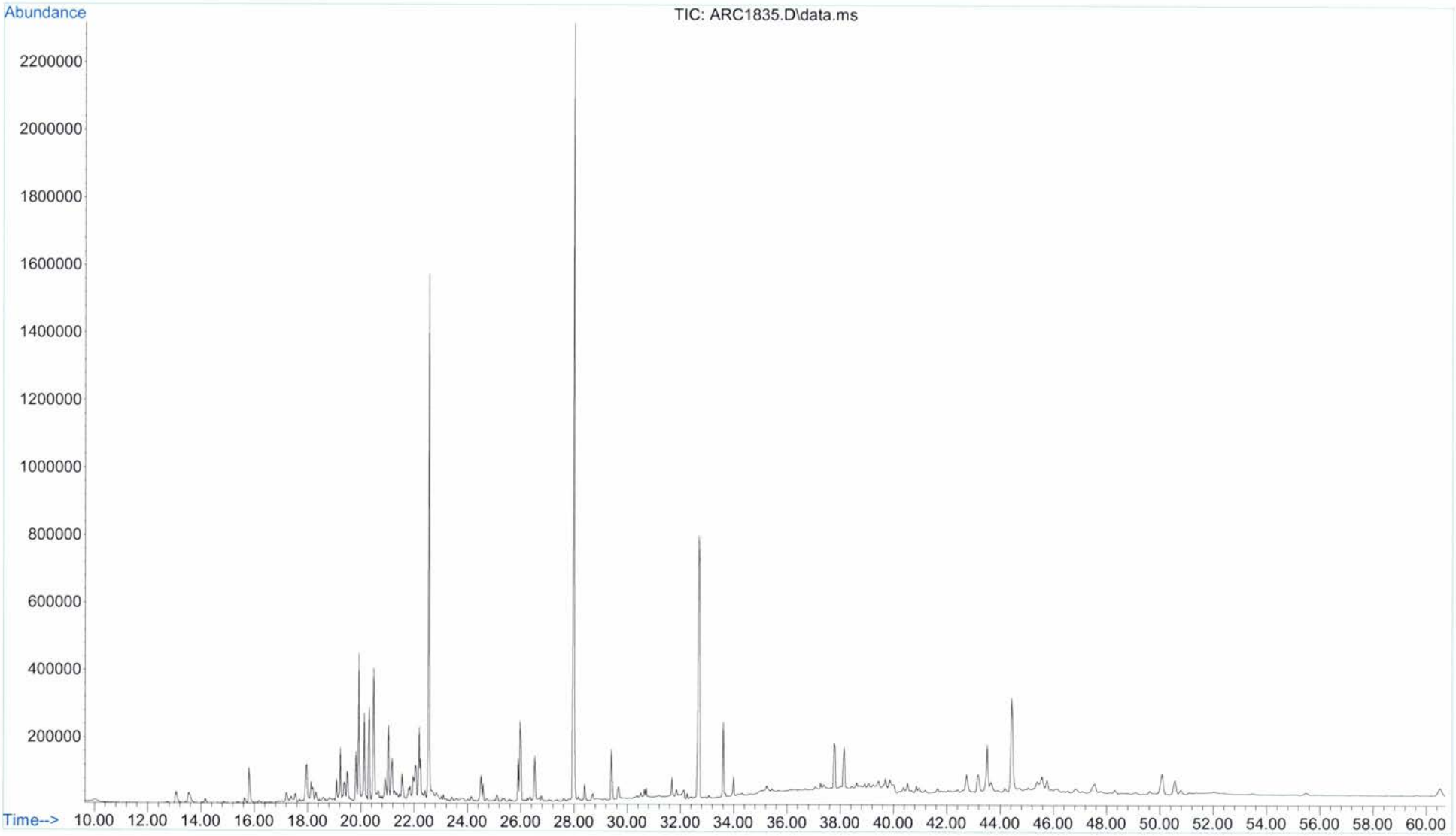
File :C:\GCMS6\MS60146\ARC1833.D
Operator : YM
Acquired : 4 Sep 2013 6:50 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SO-DA-001 (0-0.5)
Misc Info :
Vial Number: 32



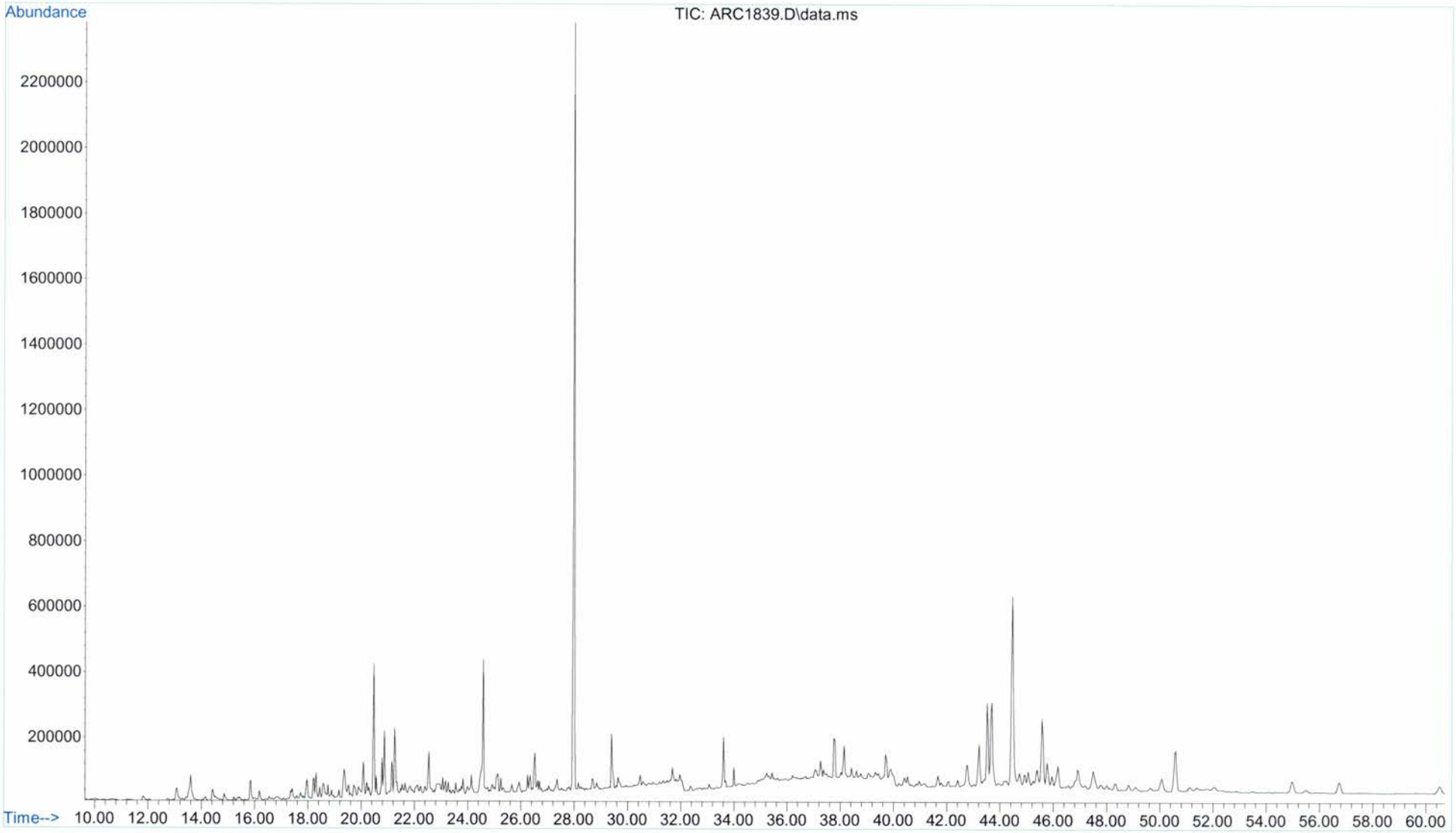
File :C:\GCMS6\MS60146\ARC1834.D
Operator : YM
Acquired : 4 Sep 2013 8:00 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SO-DA-001 (0.5-1.0)
Misc Info :
Vial Number: 33



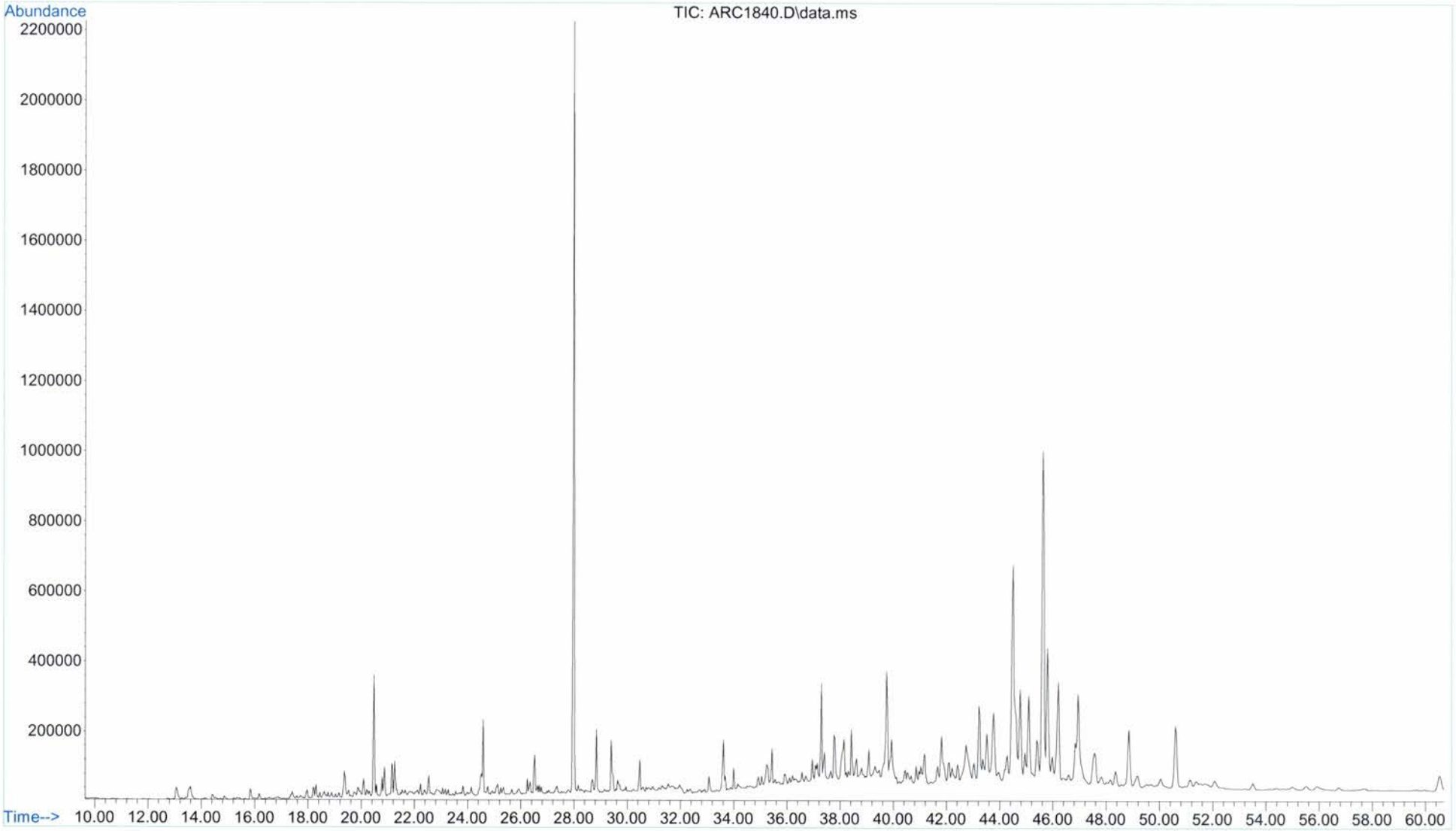
File :C:\GCMS6\MS60146\ARC1835.D
Operator : YM
Acquired : 4 Sep 2013 9:10 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SO-DA-001 (1.0-1.5)
Misc Info :
Vial Number: 34



File :C:\GCMS6\MS60146\ARC1839.D
Operator : YM
Acquired : 4 Sep 2013 10:20 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SO-DA-002 (0.5-1.0)
Misc Info :
Vial Number: 35



File :C:\GCMS6\MS60146\ARC1840.D
Operator : YM
Acquired : 4 Sep 2013 11:30 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SO-DA-002 (1.0-1.5)
Misc Info :
Vial Number: 36



Total Petroleum Hydrocarbons/ Aliphatic Hydrocarbons Raw Data

B&B LABORATORIES ALIPHATICS/TEH QA FORM

Extraction Page: ENV 3093	Analyst: M. Dailey
Client: Arcadis Mayflower	Date: September 23, 2013
Job: #: J13034	Project Quality Manager: [signature]
SDG #: 13081301 and 13081401	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:	Sixteen 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:	Sixteen 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: FID30052 2013-08-28 16-20-48

Acquisition date: 8/28/2013 4:20:48 PM

Acquired by: Meghan Dailey

Data Directory C:\CHEM32\4\DATA\FID30052 2013-08-28 16-20-48

Line	Location	Sample Name	Datafile	Method	Injection Date
4	Vial 1	Solvent Blank	FID30052A.D	ALI2012.M	08/28/2013 19:55:04
5	Vial 2	AL-WKCC-25-024	FID30052B.D	ALI2012.M	08/28/2013 21:05:37
6	Vial 3	AL-SRM2779-20-01	FID30052C.D	ALI2012.M	08/28/2013 22:15:39
7	Vial 1	Solvent Blank	FID30052D.D	ALI2012.M	08/28/2013 23:26:04
8	Vial 4	AL-RetWin-001	FID30052E.D	ALI2012.M	08/29/2013 00:36:32
9	Vial 5	AL-WKPem-001	FID30052F.D	ALI2012.M	08/29/2013 01:47:02
10	Vial 6		ENV3093A.D	ALI2012.M	08/29/2013 02:57:26
11	Vial 7		ENV3093C.D	ALI2012.M	08/29/2013 04:08:04
12	Vial 8		ENV3093D.D	ALI2012.M	08/29/2013 05:18:38
13	Vial 9		ENV3093E.D	ALI2012.M	08/29/2013 06:29:14
14	Vial 10	AL-WKCC-25-024	FID30052G.D	ALI2012.M	08/29/2013 07:39:52
15	Vial 11		ARC1816.D	ALI2012.M	08/29/2013 08:50:31
16	Vial 12		ARC1818.D	ALI2012.M	08/29/2013 10:01:08
17	Vial 13		ARC1821.D	ALI2012.M	08/29/2013 11:11:36
18	Vial 14		ARC1822.D	ALI2012.M	08/29/2013 12:22:09
19	Vial 15		ARC1826.D	ALI2012.M	08/29/2013 13:32:47
20	Vial 16	AL-WKCC-25-024	FID30052H.D	ALI2012.M	08/29/2013 14:43:29

Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : FID30052B.D
Signal(s) : FID1A.CH
Acq On : 28-Aug-2013, 21:05:37
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 30 14:49:57 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	101	0.00
2		n-C8	1.016	1.031	-1.5	102	0.00
3		n-C9	1.082	1.082	0.0	101	0.00
4		n-C10	1.138	1.143	-0.4	101	0.00
5		n-C11	1.134	1.144	-0.9	101	0.00
6	S	n-dodecane-d26	1.052	1.055	-0.3	101	0.00
7		n-C12	1.167	1.185	-1.5	101	0.00
10		n-C13	1.158	1.174	-1.4	101	0.00
12		n-C14	1.185	1.206	-1.8	101	0.00
14		n-C15	1.193	1.212	-1.6	101	0.00
15		n-C16	1.197	1.216	-1.6	101	0.00
16	I	5a-androstane	1.000	1.000	0.0	102	0.00
18		n-C17	0.986	1.004	-1.8	101	0.00
19		Pristane	0.979	1.000	-2.1	101	0.00
20		n-C18	0.969	0.986	-1.8	101	0.01
21		Phytane	0.988	1.004	-1.6	101	0.00
22		n-C19	0.967	0.982	-1.6	101	0.00
23	S	n-eicosane-d42	0.776	0.781	-0.6	101	0.00
24		n-C20	0.972	0.985	-1.3	101	0.00
25		n-C21	0.984	0.993	-0.9	101	0.00
26		n-C22	0.986	0.992	-0.6	101	0.00
27		n-C23	0.991	0.996	-0.5	101	0.00
28		n-C24	0.990	0.996	-0.6	101	0.00
29		n-C25	0.992	0.996	-0.4	101	0.00
30		n-C26	0.992	0.997	-0.5	101	0.00
31		n-C27	0.966	0.971	-0.5	101	0.00
32		n-C28	0.979	0.984	-0.5	101	0.00
33		n-C29	0.987	0.992	-0.5	101	0.00
34	S	n-triacontane-d62	0.764	0.760	0.5	101	0.00
35		n-C30	0.979	0.984	-0.5	101	0.00
36		n-C31	0.963	0.974	-1.1	101	0.00
37		n-C32	0.960	0.968	-0.8	101	0.01
38		n-C33	0.939	0.946	-0.7	101	0.01
39		n-C34	0.957	0.962	-0.5	101	0.01
40		n-C35	0.945	0.939	0.6	99	0.01
41		n-C36	1.019	1.018	0.1	99	0.02
42		n-C37	0.930	0.901	3.1	96	0.02
43		n-C38	0.923	0.892	3.4	95	0.02

44	n-C39	0.889	0.833	6.3	92	0.02
45	n-C40	0.827	0.777	6.0	91	0.02

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 Fri Aug 30 14:50:07 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : FID30052B.D
Signal(s) : FID1A.CH
Acq On : 28-Aug-2013, 21:05:37
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 30 14:49:57 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	12.532	314385	50.000	ug/mlm
16) I	5a-androstane	17.584	388052	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.281	165887	25.085	ug/mlm
23) S	n-eicosane-d42	17.045	152245	25.325	ug/mlm
34) S	n-triacontane-d62	28.866	147449	24.891	ug/mlm
Target Compounds					
2)	n-C8	3.211	162128	25.371	ug/mlm
3)	n-C9	4.489	170148	25.011	ug/mlm
4)	n-C10	5.884	179749	25.121	ug/mlm
5)	n-C11	7.230	180022	25.258	ug/mlm
7)	n-C12	8.486	183075	24.941	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	184863	25.393	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.747	188492	25.300	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.774	189643	25.280	ug/mlm
15)	n-C16	12.774	189286	25.157	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.837	192180	25.140	ug/mlm
19)	Pristane	13.949	191979	25.309	ug/mlm
20)	n-C18	14.975	191134	25.439	ug/mlm
21)	Phytane	15.132	194145	25.367	ug/mlm
22)	n-C19	16.182	190031	25.347	ug/mlm
24)	n-C20	17.435	191226	25.383	ug/mlm
25)	n-C21	18.714	190663	25.008	ug/mlm
26)	n-C22	20.000	192440	25.178	ug/mlm
27)	n-C23	21.279	190988	24.871	ug/mlm
28)	n-C24	22.533	190741	24.858	ug/mlm
29)	n-C25	23.759	192291	25.019	ug/mlm
30)	n-C26	24.956	193491	25.176	ug/mlm
31)	n-C27	26.117	188125	25.117	ug/mlm
32)	n-C28	27.245	190667	25.125	ug/mlm
33)	n-C29	28.338	192426	25.159	ug/mlm
35)	n-C30	29.398	189794	25.028	ug/mlm
36)	n-C31	30.426	188862	25.303	ug/mlm
37)	n-C32	31.425	185157	24.896	ug/mlm
38)	n-C33	32.392	183317	25.181	ug/mlm
39)	n-C34	33.333	186087	25.086	ug/mlm
40)	n-C35	34.266	182007	24.863	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : FID30052B.D
Signal(s) : FID1A.CH
Acq On : 28-Aug-2013, 21:05:37
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 30 14:49:57 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	35.312	193338	24.492	ug/mlm
42)	n-C37	36.504	174718	24.251	ug/mlm
43)	n-C38	37.891	173168	24.221	ug/mlm
44)	n-C39	39.510	161361	23.427	ug/mlm
45)	n-C40	41.423	150252	23.450	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

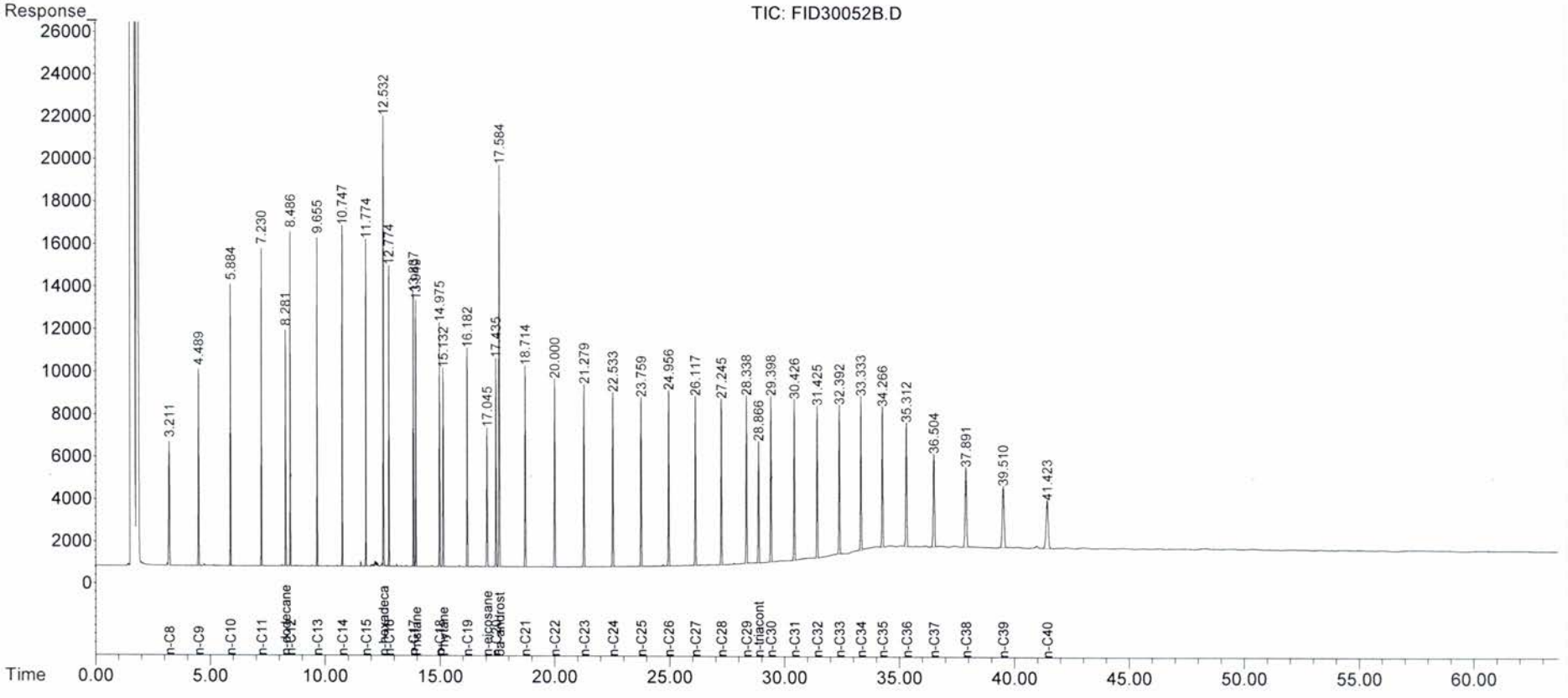
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : FID30052B.D
Signal(s) : FID1A.CH
Acq On : 28-Aug-2013, 21:05:37
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 30 14:49:57 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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 3093\FID30052\
Data File : FID30052G.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 07:39:52
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 30 14:56:03 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	104	0.00
2		n-C8	1.016	1.002	1.4	101	0.01
3		n-C9	1.082	1.069	1.2	103	0.00
4		n-C10	1.138	1.142	-0.4	104	0.00
5		n-C11	1.134	1.146	-1.1	104	0.00
6	S	n-dodecane-d26	1.052	1.056	-0.4	103	0.00
7		n-C12	1.167	1.190	-2.0	104	0.00
10		n-C13	1.158	1.176	-1.6	104	0.00
12		n-C14	1.185	1.206	-1.8	104	0.00
14		n-C15	1.193	1.211	-1.5	104	0.00
15		n-C16	1.197	1.216	-1.6	104	0.00
16	I	5a-androstane	1.000	1.000	0.0	104	0.00
18		n-C17	0.986	1.007	-2.1	104	0.00
19		Pristane	0.979	1.000	-2.1	104	0.00
20		n-C18	0.969	0.988	-2.0	104	0.01
21		Phytane	0.988	1.005	-1.7	104	0.01
22		n-C19	0.967	0.985	-1.9	104	0.00
23	S	n-eicosane-d42	0.776	0.779	-0.4	103	0.00
24		n-C20	0.972	0.984	-1.2	103	0.01
25		n-C21	0.984	0.992	-0.8	103	0.01
26		n-C22	0.986	0.987	-0.1	103	0.01
27		n-C23	0.991	0.991	0.0	102	0.02
28		n-C24	0.990	0.988	0.2	102	0.02
29		n-C25	0.992	0.988	0.4	102	0.02
30		n-C26	0.992	0.988	0.4	102	0.02
31		n-C27	0.966	0.961	0.5	102	0.02
32		n-C28	0.979	0.981	-0.2	103	0.02
33		n-C29	0.987	0.974	1.3	102	0.02
34	S	n-triacontane-d62	0.764	0.754	1.3	102	0.01
35		n-C30	0.979	0.970	0.9	102	0.02
36		n-C31	0.963	0.969	-0.6	103	0.02
37		n-C32	0.960	0.959	0.1	102	0.02
38		n-C33	0.939	0.941	-0.2	102	0.02
39		n-C34	0.957	0.958	-0.1	103	0.02
40		n-C35	0.945	0.943	0.2	102	0.02
41		n-C36	1.019	1.009	1.0	100	0.02
42		n-C37	0.930	0.901	3.1	98	0.03
43		n-C38	0.923	0.883	4.3	96	0.04

44	n-C39	0.889	0.826	7.1	93	0.04
45	n-C40	0.827	0.810	2.1	97	0.05

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 Fri Aug 30 14:56:10 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : FID30052G.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 07:39:52
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 30 14:56:03 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	12.535	323132	50.000	ug/mlm
16) I	5a-androstane	17.589	397289	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.284	170587	25.098	ug/mlm
23) S	n-eicosane-d42	17.049	155589	25.280	ug/mlm
34) S	n-triacontane-d62	28.873	149755	24.692	ug/mlm
Target Compounds					
2)	n-C8	3.212	162027	24.669	ug/mlm
3)	n-C9	4.492	172722	24.702	ug/mlm
4)	n-C10	5.886	184567	25.096	ug/mlm
5)	n-C11	7.232	185419	25.311	ug/mlm
7)	n-C12	8.489	188929	25.042	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	9.657	190341	25.438	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.750	193723	25.298	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.777	194723	25.255	ug/mlm
15)	n-C16	12.777	194542	25.156	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.840	197309	25.211	ug/mlm
19)	Pristane	13.952	196621	25.318	ug/mlm
20)	n-C18	14.979	196103	25.494	ug/mlm
21)	Phytane	15.135	198894	25.383	ug/mlm
22)	n-C19	16.186	195208	25.432	ug/mlm
24)	n-C20	17.439	195400	25.334	ug/mlm
25)	n-C21	18.720	195071	24.991	ug/mlm
26)	n-C22	20.008	196079	25.058	ug/mlm
27)	n-C23	21.285	194671	24.762	ug/mlm
28)	n-C24	22.539	193769	24.665	ug/mlm
29)	n-C25	23.769	195240	24.812	ug/mlm
30)	n-C26	24.964	196295	24.947	ug/mlm
31)	n-C27	26.126	190628	24.859	ug/mlm
32)	n-C28	27.252	194580	25.045	ug/mlm
33)	n-C29	28.348	193444	24.704	ug/mlm
35)	n-C30	29.407	191680	24.689	ug/mlm
36)	n-C31	30.437	192339	25.170	ug/mlm
37)	n-C32	31.431	187798	24.664	ug/mlm
38)	n-C33	32.401	186705	25.050	ug/mlm
39)	n-C34	33.339	189611	24.966	ug/mlm
40)	n-C35	34.274	187136	24.970	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : FID30052G.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 07:39:52
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 30 14:56:03 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	35.318	196105	24.265	ug/mlm
42)	n-C37	36.517	178914	24.256	ug/mlm
43)	n-C38	37.909	175345	23.955	ug/mlm
44)	n-C39	39.529	163857	23.236	ug/mlm
45)	n-C40	41.451	160349	24.444	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

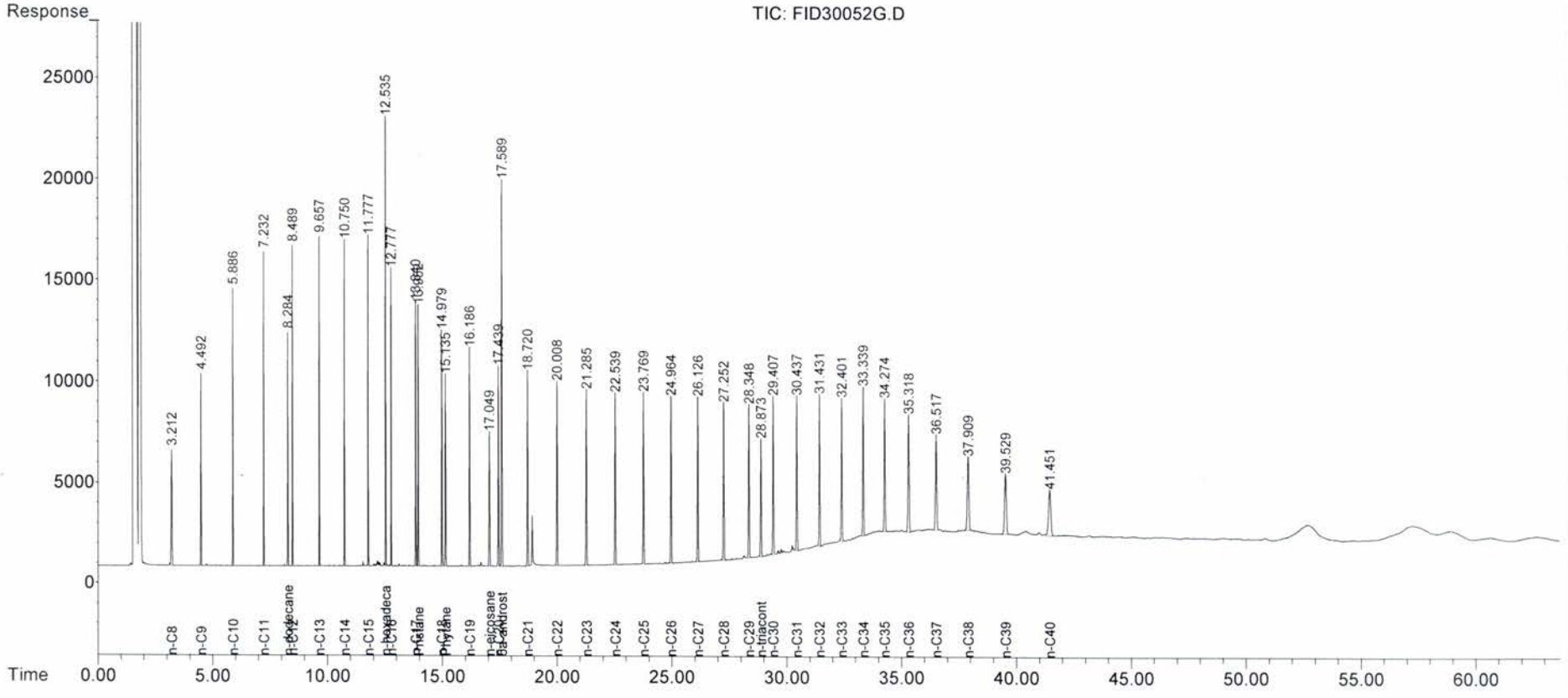
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : FID30052G.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 07:39:52
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 30 14:56:03 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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 3093\FID30052\
Data File : FID30052H.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 14:43:29
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 16 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 30 15:05:15 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	100	0.00
2		n-C8	1.016	1.024	-0.8	99	0.00
3		n-C9	1.082	1.084	-0.2	100	0.00
4		n-C10	1.138	1.146	-0.7	100	0.00
5		n-C11	1.134	1.146	-1.1	100	0.00
6	S	n-dodecane-d26	1.052	1.057	-0.5	99	0.00
7		n-C12	1.167	1.190	-2.0	100	0.00
10		n-C13	1.158	1.177	-1.6	100	0.00
12		n-C14	1.185	1.207	-1.9	100	0.00
14		n-C15	1.193	1.212	-1.6	100	0.00
15		n-C16	1.197	1.220	-1.9	100	0.00
16	I	5a-androstane	1.000	1.000	0.0	100	0.01
18		n-C17	0.986	1.005	-1.9	100	0.01
19		Pristane	0.979	0.999	-2.0	100	0.01
20		n-C18	0.969	0.987	-1.9	100	0.02
21		Phytane	0.988	1.004	-1.6	100	0.02
22		n-C19	0.967	0.985	-1.9	100	0.01
23	S	n-eicosane-d42	0.776	0.776	0.0	99	0.01
24		n-C20	0.972	0.986	-1.4	99	0.02
25		n-C21	0.984	0.995	-1.1	99	0.02
26		n-C22	0.986	0.992	-0.6	99	0.02
27		n-C23	0.991	0.996	-0.5	99	0.02
28		n-C24	0.990	0.992	-0.2	99	0.02
29		n-C25	0.992	0.992	0.0	99	0.02
30		n-C26	0.992	0.992	0.0	99	0.02
31		n-C27	0.966	0.966	0.0	99	0.03
32		n-C28	0.979	0.984	-0.5	99	0.02
33		n-C29	0.987	0.984	0.3	99	0.02
34	S	n-triacontane-d62	0.764	0.752	1.6	98	0.02
35		n-C30	0.979	0.968	1.1	98	0.03
36		n-C31	0.963	0.993	-3.1	102	0.03
37		n-C32	0.960	0.964	-0.4	99	0.03
38		n-C33	0.939	0.921	1.9	97	0.03
39		n-C34	0.957	0.964	-0.7	100	0.03
40		n-C35	0.945	0.941	0.4	98	0.03
41		n-C36	1.019	1.014	0.5	97	0.04
42		n-C37	0.930	0.906	2.6	95	0.04
43		n-C38	0.923	0.889	3.7	93	0.06

44	n-C39	0.889	0.837	5.8	91	0.06
45	n-C40	0.827	0.789	4.6	91	0.07

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 Fri Aug 30 15:05:22 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : FID30052H.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 14:43:29
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 16 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 30 15:05:15 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	12.537	309705	50.000	ug/mlm
16) I	5a-androstane	17.595	382610	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.283	163664	25.123	ug/mlm
23) S	n-eicosane-d42	17.054	149279	25.185	ug/mlm
34) S	n-triacontane-d62	28.880	143906	24.638	ug/mlm
Target Compounds					
2)	n-C8	3.206	158719	25.213	ug/mlm
3)	n-C9	4.488	167814	25.040	ug/mlm
4)	n-C10	5.884	177516	25.184	ug/mlm
5)	n-C11	7.231	177674	25.305	ug/mlm
7)	n-C12	8.489	181181	25.056	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	9.658	182562	25.456	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.751	185805	25.316	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.778	186803	25.278	ug/mlm
15)	n-C16	12.779	186973	25.225	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.843	189688	25.167	ug/mlm
19)	Pristane	13.955	189080	25.281	ug/mlm
20)	n-C18	14.983	188762	25.481	ug/mlm
21)	Phytane	15.139	191384	25.361	ug/mlm
22)	n-C19	16.190	188040	25.438	ug/mlm
24)	n-C20	17.445	188651	25.397	ug/mlm
25)	n-C21	18.726	188461	25.071	ug/mlm
26)	n-C22	20.013	189744	25.178	ug/mlm
27)	n-C23	21.290	188412	24.885	ug/mlm
28)	n-C24	22.546	187273	24.753	ug/mlm
29)	n-C25	23.773	188783	24.912	ug/mlm
30)	n-C26	24.971	189720	25.037	ug/mlm
31)	n-C27	26.134	184545	24.989	ug/mlm
32)	n-C28	27.261	188014	25.128	ug/mlm
33)	n-C29	28.354	188187	24.955	ug/mlm
35)	n-C30	29.416	184254	24.643	ug/mlm
36)	n-C31	30.444	189690	25.776	ug/mlm
37)	n-C32	31.440	181766	24.787	ug/mlm
38)	n-C33	32.408	176025	24.523	ug/mlm
39)	n-C34	33.348	183800	25.130	ug/mlm
40)	n-C35	34.287	179916	24.927	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : FID30052H.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 14:43:29
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 16 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 30 15:05:15 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	35.332	189810	24.387	ug/mlm
42)	n-C37	36.531	173126	24.372	ug/mlm
43)	n-C38	37.924	170181	24.142	ug/mlm
44)	n-C39	39.553	159947	23.552	ug/mlm
45)	n-C40	41.476	150372	23.802	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

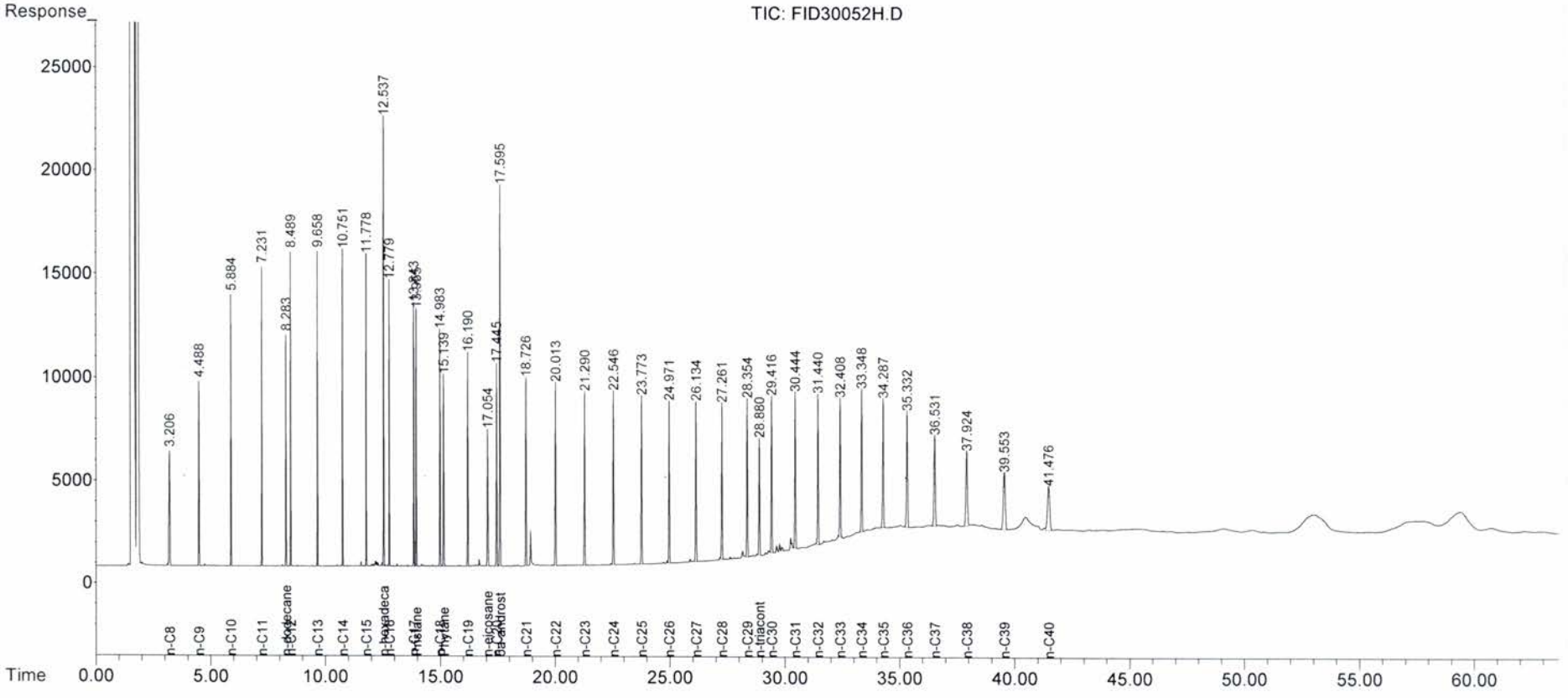
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : FID30052H.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 14:43:29
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 16 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 30 15:05:15 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	**FID30052C.D**		FID30052C.D
Sample Name	**AL-SRM2779-20-01**		AL-SRM2779-20-01
Misc Info	**0**		28-Aug-2013, 22:15:39
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3093\FID30052**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**28-Aug-2013, 22:15:39**		0.05
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	3
Vial Number	**3**	IS Area 1	315839
Sample Multiplier	**0.05**	IS Area 2	478141

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.21	2156010	16.79	16.792
3)	n-C9	4.50	1946850	14.24	14.243
4)	n-C10	5.90	1804710	12.55	12.553
5)	n-C11	7.25	1668720	11.65	11.653
7)	n-C12	8.50	1543090	10.46	10.463
8)	i-13	8.68	373921	2.56	2.556
9)	i-14	9.38	264706	1.77	1.768
10)	n-C13	9.67	1312080	8.97	8.970
11)	i-15	10.53	302767	2.01	2.009
12)	n-C14	10.76	1099240	7.34	7.343
13)	i-16	11.43	468014	3.10	3.096
14)	n-C15	11.79	1176200	7.80	7.804
15)	n-C16	12.79	1019290	6.74	6.742
17)	i-18	13.32	252493	1.36	1.364
18)	n-C17	13.85	881162	4.68	4.677
19)	Pristane	13.96	482634	2.58	2.582
20)	n-C18	14.99	731135	3.95	3.949
21)	Phytane	15.14	301451	1.60	1.598
22)	n-C19	16.20	682183	3.69	3.692
24)	n-C20	17.45	567845	3.06	3.059
25)	n-C21	18.73	481560	2.56	2.563
26)	n-C22	20.02	422386	2.24	2.243
27)	n-C23	21.29	375498	1.98	1.984
28)	n-C24	22.55	335308	1.77	1.773
29)	n-C25	23.77	284195	1.50	1.501
30)	n-C26	24.97	234346	1.24	1.237
31)	n-C27	26.13	175209	0.95	0.949
32)	n-C28	27.26	154987	0.83	0.829
33)	n-C29	28.35	143701	0.76	0.762
35)	n-C30	29.41	135302	0.72	0.724
36)	n-C31	30.43	103675	0.56	0.564
37)	n-C32	31.43	88107.2	0.48	0.481
38)	n-C33	32.40	85729.6	0.48	0.478
39)	n-C34	33.34	74122.8	0.41	0.405
40)	n-C35	34.27	64742.9	0.36	0.359
41)	n-C36	35.32	39903.8	0.21	0.205
42)	n-C37	36.51	38690.2	0.22	0.218
43)	n-C38	37.90	28736.7	0.16	0.163
44)	n-C39	39.52	28797.6	0.17	0.170
45)	n-C40	41.44	26435.1	0.17	0.167
46)	TPH	7.25	119403000	657.73	657.730
47)	TRH1	7.25	21690900	119.48	119.485
48)	TRH2	11.79	14583300	80.33	80.332
49)	TRH3	21.29	2432470	13.40	13.399
50)	TRH4	26.13	1929420	10.63	10.628
51)	TRH5	32.40	1765980	9.73	9.728
52)	TRH6	39.52	187232	1.03	1.031
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	8.28	128353	0.97	96.6
23)	n-eicosane-d42	17.05	142724	0.96	96.5
34)	n-triacontane-d62	28.87	143621	0.98	98.4
1)	n-hexadecane-d34	12.54	315839	2.50	315839.000
16)	5a-androstane	17.60	478141	50.15	478141.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : FID30052C.D
Signal(s) : FID1A.CH
Acq On : 28-Aug-2013, 22:15:39
Operator : Meghan Dailey
Sample : AL-SRM2779-20-01
Misc :
ALS Vial : 3 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Aug 30 15:46:40 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	12.538	315839	50.000 ug/mlm
16) I	5a-androstane	17.598	478141	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.284	128353	0.966 ug/mlm
23) S	n-eicosane-d42	17.053	142724	0.963 ug/mlm
34) S	n-triacontane-d62	28.874	143621	0.984 ug/mlm
Target Compounds				
2)	n-C8	3.214	2156009	16.792 ug/mlm
3)	n-C9	4.501	1946850	14.243 ug/mlm
4)	n-C10	5.897	1804710	12.553 ug/mlm
5)	n-C11	7.245	1668722	11.652 ug/mlm
7)	n-C12	8.501	1543091	10.463 ug/mlm
8)	i-13	8.679	373921	2.556 ug/mlm
9)	i-14	9.379	264706	1.768 ug/mlm
10)	n-C13	9.670	1312079	8.970 ug/mlm
11)	i-15	10.531	302767	2.009 ug/mlm
12)	n-C14	10.762	1099242	7.343 ug/mlm
13)	i-16	11.425	468014	3.096 ug/mlm
14)	n-C15	11.789	1176200	7.804 ug/mlm
15)	n-C16	12.789	1019294	6.742 ug/mlm
17)	i-18	13.325	252493	1.364 ug/mlm
18)	n-C17	13.853	881162	4.677 ug/mlm
19)	Pristane	13.956	482634	2.582 ug/mlm
20)	n-C18	14.992	731135	3.949 ug/mlm
21)	Phytane	15.142	301451	1.598 ug/mlm
22)	n-C19	16.199	682183	3.692 ug/mlm
24)	n-C20	17.453	567845	3.059 ug/mlm
25)	n-C21	18.730	481560	2.563 ug/mlm
26)	n-C22	20.018	422386	2.243 ug/mlm
27)	n-C23	21.292	375498	1.984 ug/mlm
28)	n-C24	22.548	335308	1.773 ug/mlm
29)	n-C25	23.774	284195	1.501 ug/mlm
30)	n-C26	24.972	234346	1.237 ug/mlm
31)	n-C27	26.128	175209	0.949 ug/mlm
32)	n-C28	27.255	154987	0.829 ug/mlm
33)	n-C29	28.348	143701	0.762 ug/mlm
35)	n-C30	29.408	135302	0.724 ug/mlm
36)	n-C31	30.434	103675	0.564 ug/mlm
37)	n-C32	31.430	88107	0.481 ug/mlm
38)	n-C33	32.396	85730	0.478 ug/mlm
39)	n-C34	33.337	74123	0.405 ug/mlm
40)	n-C35	34.272	64743	0.359 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : FID30052C.D
Signal(s) : FID1A.CH
Acq On : 28-Aug-2013, 22:15:39
Operator : Meghan Dailey
Sample : AL-SRM2779-20-01
Misc :
ALS Vial : 3 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Aug 30 15:46:40 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	35.317	39904	0.205	ug/mlm
42)	n-C37	36.507	38690	0.218	ug/mlm
43)	n-C38	37.899	28737	0.163	ug/mlm
44)	n-C39	39.520	28798	0.170	ug/mlm
45)	n-C40	41.440	26435	0.167	ug/mlm
46)	TPH	7.245f	119402981	657.732	ug/mlm
47)	TRH1	7.245	21690873	119.484	ug/mlm
48)	TRH2	11.789f	14583256	80.332	ug/mlm
49)	TRH3	21.292f	2432474	13.399	ug/mlm
50)	TRH4	26.128f	1929422	10.628	ug/mlm
51)	TRH5	32.396	1765984	9.728	ug/mlm
52)	TRH6	39.520	187232	1.031	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

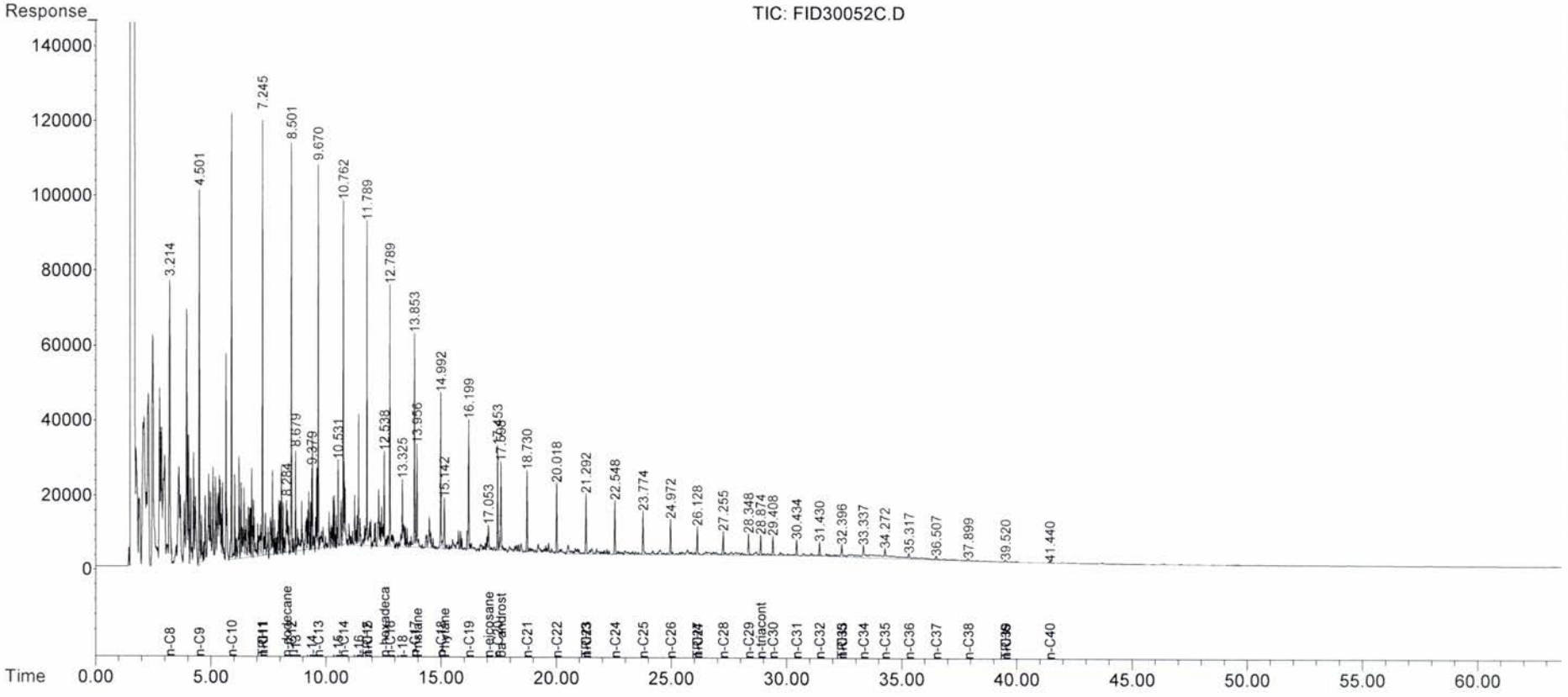
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : FID30052C.D
Signal(s) : FID1A.CH
Acq On : 28-Aug-2013, 22:15:39
Operator : Meghan Dailey
Sample : AL-SRM2779-20-01
Misc :
ALS Vial : 3 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Aug 30 15:46:40 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	**FID30052F.D**		FID30052F.D
Sample Name	**AL-WKPem-001**		AL-WKPem-001
Misc Info	**0**		29-Aug-2013, 01:47:02
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3093\FID30052**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**29-Aug-2013, 01:47:02**		1
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	5
Vial Number	**5**	IS Area 1	348279
Sample Multiplier	**1**	IS Area 2	435880

#	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	12.53	11449600	1383.70	1383.700
47)	TRH1	8.28	154657	18.69	18.691
48)	TRH2	12.53	984096	118.93	118.930
49)	TRH3	25.60	6616.56	0.80	0.800
50)	TRH4	28.86	166491	20.12	20.121
51)	TRH5	35.02	97006.8	11.72	11.724
52)	TRH6	37.61	91916.4	11.11	11.108
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	8.28	145060	19.80	99.0
23)	n-eicosane-d42	17.04	131392	19.46	97.5
34)	n-triacontane-d62	28.86	138542	20.82	104.2
1)	n-hexadecane-d34	12.53	348279	50.00	348279.000
16)	5a-androstane	17.58	435880	50.15	435880.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : FID30052F.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 01:47:02
Operator : Meghan Dailey
Sample : AL-WKPem-001
Misc :
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 05 09:21:10 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	12.531	348279	50.000	ug/mlm
16) I	5a-androstane	17.582	435880	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.280	145060	19.801	ug/mlm
23) S	n-eicosane-d42	17.043	131392	19.458	ug/mlm
34) S	n-triacontane-d62	28.860	138542	20.821	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/ml
3)	n-C9	0.000	0	N.D.	ug/mld
4)	n-C10	0.000	0	N.D.	ug/mld
5)	n-C11	0.000	0	N.D.	ug/mld
7)	n-C12	0.000	0	N.D.	ug/mld
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	0.000	0	N.D.	ug/mld
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	0.000	0	N.D.	ug/mld
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	0.000	0	N.D.	ug/mld
15)	n-C16	0.000	0	N.D.	ug/mld
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	0.000	0	N.D.	ug/mld
19)	Pristane	0.000	0	N.D.	ug/mld
20)	n-C18	0.000	0	N.D.	ug/mld
21)	Phytane	0.000	0	N.D.	ug/mld
22)	n-C19	0.000	0	N.D.	ug/mld
24)	n-C20	0.000	0	N.D.	ug/mld
25)	n-C21	0.000	0	N.D.	ug/mld
26)	n-C22	0.000	0	N.D.	ug/mld
27)	n-C23	0.000	0	N.D.	ug/mld
28)	n-C24	0.000	0	N.D.	ug/mld
29)	n-C25	0.000	0	N.D.	ug/mld
30)	n-C26	0.000	0	N.D.	ug/mld
31)	n-C27	0.000	0	N.D.	ug/mld
32)	n-C28	0.000	0	N.D.	ug/mld
33)	n-C29	0.000	0	N.D.	ug/mld
35)	n-C30	0.000	0	N.D.	ug/mld
36)	n-C31	0.000	0	N.D.	ug/mld
37)	n-C32	0.000	0	N.D.	ug/mld
38)	n-C33	0.000	0	N.D.	ug/mld
39)	n-C34	0.000	0	N.D.	ug/mld
40)	n-C35	0.000	0	N.D.	ug/mld

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : FID30052F.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 01:47:02
Operator : Meghan Dailey
Sample : AL-WKPem-001
Misc :
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 05 09:21:10 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	12.531f	11449571	1383.701	ug/mlm
47)	TRH1	8.280	154657	18.691	ug/mlm
48)	TRH2	12.531f	984096	118.930	ug/mlm
49)	TRH3	25.597f	6617	0.800	ug/mlm
50)	TRH4	28.860f	166491	20.121	ug/mlm
51)	TRH5	35.022f	97007	11.723	ug/mlm
52)	TRH6	37.607f	91916	11.108	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

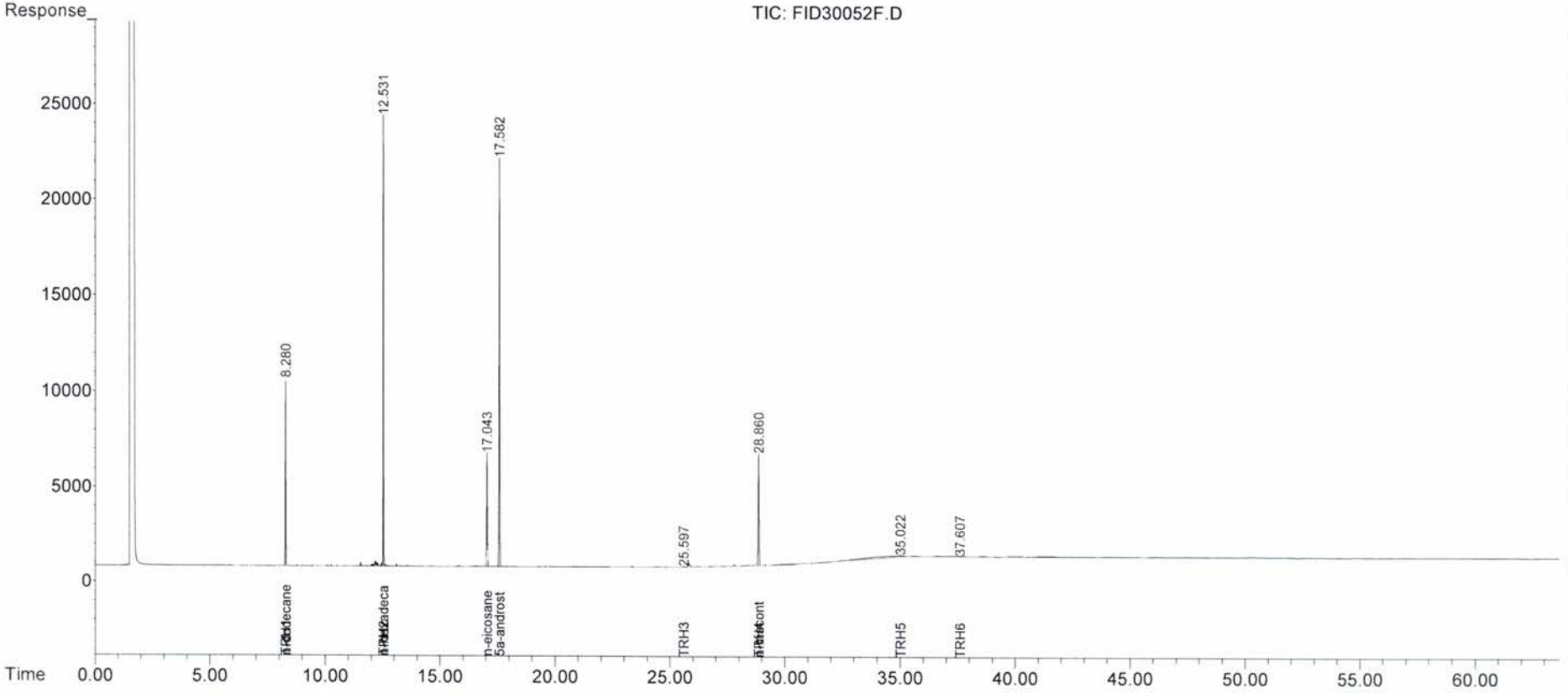
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : FID30052F.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 01:47:02
Operator : Meghan Dailey
Sample : AL-WKPem-001
Misc :
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 05 09:21:10 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	**ENV3093A.D**		ENV3093A.D
Sample Name	**Procedural Blank**		Procedural Blank
Misc Info	**0**		29-Aug-2013, 02:57:26
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3093\FID30052**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**29-Aug-2013, 02:57:26**		0.0666667
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	6
Vial Number	**6**	IS Area 1	285296
Sample Multiplier	**0.0666667**	IS Area 2	352000

#	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	12.53	9198610	91.77	91.771
47)	TRH1	8.28	133225	1.33	1.329
48)	TRH2	12.53	809944	8.08	8.081
49)	TRH3	23.88	9247.08	0.09	0.092
50)	TRH4	28.86	119334	1.19	1.191
51)	TRH5	35.02	84274.9	0.84	0.841
52)	TRH6	37.22	34711.6	0.35	0.346
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	8.28	113592	1.26	94.6
23)	n-eicosane-d42	17.04	104245	1.27	95.8
34)	n-triacontane-d62	28.86	106635	1.32	99.3
1)	n-hexadecane-d34	12.53	285296	3.33	285296.000
16)	5a-androstane	17.58	352000	50.15	352000.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ENV3093A.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 02:57:26
Operator : Meghan Dailey
Sample : Procedural Blank
Misc :
ALS Vial : 6 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Sep 05 09:20:32 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	12.530	285296	50.000	ug/mlm
16) I	5a-androstane	17.577	352000	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.279	113592	1.262	ug/mlm
23) S	n-eicosane-d42	17.041	104245	1.274	ug/mlm
34) S	n-triacontane-d62	28.859	106635	1.323	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 3093\FID30052\
Data File : ENV3093A.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 02:57:26
Operator : Meghan Dailey
Sample : Procedural Blank
Misc :
ALS Vial : 6 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Sep 05 09:20:32 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	12.530f	9198613	91.772	ug/mlm
47)	TRH1	8.279	133225	1.329	ug/mlm
48)	TRH2	12.530f	809944	8.081	ug/mlm
49)	TRH3	23.881f	9247	0.092	ug/mlm
50)	TRH4	28.859f	119334	1.191	ug/mlm
51)	TRH5	35.023f	84275	0.841	ug/mlm
52)	TRH6	37.223f	34712	0.346	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

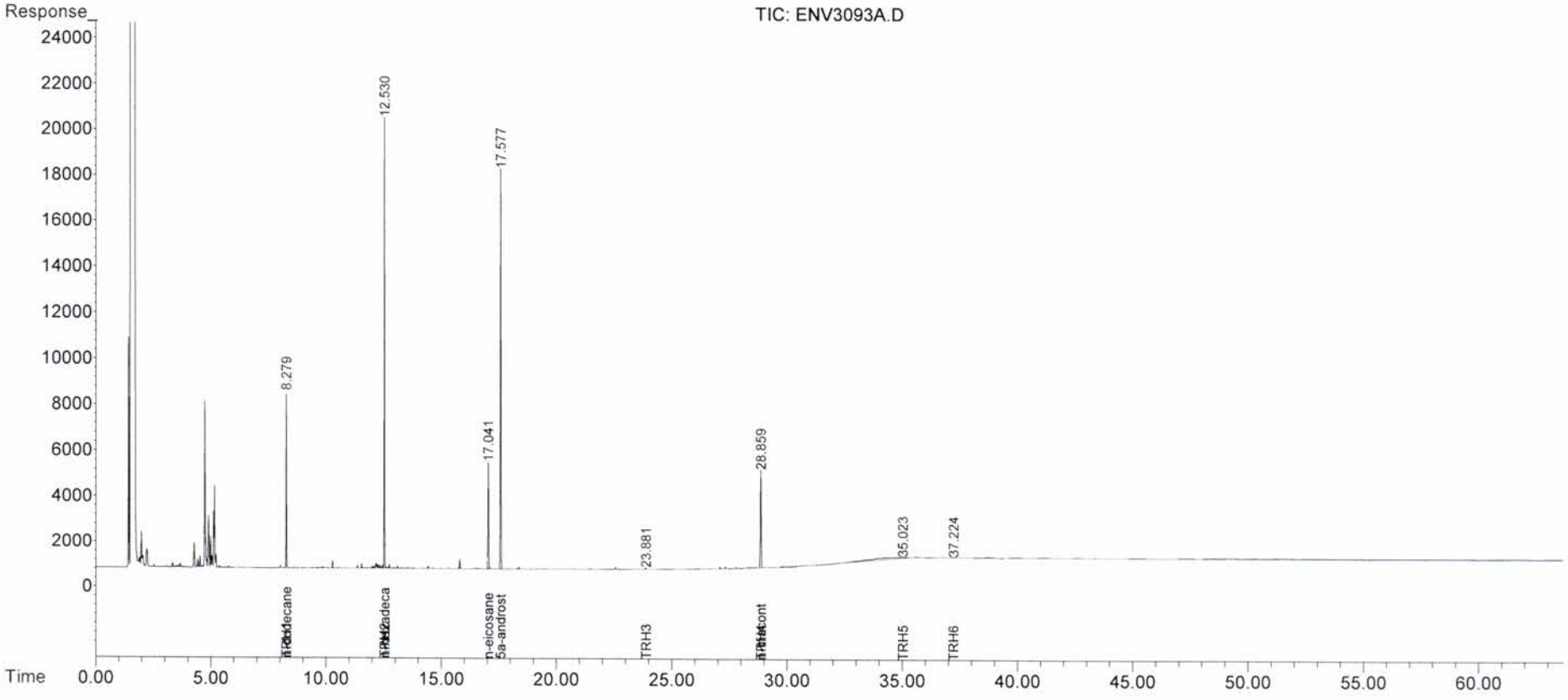
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ENV3093A.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 02:57:26
Operator : Meghan Dailey
Sample : Procedural Blank
Misc :
ALS Vial : 6 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Sep 05 09:20:32 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	**ENV3093C.D**		ENV3093C.D
Sample Name	**MS (SED-DA-019 (0-0.5))**		MS (SED-DA-019 (0-0.5))
Misc Info	**0**		29-Aug-2013, 04:08:04
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3093\FID30052**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**29-Aug-2013, 04:08:04**		0.0659196
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	7
Vial Number	**7**	IS Area 1	256394
Sample Multiplier	**0.0659196**	IS Area 2	353774

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.21	19497.4	0.25	0.247
3)	n-C9	4.49	47202.4	0.56	0.561
4)	n-C10	5.88	56187.8	0.63	0.635
5)	n-C11	7.23	69041.7	0.78	0.783
7)	n-C12	8.48	91706.7	1.01	1.010
8)	i-13	0.00	0	0.00	0.000
9)	i-14	0.00	0	0.00	0.000
10)	n-C13	9.65	79546.1	0.88	0.883
11)	i-15	10.52	20394.7	0.22	0.220
12)	n-C14	10.75	106481	1.16	1.155
13)	i-16	11.42	44553.9	0.48	0.479
14)	n-C15	11.77	167133	1.80	1.801
15)	n-C16	12.77	107727	1.16	1.157
17)	i-18	0.00	0	0.00	0.000
18)	n-C17	13.84	167351	1.58	1.583
19)	Pristane	13.95	125368	1.20	1.195
20)	n-C18	14.97	201129	1.94	1.936
21)	Phytane	15.14	156071	1.47	1.474
22)	n-C19	16.19	210509	2.03	2.030
24)	n-C20	17.44	88816.7	0.85	0.852
25)	n-C21	18.72	487768	4.63	4.626
26)	n-C22	20.00	121028	1.14	1.145
27)	n-C23	21.30	729182	6.87	6.866
28)	n-C24	22.54	146223	1.38	1.378
29)	n-C25	23.78	520680	4.90	4.899
30)	n-C26	24.97	112760	1.06	1.061
31)	n-C27	26.14	580716	5.61	5.606
32)	n-C28	27.26	163815	1.56	1.561
33)	n-C29	28.38	776944	7.35	7.345
35)	n-C30	29.43	162291	1.55	1.547
36)	n-C31	30.38	2911880	28.21	28.209
37)	n-C32	31.40	241676	2.35	2.350
38)	n-C33	32.40	1401860	13.92	13.924
39)	n-C34	33.37	93465.6	0.91	0.911
40)	n-C35	34.28	1021300	10.09	10.088
41)	n-C36	35.33	98136.9	0.90	0.899
42)	n-C37	36.52	255251	2.56	2.562
43)	n-C38	37.91	102349	1.04	1.035
44)	n-C39	39.54	163652	1.72	1.718
45)	n-C40	41.45	61397	0.69	0.693
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	8.28	100579	1.23	93.2
23)	n-eicosane-d42	17.05	96451.2	1.16	88.2
34)	n-triacontane-d62	28.90	96453.7	1.18	89.3
1)	n-hexadecane-d34	12.53	256394	3.30	256394.000
16)	5a-androstane	17.59	353774	50.15	353774.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ENV3093C.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 04:08:04
Operator : Meghan Dailey
Sample : MS (SED-DA-019 (0-0.5))
Misc :
ALS Vial : 7 Sample Multiplier: 0.0659196

Integration File: autoint1.e
Quant Time: Aug 30 16:34:12 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	12.533	256394	50.000	ug/mlm
16) I	5a-androstane	17.587	353774	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.280	100579	1.229	ug/mlm
23) S	n-eicosane-d42	17.049	96451	1.160	ug/mlm
34) S	n-triacontane-d62	28.901	96454	1.177	ug/mlm
Target Compounds					
2)	n-C8	3.209	19497	0.247	ug/mlm
3)	n-C9	4.490	47202	0.561	ug/mlm
4)	n-C10	5.883	56188	0.635	ug/mlm
5)	n-C11	7.229	69042	0.783	ug/mlm
7)	n-C12	8.485	91707	1.010	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	79546	0.883	ug/mlm
11)	i-15	10.523	20395	0.220	ug/mlm
12)	n-C14	10.746	106481	1.155	ug/mlm
13)	i-16	11.417	44554	0.479	ug/mlm
14)	n-C15	11.772	167133	1.801	ug/mlm
15)	n-C16	12.774	107727	1.157	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.838	167351	1.583	ug/mlm
19)	Pristane	13.947	125368	1.195	ug/mlm
20)	n-C18	14.968	201129	1.936	ug/mlm
21)	Phytane	15.135	156071	1.474	ug/mlm
22)	n-C19	16.186	210509	2.030	ug/mlm
24)	n-C20	17.438	88817	0.852	ug/mlm
25)	n-C21	18.718	487768	4.626	ug/mlm
26)	n-C22	20.004	121028	1.145	ug/mlm
27)	n-C23	21.296	729182	6.866	ug/mlm
28)	n-C24	22.537	146223	1.378	ug/mlm
29)	n-C25	23.776	520680	4.899	ug/mlm
30)	n-C26	24.969	112760	1.061	ug/mlm
31)	n-C27	26.139	580716	5.606	ug/mlm
32)	n-C28	27.257	163815	1.561	ug/mlm
33)	n-C29	28.377f	776944	7.345	ug/mlm
35)	n-C30	29.426	162291	1.547	ug/mlm
36)	n-C31	30.383	2911877	28.209	ug/mlm
37)	n-C32	31.395	241676	2.350	ug/mlm
38)	n-C33	32.400	1401863	13.924	ug/mlm
39)	n-C34	33.367	93466	0.911	ug/mlm
40)	n-C35	34.279	1021300	10.088	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ENV3093C.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 04:08:04
Operator : Meghan Dailey
Sample : MS (SED-DA-019 (0-0.5))
Misc :
ALS Vial : 7 Sample Multiplier: 0.0659196

Integration File: autoint1.e
Quant Time: Aug 30 16:34:12 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	35.333	98137	0.899	ug/mlm
42)	n-C37	36.522	255251	2.562	ug/mlm
43)	n-C38	37.912	102349	1.035	ug/mlm
44)	n-C39	39.538	163652	1.718	ug/mlm
45)	n-C40	41.447	61397	0.693	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

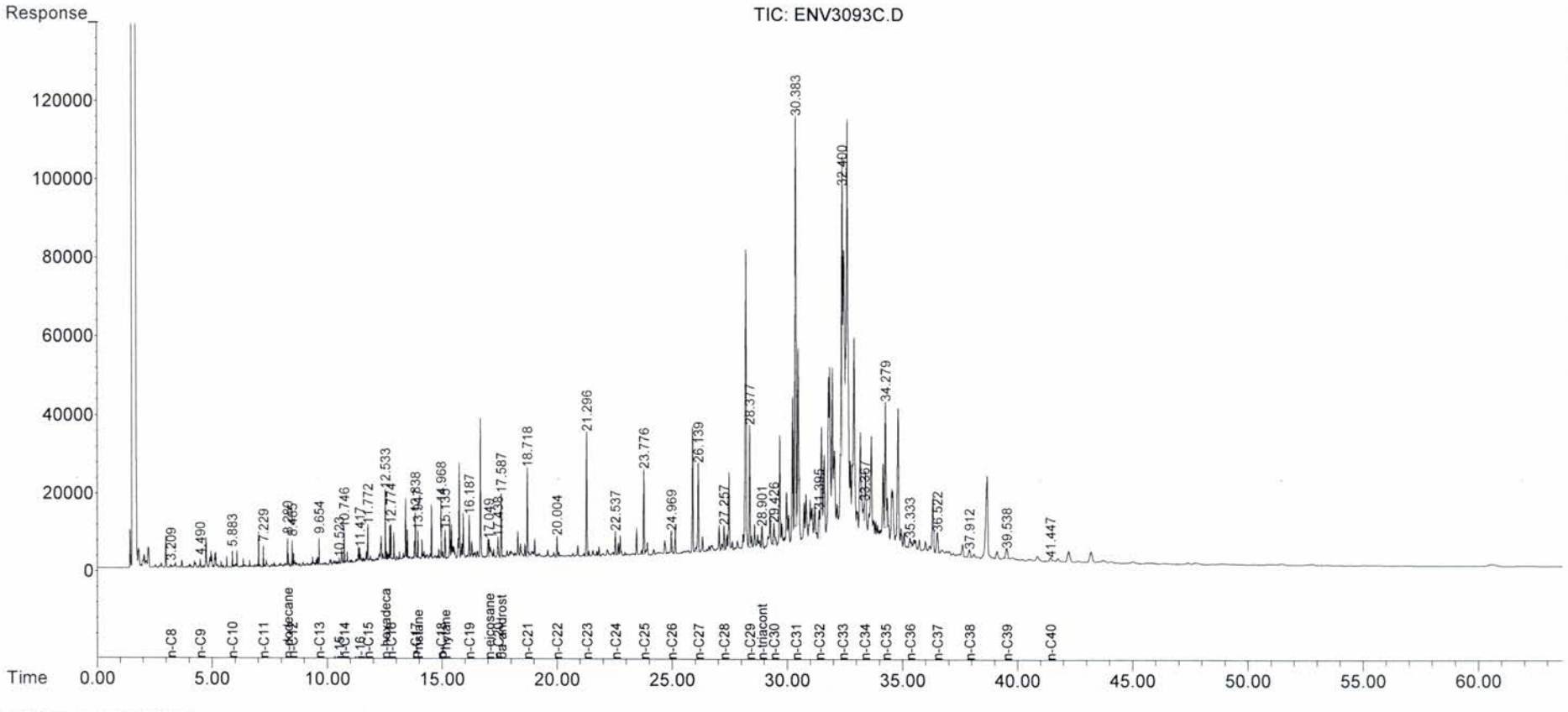
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ENV3093C.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 04:08:04
Operator : Meghan Dailey
Sample : MS (SED-DA-019 (0-0.5))
Misc :
ALS Vial : 7 Sample Multiplier: 0.0659196

Integration File: autoint1.e
Quant Time: Aug 30 16:34:12 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	**ENV3093D.D**		ENV3093D.D
Sample Name	**MSD (SED-DA-019 (0-0.5))**		MSD (SED-DA-019 (0-0.5)
Misc Info	**0**		29-Aug-2013, 05:18:38
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3093\FID30052**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**29-Aug-2013, 05:18:38**		0.0660066
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	8
Vial Number	**8**	IS Area 1	277793
Sample Multiplier	**0.0660066**	IS Area 2	373453

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.21	20636.9	0.24	0.241
3)	n-C9	4.49	50691.7	0.56	0.557
4)	n-C10	5.88	61256	0.64	0.640
5)	n-C11	7.23	75089	0.79	0.787
7)	n-C12	8.49	94698.2	0.96	0.964
8)	i-13	8.67	13339.8	0.14	0.137
9)	i-14	9.37	24834.1	0.25	0.249
10)	n-C13	9.66	95057.3	0.98	0.975
11)	i-15	10.53	30924.5	0.31	0.308
12)	n-C14	10.75	101328	1.02	1.016
13)	i-16	11.42	78804.1	0.78	0.782
14)	n-C15	11.77	162441	1.62	1.618
15)	n-C16	12.78	95231.7	0.95	0.945
17)	i-18	13.32	27103.8	0.25	0.247
18)	n-C17	13.84	168408	1.51	1.511
19)	Pristane	13.95	120052	1.09	1.085
20)	n-C18	14.97	196296	1.79	1.792
21)	Phytane	15.14	162750	1.46	1.458
22)	n-C19	16.19	221705	2.03	2.028
24)	n-C20	17.44	103129	0.94	0.939
25)	n-C21	18.72	427768	3.85	3.848
26)	n-C22	20.01	121844	1.09	1.093
27)	n-C23	21.30	699479	6.25	6.248
28)	n-C24	22.54	159051	1.42	1.422
29)	n-C25	23.78	463473	4.14	4.136
30)	n-C26	24.97	119695	1.07	1.068
31)	n-C27	26.15	580762	5.32	5.318
32)	n-C28	27.27	170862	1.54	1.544
33)	n-C29	28.38	821726	7.37	7.369
35)	n-C30	29.43	180781	1.64	1.635
36)	n-C31	30.39	3484060	32.02	32.016
37)	n-C32	31.40	263493	2.43	2.430
38)	n-C33	32.40	1286820	12.12	12.123
39)	n-C34	33.31	100097	0.93	0.925
40)	n-C35	34.28	1026940	9.62	9.622
41)	n-C36	35.35	124466	1.08	1.081
42)	n-C37	36.53	296688	2.82	2.824
43)	n-C38	37.93	128982	1.24	1.237
44)	n-C39	39.55	182184	1.81	1.814
45)	n-C40	41.48	59180.8	0.63	0.633
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	8.28	110005	1.24	94.1
23)	n-eicosane-d42	17.05	110740	1.26	95.9
34)	n-triacontane-d62	28.91	99508.3	1.15	87.3
1)	n-hexadecane-d34	12.53	277793	3.30	277793.000
16)	5a-androstane	17.59	373453	50.15	373453.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ENV3093D.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 05:18:38
Operator : Meghan Dailey
Sample : MSD (SED-DA-019 (0-0.5))
Misc :
ALS Vial : 8 Sample Multiplier: 0.0660066

Integration File: autoint1.e
Quant Time: Aug 30 16:33:06 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	12.534	277793	50.000 ug/mlm
16) I	5a-androstane	17.592	373453	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.281	110005	1.243 ug/mlm
23) S	n-eicosane-d42	17.050	110740	1.263 ug/mlm
34) S	n-triacontane-d62	28.907	99508	1.152 ug/mlm
Target Compounds				
2)	n-C8	3.212	20637	0.241 ug/mlm
3)	n-C9	4.491	50692	0.557 ug/mlm
4)	n-C10	5.884	61256	0.640 ug/mlm
5)	n-C11	7.230	75089	0.787 ug/mlm
7)	n-C12	8.486	94698	0.964 ug/mlm
8)	i-13	8.674	13340	0.137 ug/mlm
9)	i-14	9.374	24834	0.249 ug/mlm
10)	n-C13	9.655	95057	0.975 ug/mlm
11)	i-15	10.525	30924	0.308 ug/mlm
12)	n-C14	10.748	101328	1.016 ug/mlm
13)	i-16	11.420	78804	0.782 ug/mlm
14)	n-C15	11.774	162441	1.618 ug/mlm
15)	n-C16	12.775	95232	0.945 ug/mlm
17)	i-18	13.318	27104	0.247 ug/mlm
18)	n-C17	13.840	168408	1.511 ug/mlm
19)	Pristane	13.949	120052	1.085 ug/mlm
20)	n-C18	14.973	196296	1.792 ug/mlm
21)	Phytane	15.137	162750	1.458 ug/mlm
22)	n-C19	16.192	221705	2.028 ug/mlm
24)	n-C20	17.440	103129	0.939 ug/mlm
25)	n-C21	18.723	427768	3.848 ug/mlm
26)	n-C22	20.009	121844	1.093 ug/mlm
27)	n-C23	21.297	699479	6.248 ug/mlm
28)	n-C24	22.541	159051	1.422 ug/mlm
29)	n-C25	23.780	463473	4.136 ug/mlm
30)	n-C26	24.975	119695	1.068 ug/mlm
31)	n-C27	26.146	580762	5.318 ug/mlm
32)	n-C28	27.265	170862	1.544 ug/mlm
33)	n-C29	28.382f	821726	7.369 ug/mlm
35)	n-C30	29.433	180781	1.635 ug/mlm
36)	n-C31	30.392	3484057	32.016 ug/mlm
37)	n-C32	31.399	263493	2.430 ug/mlm
38)	n-C33	32.397	1286822	12.124 ug/mlm
39)	n-C34	33.311	100097	0.925 ug/mlm
40)	n-C35	34.284	1026942	9.622 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ENV3093D.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 05:18:38
Operator : Meghan Dailey
Sample : MSD (SED-DA-019 (0-0.5))
Misc :
ALS Vial : 8 Sample Multiplier: 0.0660066

Integration File: autoint1.e
Quant Time: Aug 30 16:33:06 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	35.349f	124466	1.081 ug/mlm
42)	n-C37	36.534	296688	2.824 ug/mlm
43)	n-C38	37.928	128982	1.237 ug/mlm
44)	n-C39	39.554	182184	1.814 ug/mlm
45)	n-C40	41.480	59181	0.633 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

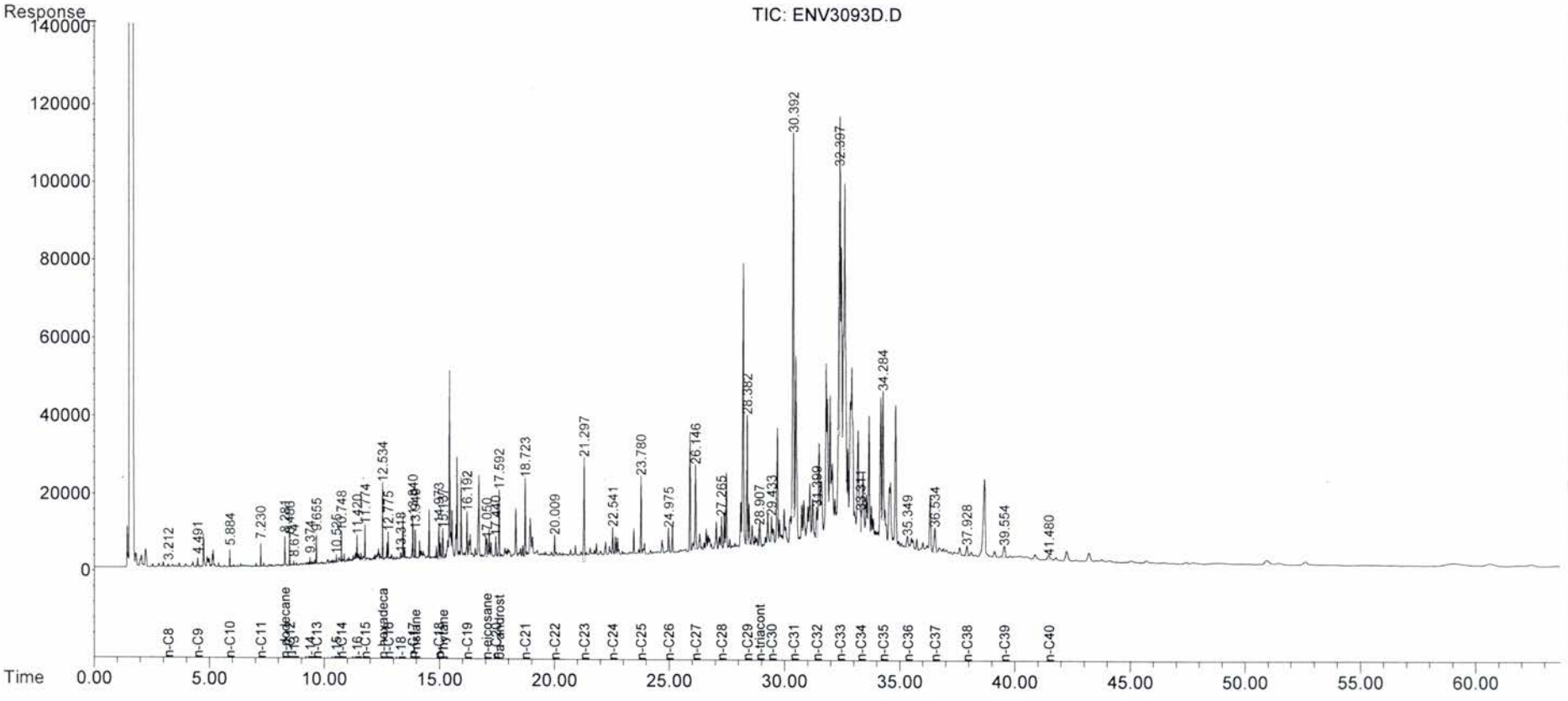
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ENV3093D.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 05:18:38
Operator : Meghan Dailey
Sample : MSD (SED-DA-019 (0-0.5))
Misc :
ALS Vial : 8 Sample Multiplier: 0.0660066

Integration File: autoint1.e
Quant Time: Aug 30 16:33:06 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	**ENV3093E.D**		ENV3093E.D
Sample Name	**Dupl (SED-DA-045 (0-0.5))**		Dupl (SED-DA-045 (0-0.5)
Misc Info	**0**		29-Aug-2013, 06:29:14
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3093\FID30052**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**29-Aug-2013, 06:29:14**		0.195313
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	9
Vial Number	**9**	IS Area 1	301841
Sample Multiplier	**0.195313**	IS Area 2	451531

#	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	5.89	6052.55	0.17	0.172
5)	n-C11	7.23	38391.4	1.10	1.096
7)	n-C12	8.49	94242.8	2.61	2.612
8)	i-13	8.68	73960.6	2.07	2.066
9)	i-14	9.38	57600.2	1.57	1.573
10)	n-C13	9.66	144088	4.03	4.026
11)	i-15	10.53	147455	4.00	3.999
12)	n-C14	10.75	179761	4.91	4.908
13)	i-16	11.43	187571	5.07	5.071
14)	n-C15	11.78	204700	5.55	5.551
15)	n-C16	12.78	194836	5.27	5.268
17)	i-18	13.33	174383	3.90	3.896
18)	n-C17	13.85	152715	3.35	3.353
19)	Pristane	13.96	242479	5.37	5.366
20)	n-C18	14.99	175280	3.92	3.916
21)	Phytane	15.15	243993	5.35	5.351
22)	n-C19	16.20	185433	4.15	4.152
24)	n-C20	17.46	134713	3.00	3.002
25)	n-C21	18.74	151263	3.33	3.330
26)	n-C22	20.03	130872	2.87	2.874
27)	n-C23	21.31	163497	3.57	3.574
28)	n-C24	22.56	90429.3	1.98	1.978
29)	n-C25	23.79	101873	2.22	2.225
30)	n-C26	24.98	76765.3	1.68	1.677
31)	n-C27	26.15	123876	2.78	2.776
32)	n-C28	27.29	63456.1	1.40	1.404
33)	n-C29	28.38	293739	6.45	6.447
35)	n-C30	29.43	59385.4	1.31	1.314
36)	n-C31	30.47	291650	6.56	6.559
37)	n-C32	31.47	71701.5	1.62	1.618
38)	n-C33	32.41	493552	11.38	11.380
39)	n-C34	33.36	35345.1	0.80	0.800
40)	n-C35	34.26	221761	5.08	5.085
41)	n-C36	35.33	23509.7	0.50	0.500
42)	n-C37	36.52	63087.2	1.47	1.470
43)	n-C38	37.94	6584.74	0.15	0.155
44)	n-C39	39.59	18523.2	0.45	0.451
45)	n-C40	41.43	9522.92	0.25	0.249
46)	TPH	12.54	256923000	5854.18	5854.175
47)	TRH1	9.66	3682840	83.92	83.916
48)	TRH2	12.54	6783250	154.56	154.561
49)	TRH3	17.61	7048900	160.61	160.614
50)	TRH4	32.41	8332520	189.86	189.863
51)	TRH5	34.26	2478780	56.48	56.481
52)	TRH6	40.33	910678	20.75	20.750
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	8.28	122774	3.78	96.7
23)	n-eicosane-d42	17.07	127893	3.57	91.6
34)	n-triacontane-d62	28.91	131398	3.72	95.4
1)	n-hexadecane-d34	12.54	301841	9.77	301841.000
16)	5a-androstane	17.61	451531	50.15	451531.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ENV3093E.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 06:29:14
Operator : Meghan Dailey
Sample : Dupl (SED-DA-045 (0-0.5))
Misc :
ALS Vial : 9 Sample Multiplier: 0.195313

Integration File: autoint1.e
Quant Time: Aug 30 17:03:16 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	12.542	301841	50.000	ug/mlm
16) I	5a-androstane	17.612	451531	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.282	122774	3.777	ug/mlm
23) S	n-eicosane-d42	17.068	127893	3.571	ug/mlm
34) S	n-triacontane-d62	28.907	131398	3.723	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	5.885	6053	0.172	ug/mlm
5)	n-C11	7.230	38391	1.096	ug/mlm
7)	n-C12	8.487	94243	2.612	ug/mlm
8)	i-13	8.675	73961	2.066	ug/mlm
9)	i-14	9.376	57600	1.573	ug/mlm
10)	n-C13	9.658	144088	4.026	ug/mlm
11)	i-15	10.530	147455	3.999	ug/mlm
12)	n-C14	10.754	179761	4.908	ug/mlm
13)	i-16	11.426	187571	5.071	ug/mlm
14)	n-C15	11.783	204700	5.551	ug/mlm
15)	n-C16	12.785	194836	5.268	ug/mlm
17)	i-18	13.330	174383	3.896	ug/mlm
18)	n-C17	13.852	152715	3.353	ug/mlm
19)	Pristane	13.960	242479	5.366	ug/mlm
20)	n-C18	14.994	175280	3.916	ug/mlm
21)	Phytane	15.151	243993	5.351	ug/mlm
22)	n-C19	16.202	185433	4.152	ug/mlm
24)	n-C20	17.460	134713	3.002	ug/mlm
25)	n-C21	18.741	151263	3.330	ug/mlm
26)	n-C22	20.031	130872	2.874	ug/mlm
27)	n-C23	21.306	163497	3.574	ug/mlm
28)	n-C24	22.560	90429	1.978	ug/mlm
29)	n-C25	23.791	101873	2.225	ug/mlm
30)	n-C26	24.983	76765	1.677	ug/mlm
31)	n-C27	26.153f	123876	2.776	ug/mlm
32)	n-C28	27.290f	63456	1.404	ug/mlm
33)	n-C29	28.379f	293739	6.447	ug/mlm
35)	n-C30	29.434	59385	1.314	ug/mlm
36)	n-C31	30.472f	291650	6.559	ug/mlm
37)	n-C32	31.472f	71702	1.618	ug/mlm
38)	n-C33	32.409	493552	11.380	ug/mlm
39)	n-C34	33.364	35345	0.800	ug/mlm
40)	n-C35	34.262	221761	5.085	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ENV3093E.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 06:29:14
Operator : Meghan Dailey
Sample : Dupl (SED-DA-045 (0-0.5))
Misc :
ALS Vial : 9 Sample Multiplier: 0.195313

Integration File: autoint1.e
Quant Time: Aug 30 17:03:16 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	35.333	23510	0.500	ug/mlm
42)	n-C37	36.521	63087	1.470	ug/mlm
43)	n-C38	37.940	6585	0.155	ug/mlm
44)	n-C39	39.591f	18523	0.451	ug/mlm
45)	n-C40	41.433	9523	0.249	ug/mlm
46)	TPH	12.542f	256922873	5854.176	ug/mlm
47)	TRH1	9.658f	3682843	83.916	ug/mlm
48)	TRH2	12.542f	6783254	154.561	ug/mlm
49)	TRH3	17.612f	7048896	160.614	ug/mlm
50)	TRH4	32.409f	8332525	189.863	ug/mlm
51)	TRH5	34.262f	2478779	56.481	ug/mlm
52)	TRH6	40.333	910678	20.750	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

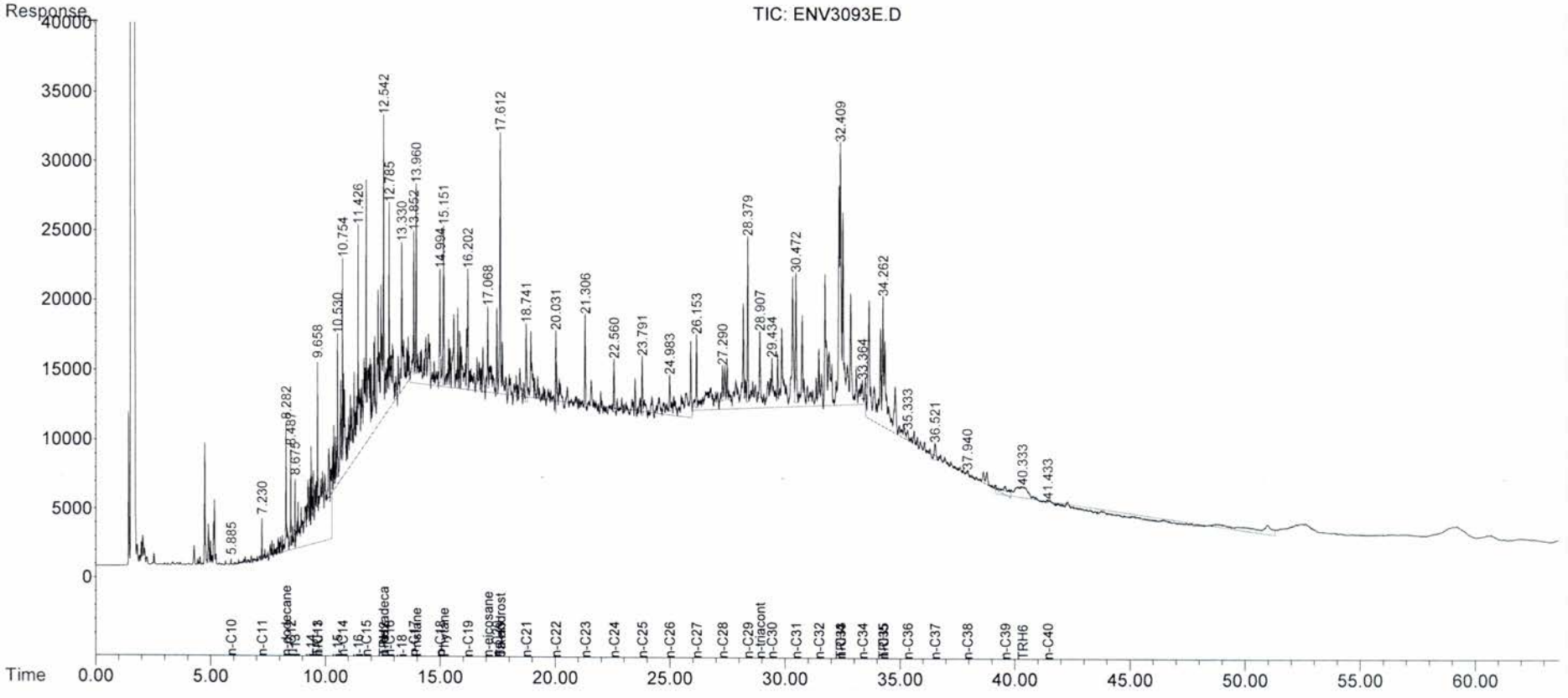
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ENV3093E.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 06:29:14
Operator : Meghan Dailey
Sample : Dupl (SED-DA-045 (0-0.5))
Misc :
ALS Vial : 9 Sample Multiplier: 0.195313

Integration File: autoint1.e
Quant Time: Aug 30 17:03:16 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	**ARC1816.D**		ARC1816.D
Sample Name	**SED-DA-045 (0-0.5)**		SED-DA-045 (0-0.5)
Misc Info	**0**		29-Aug-2013, 08:50:31
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3093\FID30052**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**29-Aug-2013, 08:50:31**		0.194932
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	11
Vial Number	**11**	IS Area 1	297459
Sample Multiplier	**0.194932**	IS Area 2	436032

#	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	5.88	6150.68	0.18	0.177
5)	n-C11	7.23	38561	1.11	1.115
7)	n-C12	8.49	108637	3.05	3.049
8)	i-13	8.68	71683.7	2.03	2.028
9)	i-14	9.38	64878.3	1.79	1.794
10)	n-C13	9.66	143864	4.07	4.071
11)	i-15	10.53	149213	4.10	4.098
12)	n-C14	10.75	176663	4.89	4.885
13)	i-16	11.43	187865	5.14	5.144
14)	n-C15	11.78	210807	5.79	5.790
15)	n-C16	12.79	196995	5.39	5.394
17)	i-18	13.33	168960	3.90	3.901
18)	n-C17	13.85	161337	3.66	3.661
19)	Pristane	13.96	256310	5.86	5.862
20)	n-C18	14.99	166756	3.85	3.850
21)	Phytane	15.15	265028	6.01	6.007
22)	n-C19	16.20	183398	4.24	4.244
24)	n-C20	17.46	138251	3.18	3.184
25)	n-C21	18.74	145923	3.32	3.320
26)	n-C22	20.03	124214	2.82	2.819
27)	n-C23	21.30	143800	3.25	3.249
28)	n-C24	22.56	107210	2.42	2.424
29)	n-C25	23.79	107771	2.43	2.433
30)	n-C26	24.99	76606.1	1.73	1.729
31)	n-C27	26.15	133327	3.09	3.088
32)	n-C28	27.29	61544	1.41	1.407
33)	n-C29	28.38	294528	6.68	6.681
35)	n-C30	29.44	52221.8	1.19	1.195
36)	n-C31	30.48	310939	7.23	7.227
37)	n-C32	31.48	67824.1	1.58	1.582
38)	n-C33	32.41	470515	11.21	11.212
39)	n-C34	33.38	40091.9	0.94	0.938
40)	n-C35	34.26	237093	5.62	5.619
41)	n-C36	35.34	21524.2	0.47	0.473
42)	n-C37	36.53	47963.1	1.15	1.155
43)	n-C38	37.93	7626.18	0.19	0.185
44)	n-C39	39.58	16955.3	0.43	0.427
45)	n-C40	41.51	9677.08	0.26	0.262
46)	TPH	12.54	260741000	6140.36	6140.358
47)	TRH1	8.28	950084	22.37	22.374
48)	TRH2	12.54	6895650	162.39	162.390
49)	TRH3	17.61	10745500	253.05	253.053
50)	TRH4	32.41	8490760	199.95	199.953
51)	TRH5	37.23	518809	12.22	12.218
52)	TRH6	42.27	310115	7.30	7.303
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	8.28	120149	3.74	96.0
23)	n-eicosane-d42	17.07	117908	3.40	87.4
34)	n-triacontane-d62	28.90	125181	3.67	94.1
1)	n-hexadecane-d34	12.54	297459	9.75	297459.000
16)	5a-androstane	17.61	436032	50.15	436032.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ARC1816.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 08:50:31
Operator : Meghan Dailey
Sample : SED-DA-045 (0-0.5)
Misc :
ALS Vial : 11 Sample Multiplier: 0.194932

Integration File: autoint1.e
Quant Time: Aug 30 16:46:30 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	12.543	297459	50.000	ug/mlm
16) I	5a-androstane	17.614	436032	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.282	120149	3.743	ug/mlm
23) S	n-eicosane-d42	17.068	117908	3.403	ug/mlm
34) S	n-triacontane-d62	28.903	125181	3.666	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	5.883	6151	0.177	ug/mlm
5)	n-C11	7.229	38561	1.115	ug/mlm
7)	n-C12	8.487	108637	3.049	ug/mlm
8)	i-13	8.675	71684	2.028	ug/mlm
9)	i-14	9.375	64878	1.794	ug/mlm
10)	n-C13	9.658	143864	4.071	ug/mlm
11)	i-15	10.530	149213	4.098	ug/mlm
12)	n-C14	10.754	176663	4.885	ug/mlm
13)	i-16	11.426	187865	5.144	ug/mlm
14)	n-C15	11.783	210807	5.790	ug/mlm
15)	n-C16	12.785	196995	5.394	ug/mlm
17)	i-18	13.330	168960	3.901	ug/mlm
18)	n-C17	13.852	161337	3.661	ug/mlm
19)	Pristane	13.961	256310	5.862	ug/mlm
20)	n-C18	14.993	166756	3.850	ug/mlm
21)	Phytane	15.151	265028	6.007	ug/mlm
22)	n-C19	16.203	183398	4.244	ug/mlm
24)	n-C20	17.462	138251	3.184	ug/mlm
25)	n-C21	18.743	145923	3.320	ug/mlm
26)	n-C22	20.031	124214	2.819	ug/mlm
27)	n-C23	21.302	143800	3.249	ug/mlm
28)	n-C24	22.555	107210	2.424	ug/mlm
29)	n-C25	23.791	107771	2.433	ug/mlm
30)	n-C26	24.991f	76606	1.729	ug/mlm
31)	n-C27	26.154f	133327	3.088	ug/mlm
32)	n-C28	27.289f	61544	1.407	ug/mlm
33)	n-C29	28.381f	294528	6.681	ug/mlm
35)	n-C30	29.435	52222	1.195	ug/mlm
36)	n-C31	30.475f	310939	7.227	ug/mlm
37)	n-C32	31.476f	67824	1.582	ug/mlm
38)	n-C33	32.410	470515	11.212	ug/mlm
39)	n-C34	33.377f	40092	0.938	ug/mlm
40)	n-C35	34.258	237093	5.619	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ARC1816.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 08:50:31
Operator : Meghan Dailey
Sample : SED-DA-045 (0-0.5)
Misc :
ALS Vial : 11 Sample Multiplier: 0.194932

Integration File: autoint1.e
Quant Time: Aug 30 16:46:30 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	35.340	21524	0.473	ug/mlm
42)	n-C37	36.532	47963	1.155	ug/mlm
43)	n-C38	37.934	7626	0.185	ug/mlm
44)	n-C39	39.580f	16955	0.427	ug/mlm
45)	n-C40	41.515f	9677	0.262	ug/mlm
46)	TPH	12.543f	260740840	6140.355	ug/mlm
47)	TRH1	8.282	950084	22.374	ug/mlm
48)	TRH2	12.543f	6895653	162.390	ug/mlm
49)	TRH3	17.614f	10745501	253.053	ug/mlm
50)	TRH4	32.410f	8490756	199.954	ug/mlm
51)	TRH5	37.225f	518809	12.218	ug/mlm
52)	TRH6	42.267	310115	7.303	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

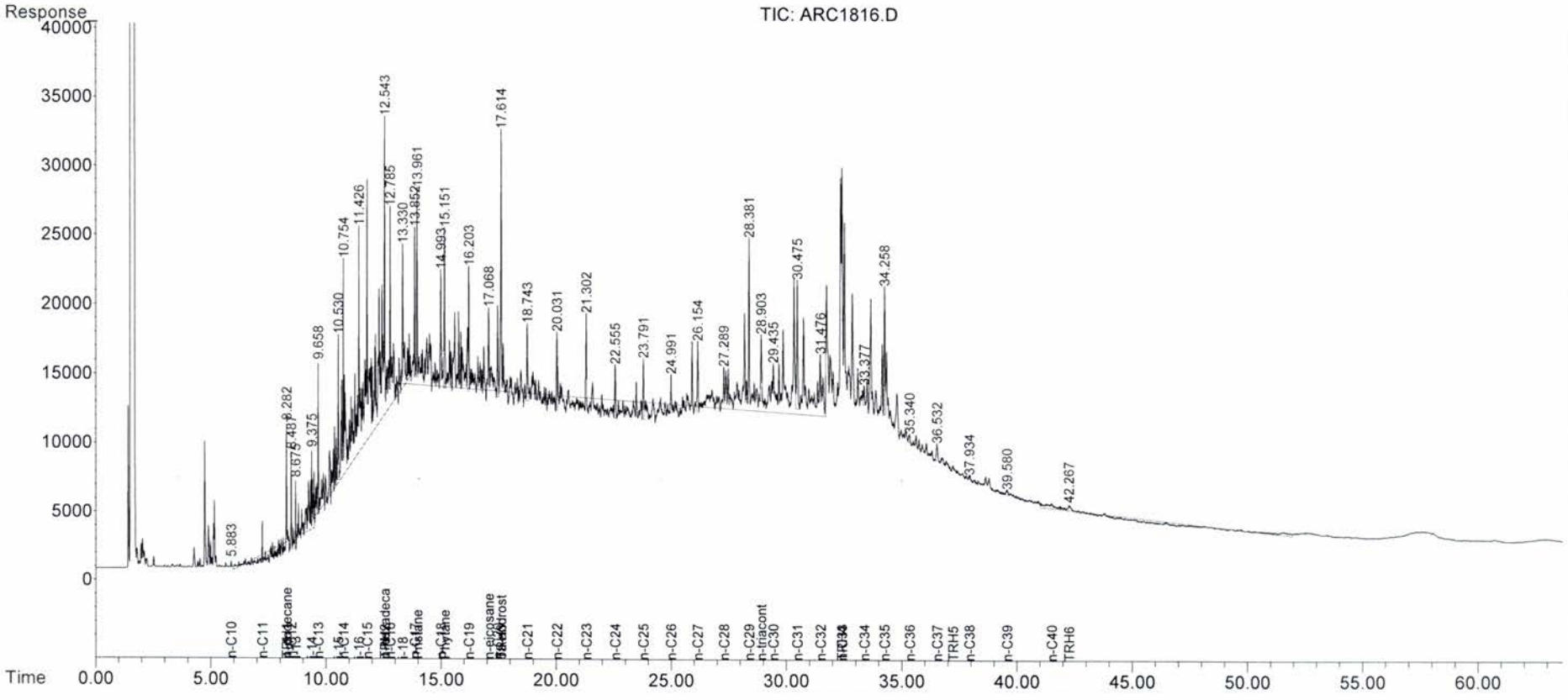
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ARC1816.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 08:50:31
Operator : Meghan Dailey
Sample : SED-DA-045 (0-0.5)
Misc :
ALS Vial : 11 Sample Multiplier: 0.194932

Integration File: autoint1.e
Quant Time: Aug 30 16:46:30 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	**ARC1818.D**		ARC1818.D
Sample Name	**SED-DA-052 (0-0.5)**		SED-DA-052 (0-0.5)
Misc Info	**0**		29-Aug-2013, 10:01:08
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3093\FID30052**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**29-Aug-2013, 10:01:08**		0.0665336
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	12
Vial Number	**12**	IS Area 1	276762
Sample Multiplier	**0.0665336**	IS Area 2	357002

#	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	5.88	1148.68	0.01	0.012
5)	n-C11	7.23	3719.56	0.04	0.039
7)	n-C12	8.49	9575.75	0.10	0.099
8)	i-13	8.67	3672	0.04	0.038
9)	i-14	9.38	10395.2	0.11	0.105
10)	n-C13	9.66	11399.5	0.12	0.118
11)	i-15	10.53	20385.3	0.21	0.205
12)	n-C14	10.75	17386.6	0.18	0.176
13)	i-16	11.42	31650.4	0.32	0.318
14)	n-C15	11.77	48672.4	0.49	0.490
15)	n-C16	12.78	22395.4	0.22	0.225
17)	i-18	13.32	25243.9	0.24	0.243
18)	n-C17	13.84	64189.9	0.61	0.607
19)	Pristane	13.95	55299.4	0.53	0.527
20)	n-C18	14.97	102949	0.99	0.991
21)	Phytane	15.14	96527.2	0.91	0.912
22)	n-C19	16.19	86199.2	0.83	0.832
24)	n-C20	17.44	29502	0.28	0.283
25)	n-C21	18.73	356093	3.38	3.378
26)	n-C22	20.01	48183.3	0.46	0.456
27)	n-C23	21.30	333052	3.14	3.137
28)	n-C24	22.55	53702.2	0.51	0.506
29)	n-C25	23.78	278049	2.62	2.616
30)	n-C26	24.98	37754.2	0.36	0.355
31)	n-C27	26.14	353561	3.41	3.414
32)	n-C28	27.27	86119.8	0.82	0.821
33)	n-C29	28.38	678781	6.42	6.418
35)	n-C30	29.42	108303	1.03	1.033
36)	n-C31	30.49	973679	9.43	9.434
37)	n-C32	31.40	222478	2.16	2.163
38)	n-C33	32.41	2129560	21.16	21.155
39)	n-C34	33.31	65540.5	0.64	0.639
40)	n-C35	34.29	1076630	10.64	10.636
41)	n-C36	35.31	42640.3	0.39	0.391
42)	n-C37	36.52	88943	0.89	0.893
43)	n-C38	37.93	28589.5	0.29	0.289
44)	n-C39	39.55	55400.5	0.58	0.582
45)	n-C40	41.48	2744.03	0.03	0.031
46)	TPH	32.53	160312000	1573.83	1573.826
47)	TRH1	8.28	318080	3.12	3.123
48)	TRH2	16.69	4856110	47.67	47.674
49)	TRH3	25.90	6382650	62.66	62.660
50)	TRH4	32.53	37120500	364.42	364.422
51)	TRH5	34.29	5314860	52.18	52.177
52)	TRH6	42.28	1118570	10.98	10.981
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	8.28	100350	1.15	86.2
23)	n-eicosane-d42	17.05	101464	1.22	91.9
34)	n-triacontane-d62	28.91	105632	1.29	97.0
1)	n-hexadecane-d34	12.54	276762	3.33	276762.000
16)	5a-androstane	17.60	357002	50.15	357002.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ARC1818.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 10:01:08
Operator : Meghan Dailey
Sample : SED-DA-052 (0-0.5)
Misc :
ALS Vial : 12 Sample Multiplier: 0.0665336

Integration File: autoint1.e
Quant Time: Sep 02 10:12:26 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	12.536	276762	50.000	ug/mlm
16) I	5a-androstane	17.596	357002	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.282	100350	1.147	ug/mlm
23) S	n-eicosane-d42	17.055	101464	1.221	ug/mlm
34) S	n-triacontane-d62	28.913f	105632	1.290	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	5.883	1149	0.012	ug/mlm
5)	n-C11	7.230	3720	0.039	ug/mlm
7)	n-C12	8.487	9576	0.099	ug/mlm
8)	i-13	8.674	3672	0.038	ug/mlm
9)	i-14	9.375	10395	0.105	ug/mlm
10)	n-C13	9.655	11400	0.118	ug/mlm
11)	i-15	10.525	20385	0.205	ug/mlm
12)	n-C14	10.749	17387	0.176	ug/mlm
13)	i-16	11.420	31650	0.318	ug/mlm
14)	n-C15	11.773	48672	0.490	ug/mlm
15)	n-C16	12.776	22395	0.225	ug/mlm
17)	i-18	13.320	25244	0.243	ug/mlm
18)	n-C17	13.840	64190	0.607	ug/mlm
19)	Pristane	13.949	55299	0.527	ug/mlm
20)	n-C18	14.971	102949	0.991	ug/mlm
21)	Phytane	15.141	96527	0.912	ug/mlm
22)	n-C19	16.191	86199	0.832	ug/mlm
24)	n-C20	17.444	29502	0.283	ug/mlm
25)	n-C21	18.725	356093	3.378	ug/mlm
26)	n-C22	20.012	48183	0.456	ug/mlm
27)	n-C23	21.295	333052	3.137	ug/mlm
28)	n-C24	22.545	53702	0.506	ug/mlm
29)	n-C25	23.780	278049	2.616	ug/mlm
30)	n-C26	24.977	37754	0.355	ug/mlm
31)	n-C27	26.144	353561	3.414	ug/mlm
32)	n-C28	27.268	86120	0.821	ug/mlm
33)	n-C29	28.382f	678781	6.418	ug/mlm
35)	n-C30	29.424	108303	1.033	ug/mlm
36)	n-C31	30.488f	973679	9.434	ug/mlm
37)	n-C32	31.398	222478	2.163	ug/mlm
38)	n-C33	32.414	2129555	21.155	ug/mlm
39)	n-C34	33.314	65540	0.639	ug/mlm
40)	n-C35	34.293	1076625	10.636	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ARC1818.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 10:01:08
Operator : Meghan Dailey
Sample : SED-DA-052 (0-0.5)
Misc :
ALS Vial : 12 Sample Multiplier: 0.0665336

Integration File: autoint1.e
Quant Time: Sep 02 10:12:26 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	35.308	42640	0.391	ug/mlm
42)	n-C37	36.520	88943	0.893	ug/mlm
43)	n-C38	37.928	28589	0.289	ug/mlm
44)	n-C39	39.553	55400	0.582	ug/mlm
45)	n-C40	41.479	2744	0.031	ug/mlm
46)	TPH	32.526	160312499	1573.829	ug/mlm
47)	TRH1	8.282	318080	3.123	ug/mlm
48)	TRH2	16.690	4856108	47.674	ug/mlm
49)	TRH3	25.903f	6382649	62.660	ug/mlm
50)	TRH4	32.526f	37120518	364.422	ug/mlm
51)	TRH5	34.293f	5314864	52.177	ug/mlm
52)	TRH6	42.277	1118573	10.981	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

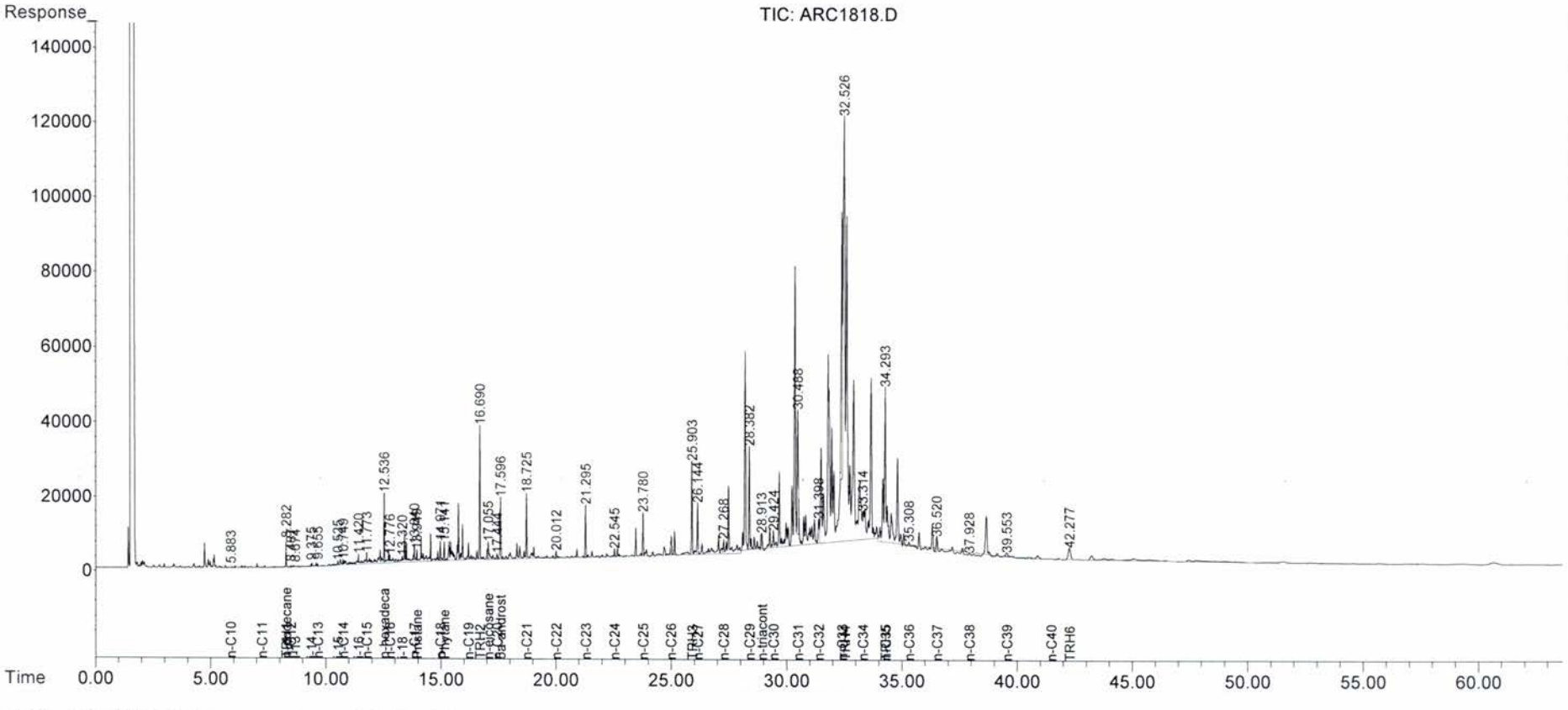
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ARC1818.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 10:01:08
Operator : Meghan Dailey
Sample : SED-DA-052 (0-0.5)
Misc :
ALS Vial : 12 Sample Multiplier: 0.0665336

Integration File: autoint1.e
Quant Time: Sep 02 10:12:26 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	**ARC1821.D**		ARC1821.D
Sample Name	**SED-DA-DUP-06-081013**		SED-DA-DUP-06-081013
Misc Info	**0**		29-Aug-2013, 11:11:36
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3093\FID30052**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**29-Aug-2013, 11:11:36**		0.066313
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	13
Vial Number	**13**	IS Area 1	248443
Sample Multiplier	**0.066313**	IS Area 2	319981

#	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	5.89	2958.16	0.03	0.035
5)	n-C11	7.23	5247.89	0.06	0.062
7)	n-C12	8.49	15611.9	0.18	0.178
8)	i-13	8.68	1284.82	0.01	0.015
9)	i-14	9.38	12828.4	0.14	0.144
10)	n-C13	9.65	12297.8	0.14	0.142
11)	i-15	10.53	6417.72	0.07	0.072
12)	n-C14	10.75	28580	0.32	0.322
13)	i-16	11.42	20262.7	0.23	0.226
14)	n-C15	11.77	67363.8	0.75	0.754
15)	n-C16	12.78	25492.8	0.28	0.284
17)	i-18	13.32	5104.04	0.05	0.055
18)	n-C17	13.84	63735.8	0.67	0.670
19)	Pristane	13.95	33812.1	0.36	0.358
20)	n-C18	14.97	119012	1.27	1.274
21)	Phytane	15.14	58847.8	0.62	0.618
22)	n-C19	16.19	124633	1.34	1.337
24)	n-C20	17.44	23045.2	0.25	0.246
25)	n-C21	18.73	463146	4.89	4.885
26)	n-C22	20.01	40119.2	0.42	0.422
27)	n-C23	21.30	444888	4.66	4.659
28)	n-C24	22.54	60356.7	0.63	0.633
29)	n-C25	23.78	393950	4.12	4.122
30)	n-C26	24.98	45226.8	0.47	0.473
31)	n-C27	26.15	455660	4.89	4.892
32)	n-C28	27.27	89734.4	0.95	0.951
33)	n-C29	28.39	729726	7.67	7.673
35)	n-C30	29.43	126581	1.34	1.342
36)	n-C31	30.49	915258	9.86	9.861
37)	n-C32	31.40	253466	2.74	2.741
38)	n-C33	32.41	1276150	14.10	14.097
39)	n-C34	33.31	230755	2.50	2.502
40)	n-C35	34.27	335989	3.69	3.691
41)	n-C36	35.32	47103.1	0.48	0.480
42)	n-C37	36.53	143115	1.60	1.598
43)	n-C38	37.93	31455.9	0.35	0.354
44)	n-C39	39.56	100861	1.18	1.178
45)	n-C40	41.42	8448.72	0.11	0.106
46)	TPH	32.63	153008000	1670.35	1670.352
47)	TRH1	7.02	1067730	11.66	11.656
48)	TRH2	16.69	6296770	68.74	68.740
49)	TRH3	25.91	3823700	41.74	41.742
50)	TRH4	32.63	40611500	443.35	443.346
51)	TRH5	34.29	5964930	65.12	65.118
52)	TRH6	42.28	1467610	16.02	16.022
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	8.28	88820.8	1.13	85.0
23)	n-eicosane-d42	17.05	94147.9	1.26	95.2
34)	n-triacontane-d62	28.90	75569.6	1.03	77.4
1)	n-hexadecane-d34	12.53	248443	3.32	248443.000
16)	5a-androstane	17.59	319981	50.15	319981.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ARC1821.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 11:11:36
Operator : Meghan Dailey
Sample : SED-DA-DUP-06-081013
Misc :
ALS Vial : 13 Sample Multiplier: 0.066313

Integration File: autoint1.e
Quant Time: Sep 02 10:24:26 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	12.534	248443	50.000	ug/mlm
16) I	5a-androstane	17.593	319981	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.283	88821	1.127	ug/mlm
23) S	n-eicosane-d42	17.054	94148	1.259	ug/mlm
34) S	n-triacontane-d62	28.905	75570	1.026	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	5.887	2958	0.035	ug/mlm
5)	n-C11	7.230	5248	0.062	ug/mlm
7)	n-C12	8.486	15612	0.178	ug/mlm
8)	i-13	8.680	1285	0.015	ug/mlm
9)	i-14	9.375	12828	0.144	ug/mlm
10)	n-C13	9.655	12298	0.142	ug/mlm
11)	i-15	10.526	6418	0.072	ug/mlm
12)	n-C14	10.748	28580	0.322	ug/mlm
13)	i-16	11.421	20263	0.226	ug/mlm
14)	n-C15	11.769	67364	0.754	ug/mlm
15)	n-C16	12.775	25493	0.284	ug/mlm
17)	i-18	13.320	5104	0.055	ug/mlm
18)	n-C17	13.839	63736	0.671	ug/mlm
19)	Pristane	13.945	33812	0.358	ug/mlm
20)	n-C18	14.969	119012	1.274	ug/mlm
21)	Phytane	15.140	58848	0.618	ug/mlm
22)	n-C19	16.189	124633	1.337	ug/mlm
24)	n-C20	17.441	23045	0.246	ug/mlm
25)	n-C21	18.725	463146	4.885	ug/mlm
26)	n-C22	20.008	40119	0.422	ug/mlm
27)	n-C23	21.297	444888	4.659	ug/mlm
28)	n-C24	22.544	60357	0.633	ug/mlm
29)	n-C25	23.784	393950	4.122	ug/mlm
30)	n-C26	24.980	45227	0.473	ug/mlm
31)	n-C27	26.147	455660	4.892	ug/mlm
32)	n-C28	27.265	89734	0.951	ug/mlm
33)	n-C29	28.386f	729726	7.673	ug/mlm
35)	n-C30	29.427	126581	1.342	ug/mlm
36)	n-C31	30.493f	915258	9.861	ug/mlm
37)	n-C32	31.401	253466	2.741	ug/mlm
38)	n-C33	32.407	1276155	14.097	ug/mlm
39)	n-C34	33.308	230755	2.502	ug/mlm
40)	n-C35	34.273	335989	3.691	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ARC1821.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 11:11:36
Operator : Meghan Dailey
Sample : SED-DA-DUP-06-081013
Misc :
ALS Vial : 13 Sample Multiplier: 0.066313

Integration File: autoint1.e
Quant Time: Sep 02 10:24:26 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	35.317	47103	0.480	ug/mlm
42)	n-C37	36.531	143115	1.598	ug/mlm
43)	n-C38	37.932	31456	0.354	ug/mlm
44)	n-C39	39.563	100861	1.178	ug/mlm
45)	n-C40	41.417	8449	0.106	ug/mlm
46)	TPH	32.632	153007933	1670.351	ug/mlm
47)	TRH1	7.024	1067729	11.656	ug/mlm
48)	TRH2	16.693	6296769	68.740	ug/mlm
49)	TRH3	25.909f	3823700	41.742	ug/mlm
50)	TRH4	32.632f	40611455	443.346	ug/mlm
51)	TRH5	34.293f	5964925	65.118	ug/mlm
52)	TRH6	42.279	1467614	16.022	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

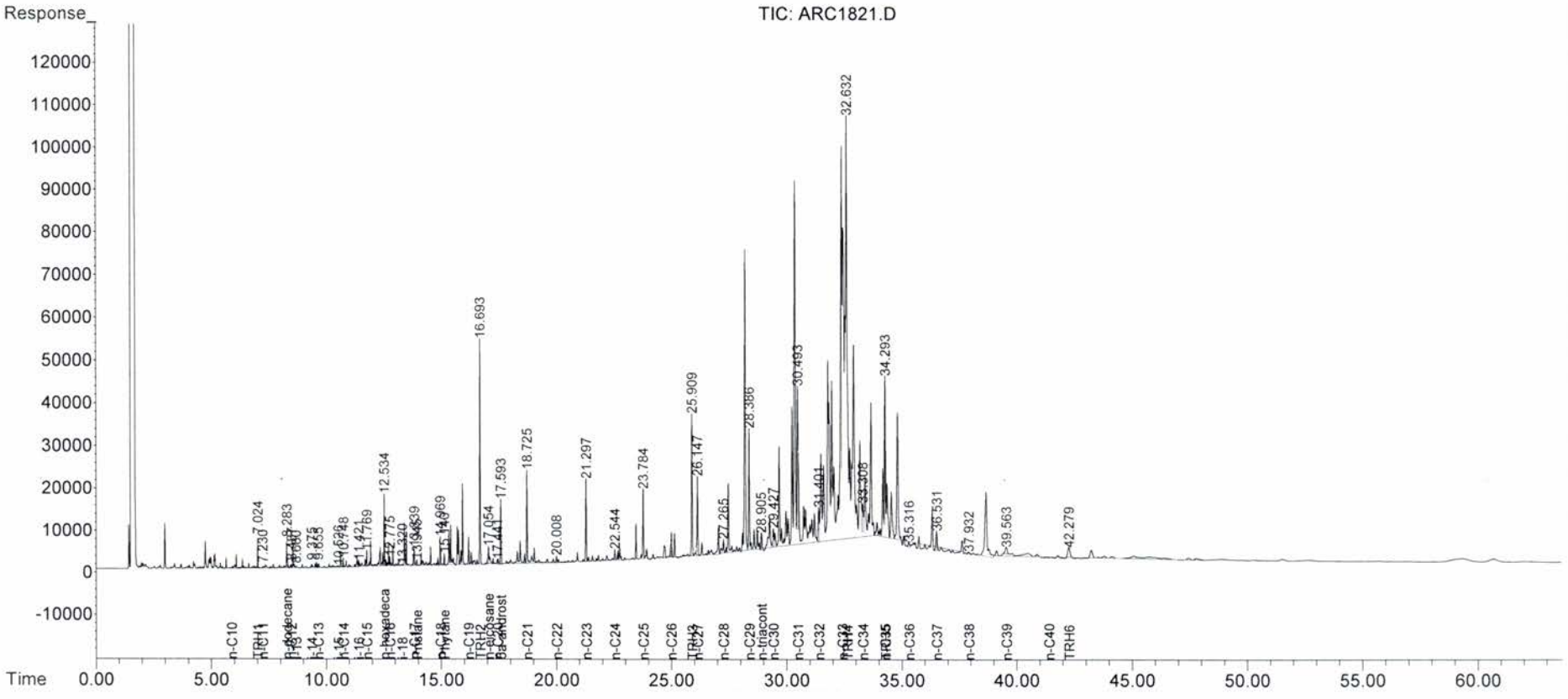
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ARC1821.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 11:11:36
Operator : Meghan Dailey
Sample : SED-DA-DUP-06-081013
Misc :
ALS Vial : 13 Sample Multiplier: 0.066313

Integration File: autoint1.e
Quant Time: Sep 02 10:24:26 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	**ARC1822.D**		ARC1822.D
Sample Name	**SED-DA-018 (0-0.5)**		SED-DA-018 (0-0.5)
Misc Info	**0**		29-Aug-2013, 12:22:09
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3093\FID30052**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**29-Aug-2013, 12:22:09**		0.0659631
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	14
Vial Number	**14**	IS Area 1	273282
Sample Multiplier	**0.0659631**	IS Area 2	331221

#	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	5.89	1503.7	0.02	0.016
5)	n-C11	7.23	3978.83	0.04	0.042
7)	n-C12	8.49	5156.43	0.05	0.053
8)	i-13	8.68	1812.69	0.02	0.019
9)	i-14	9.38	9981.38	0.10	0.102
10)	n-C13	9.66	7298.51	0.08	0.076
11)	i-15	10.55	71066.8	0.72	0.719
12)	n-C14	10.75	11337.3	0.12	0.115
13)	i-16	11.43	89029.8	0.90	0.898
14)	n-C15	11.77	193907	1.96	1.962
15)	n-C16	12.78	4648.59	0.05	0.047
17)	i-18	13.32	4742.26	0.05	0.049
18)	n-C17	13.84	79221.6	0.80	0.801
19)	Pristane	13.95	25519.6	0.26	0.260
20)	n-C18	14.97	112954	1.16	1.162
21)	Phytane	15.14	61060.7	0.62	0.617
22)	n-C19	16.19	113482	1.17	1.170
24)	n-C20	17.44	22286	0.23	0.229
25)	n-C21	18.73	449743	4.56	4.559
26)	n-C22	20.01	43980.2	0.44	0.445
27)	n-C23	21.30	465296	4.68	4.683
28)	n-C24	22.54	62279	0.63	0.627
29)	n-C25	23.79	397668	4.00	3.999
30)	n-C26	24.99	60285.1	0.61	0.606
31)	n-C27	26.15	490974	5.07	5.066
32)	n-C28	27.27	109967	1.12	1.120
33)	n-C29	28.39	811623	8.20	8.201
35)	n-C30	29.43	133628	1.36	1.362
36)	n-C31	30.50	1155320	11.96	11.962
37)	n-C32	31.40	258079	2.68	2.682
38)	n-C33	32.41	1111120	11.80	11.795
39)	n-C34	33.33	163226	1.70	1.700
40)	n-C35	34.29	471585	4.98	4.979
41)	n-C36	35.36	165463	1.62	1.620
42)	n-C37	36.54	424710	4.56	4.556
43)	n-C38	37.95	37245	0.40	0.403
44)	n-C39	39.57	105220	1.18	1.181
45)	n-C40	41.47	11790.4	0.14	0.142
46)	TPH	32.43	164967000	1730.61	1730.614
47)	TRH1	11.01	1015240	10.65	10.651
48)	TRH2	16.70	6972570	73.15	73.147
49)	TRH3	28.23	9438440	99.02	99.015
50)	TRH4	32.43	41546100	435.85	435.846
51)	TRH5	34.85	2809300	29.47	29.471
52)	TRH6	38.70	2002800	21.01	21.011
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	8.28	101617	1.17	88.4
23)	n-eicosane-d42	17.06	98025.6	1.26	95.7
34)	n-triacontane-d62	28.91	88650.4	1.16	87.7
1)	n-hexadecane-d34	12.54	273282	3.30	273282.000
16)	5a-androstane	17.60	331221	50.15	331221.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ARC1822.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 12:22:09
Operator : Meghan Dailey
Sample : SED-DA-018 (0-0.5)
Misc :
ALS Vial : 14 Sample Multiplier: 0.0659631

Integration File: autoint1.e
Quant Time: Sep 02 10:34:28 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	12.536	273282	50.000	ug/mlm
16) I	5a-androstane	17.595	331221	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.283	101617	1.166	ug/mlm
23) S	n-eicosane-d42	17.056	98026	1.260	ug/mlm
34) S	n-triacontane-d62	28.907	88650	1.157	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	5.886	1504	0.016	ug/mlm
5)	n-C11	7.232	3979	0.042	ug/mlm
7)	n-C12	8.489	5156	0.053	ug/mlm
8)	i-13	8.676	1813	0.019	ug/mlm
9)	i-14	9.378	9981	0.102	ug/mlm
10)	n-C13	9.656	7299	0.076	ug/mlm
11)	i-15	10.549	71067	0.719	ug/mlm
12)	n-C14	10.751	11337	0.115	ug/mlm
13)	i-16	11.429	89030	0.898	ug/mlm
14)	n-C15	11.772	193907	1.962	ug/mlm
15)	n-C16	12.777	4649	0.047	ug/mlm
17)	i-18	13.321	4742	0.049	ug/mlm
18)	n-C17	13.840	79222	0.801	ug/mlm
19)	Pristane	13.950	25520	0.260	ug/mlm
20)	n-C18	14.969	112954	1.162	ug/mlm
21)	Phytane	15.142	61061	0.617	ug/mlm
22)	n-C19	16.191	113482	1.170	ug/mlm
24)	n-C20	17.442	22286	0.229	ug/mlm
25)	n-C21	18.728	449743	4.559	ug/mlm
26)	n-C22	20.011	43980	0.445	ug/mlm
27)	n-C23	21.300	465296	4.683	ug/mlm
28)	n-C24	22.545	62279	0.627	ug/mlm
29)	n-C25	23.786	397668	3.999	ug/mlm
30)	n-C26	24.990f	60285	0.606	ug/mlm
31)	n-C27	26.149f	490974	5.066	ug/mlm
32)	n-C28	27.267	109967	1.120	ug/mlm
33)	n-C29	28.393f	811623	8.201	ug/mlm
35)	n-C30	29.434	133628	1.362	ug/mlm
36)	n-C31	30.499f	1155321	11.962	ug/mlm
37)	n-C32	31.403	258079	2.682	ug/mlm
38)	n-C33	32.410	1111120	11.795	ug/mlm
39)	n-C34	33.329	163226	1.700	ug/mlm
40)	n-C35	34.293	471585	4.979	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ARC1822.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 12:22:09
Operator : Meghan Dailey
Sample : SED-DA-018 (0-0.5)
Misc :
ALS Vial : 14 Sample Multiplier: 0.0659631

Integration File: autoint1.e
Quant Time: Sep 02 10:34:28 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	35.357f	165463	1.620	ug/mlm
42)	n-C37	36.540	424710	4.556	ug/mlm
43)	n-C38	37.946f	37245	0.403	ug/mlm
44)	n-C39	39.573f	105220	1.181	ug/mlm
45)	n-C40	41.466	11790	0.142	ug/mlm
46)	TPH	32.429	164966856	1730.612	ug/mlm
47)	TRH1	11.009f	1015245	10.651	ug/mlm
48)	TRH2	16.696	6972572	73.147	ug/mlm
49)	TRH3	28.226f	9438436	99.015	ug/mlm
50)	TRH4	32.429f	41546072	435.846	ug/mlm
51)	TRH5	34.846f	2809300	29.471	ug/mlm
52)	TRH6	38.700f	2002796	21.011	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

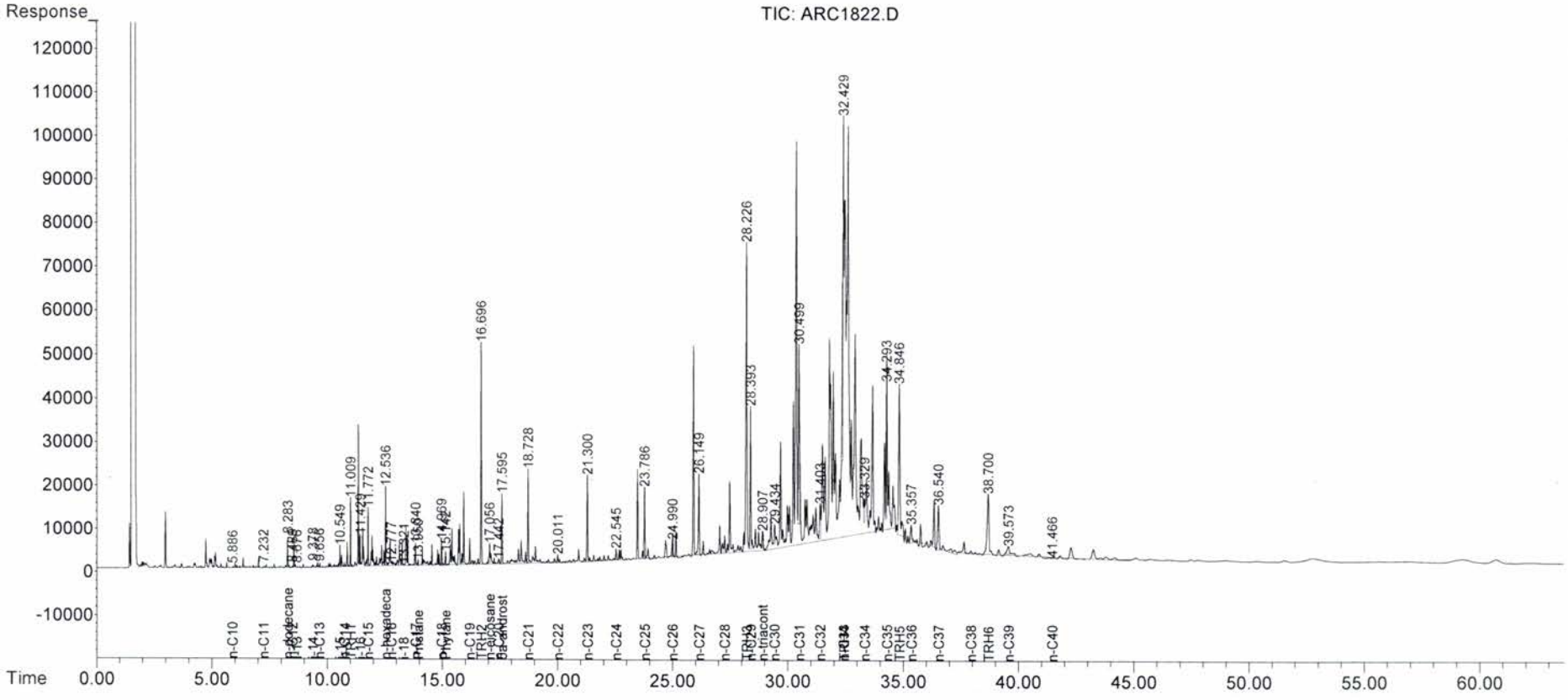
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ARC1822.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 12:22:09
Operator : Meghan Dailey
Sample : SED-DA-018 (0-0.5)
Misc :
ALS Vial : 14 Sample Multiplier: 0.0659631

Integration File: autoint1.e
Quant Time: Sep 02 10:34:28 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	**ARC1826.D**		ARC1826.D
Sample Name	**SED-DA-019 (0-0.5)**		SED-DA-019 (0-0.5)
Misc Info	**0**		29-Aug-2013, 13:32:47
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3093\FID30052**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**29-Aug-2013, 13:32:47**		0.0660066
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	15
Vial Number	**15**	IS Area 1	244560
Sample Multiplier	**0.0660066**	IS Area 2	330269

#	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	5.89	3304.28	0.04	0.039
5)	n-C11	7.23	9474.8	0.11	0.113
7)	n-C12	8.49	26281.5	0.30	0.304
8)	i-13	8.68	8932.12	0.10	0.104
9)	i-14	9.38	28476	0.32	0.324
10)	n-C13	9.66	16278.2	0.19	0.190
11)	i-15	10.53	20951.4	0.24	0.237
12)	n-C14	10.75	38932.6	0.44	0.443
13)	i-16	11.42	41275.7	0.47	0.465
14)	n-C15	11.76	101339	1.15	1.146
15)	n-C16	12.78	35992.8	0.41	0.406
17)	i-18	13.32	24468.5	0.25	0.253
18)	n-C17	13.84	102953	1.04	1.044
19)	Pristane	13.95	53404.8	0.55	0.546
20)	n-C18	14.97	177167	1.83	1.829
21)	Phytane	15.14	86691.6	0.88	0.878
22)	n-C19	16.20	122194	1.26	1.264
24)	n-C20	17.45	18858.5	0.19	0.194
25)	n-C21	18.73	356084	3.62	3.622
26)	n-C22	20.02	44067.2	0.45	0.447
27)	n-C23	21.30	389265	3.93	3.931
28)	n-C24	22.55	65601.5	0.66	0.663
29)	n-C25	23.79	306077	3.09	3.089
30)	n-C26	24.99	40719.6	0.41	0.411
31)	n-C27	26.15	406857	4.21	4.213
32)	n-C28	27.27	90147.1	0.92	0.921
33)	n-C29	28.39	611640	6.20	6.202
35)	n-C30	29.44	105001	1.07	1.074
36)	n-C31	30.40	1615220	16.78	16.783
37)	n-C32	31.41	208063	2.17	2.170
38)	n-C33	32.42	1267280	13.50	13.500
39)	n-C34	33.33	33899.2	0.35	0.354
40)	n-C35	34.30	556513	5.90	5.896
41)	n-C36	35.32	36485	0.36	0.358
42)	n-C37	36.55	175265	1.89	1.887
43)	n-C38	37.95	47711.5	0.52	0.518
44)	n-C39	39.58	97858.2	1.10	1.102
45)	n-C40	0.00	0	0.00	0.000
46)	TPH	32.65	174097000	1832.86	1832.858
47)	TRH1	8.28	913138	9.61	9.613
48)	TRH2	16.69	8592090	90.46	90.456
49)	TRH3	21.30	2069010	21.78	21.782
50)	TRH4	32.65	36536300	384.65	384.648
51)	TRH5	34.86	7438400	78.31	78.310
52)	TRH6	39.16	1858060	19.56	19.561
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	8.28	94762.6	1.22	92.1
23)	n-eicosane-d42	17.06	76428.9	0.99	74.8
34)	n-triacontane-d62	28.92	74052.5	0.97	73.5
1)	n-hexadecane-d34	12.54	244560	3.30	244560.000
16)	5a-androstane	17.60	330269	50.15	330269.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ARC1826.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 13:32:47
Operator : Meghan Dailey
Sample : SED-DA-019 (0-0.5)
Misc :
ALS Vial : 15 Sample Multiplier: 0.0660066

Integration File: autoint1.e
Quant Time: Aug 30 16:02:22 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	12.538	244560	50.000	ug/mlm
16) I	5a-androstane	17.600	330269	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.284	94763	1.216	ug/mlm
23) S	n-eicosane-d42	17.058	76429	0.986	ug/mlm
34) S	n-triacontane-d62	28.918f	74053	0.969	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	5.888	3304	0.039	ug/mlm
5)	n-C11	7.232	9475	0.113	ug/mlm
7)	n-C12	8.488	26282	0.304	ug/mlm
8)	i-13	8.677	8932	0.104	ug/mlm
9)	i-14	9.377	28476	0.324	ug/mlm
10)	n-C13	9.656	16278	0.190	ug/mlm
11)	i-15	10.527	20951	0.237	ug/mlm
12)	n-C14	10.751	38933	0.443	ug/mlm
13)	i-16	11.422	41276	0.465	ug/mlm
14)	n-C15	11.765	101339	1.146	ug/mlm
15)	n-C16	12.778	35993	0.406	ug/mlm
17)	i-18	13.322	24468	0.253	ug/mlm
18)	n-C17	13.843	102953	1.044	ug/mlm
19)	Pristane	13.951	53405	0.546	ug/mlm
20)	n-C18	14.974	177167	1.829	ug/mlm
21)	Phytane	15.143	86692	0.878	ug/mlm
22)	n-C19	16.196	122194	1.264	ug/mlm
24)	n-C20	17.447	18858	0.194	ug/mlm
25)	n-C21	18.730	356084	3.622	ug/mlm
26)	n-C22	20.018	44067	0.447	ug/mlm
27)	n-C23	21.303	389265	3.931	ug/mlm
28)	n-C24	22.550	65602	0.663	ug/mlm
29)	n-C25	23.789	306077	3.089	ug/mlm
30)	n-C26	24.987	40720	0.411	ug/mlm
31)	n-C27	26.150f	406857	4.213	ug/mlm
32)	n-C28	27.274	90147	0.921	ug/mlm
33)	n-C29	28.392f	611640	6.202	ug/mlm
35)	n-C30	29.438	105001	1.074	ug/mlm
36)	n-C31	30.396	1615218	16.783	ug/mlm
37)	n-C32	31.409	208063	2.170	ug/mlm
38)	n-C33	32.419	1267275	13.500	ug/mlm
39)	n-C34	33.327	33899	0.354	ug/mlm
40)	n-C35	34.302	556513	5.896	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ARC1826.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 13:32:47
Operator : Meghan Dailey
Sample : SED-DA-019 (0-0.5)
Misc :
ALS Vial : 15 Sample Multiplier: 0.0660066

Integration File: autoint1.e
Quant Time: Aug 30 16:02:22 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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	35.321	36485	0.358	ug/mlm
42)	n-C37	36.549	175265	1.887	ug/mlm
43)	n-C38	37.946f	47711	0.518	ug/mlm
44)	n-C39	39.579f	97858	1.102	ug/mlm
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	32.647	174096750	1832.860	ug/mlm
47)	TRH1	8.284	913138	9.613	ug/mlm
48)	TRH2	16.691	8592090	90.456	ug/mlm
49)	TRH3	21.303f	2069013	21.782	ug/mlm
50)	TRH4	32.647f	36536303	384.648	ug/mlm
51)	TRH5	34.857f	7438396	78.310	ug/mlm
52)	TRH6	39.160f	1858060	19.561	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

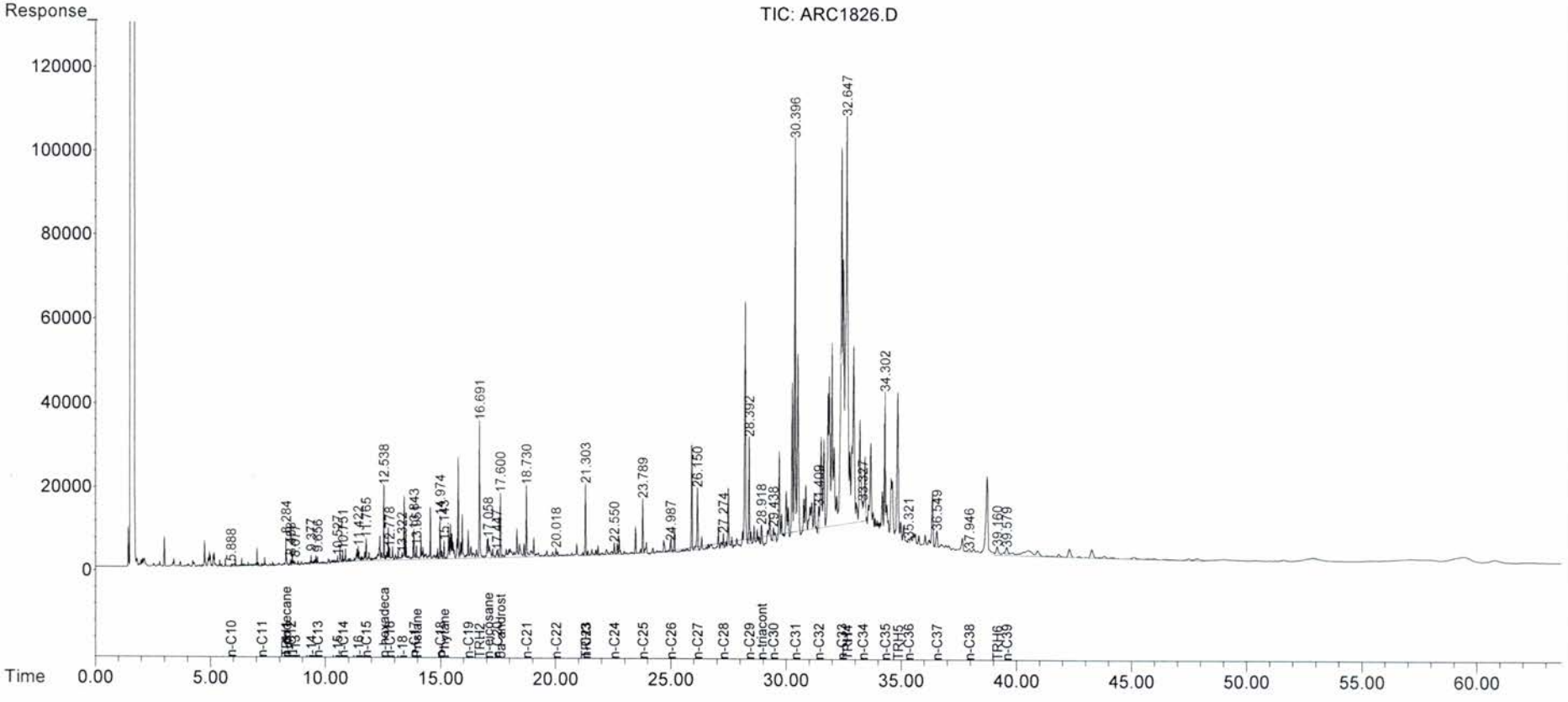
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3093\FID30052\
Data File : ARC1826.D
Signal(s) : FID1A.CH
Acq On : 29-Aug-2013, 13:32:47
Operator : Meghan Dailey
Sample : SED-DA-019 (0-0.5)
Misc :
ALS Vial : 15 Sample Multiplier: 0.0660066

Integration File: autoint1.e
Quant Time: Aug 30 16:02:22 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3093\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 3093	Analyst: Y. Miao
Client: Arcadis Mayflower Project	Date: September 23, 2013
Job: #: J13034	Project Quality Manager: W Fuchs
SDG #: 13081301 and 13081401	Date: W Fuchs 09/24/13

Initial Calibration: No failures	ICV No failures
Surrogate Recoveries:	Five client samples and three 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 3 client submitted samples Recovery of perylene is qualifed with an "L"
Procedural Blank:	No failures
Blank Spike:	NA
Blank Spike Duplicate:	NA
Laboratory Duplicate:	No failures
Matrix Spike:	Thirty-four (34) analytes 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.
Matirx Spike Duplicate:	Thirty-four (34) analytes 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.
SRM/LCS (Solution, Tissue, Sediment): Solution no failures Sediment (1941b) ~~no failures~~	09/24/13 WF fluoranthene out of ±30% in ENV3053B
CCC (from a second source): No failures	
SRM-2279 Reference Oil	3-MP and 2-MP was outside of the QC %recovery limits in MS60146K (AR-SRM2779-WK4.0-002)
Mass Discrimination Check (benzo(ghi)perylene/phenanthrene >0.7) No failures	

Sequence Name: C:\msdchem\1\sequence\MS60146.S
Comment: Arcadis-Mayflower AR-Sediments-PAH (09/02/13)
Operator: YM
Data Path: C:\MSDCHEM\1\DATA\MS60146\
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

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line		Sample Name/Misc Info		
1)	Sample	1	MS60146A	PAH-2012 Solvent rinse
2)	Sample	2	MS60146B	PAH-2012 AR-WKC1-020-030
3)	Sample	3	MS60146C	PAH-2012 AR-WKC2-100-030
4)	Sample	4	MS60146D	PAH-2012 AR-WKC3-250-030
5)	Sample	5	MS60146E	PAH-2012 AR-WKC4-500-030
6)	Sample	6	MS60146F	PAH-2012 AR-WKC5-1000-030
7)	Sample	7	MS60146G	PAH-2012 AR-WKC6-5000-030
8)	Sample	8	MS60146H	PAH-2012 AR-WKISSU-250-002
9)	Sample	9	MS60146I	PAH-2012 AR-WKICV-250-004
10)	Sample	10	MS60146J	PAH-2012 AR-WKCC-250-038
11)	Sample	11	MS60146K	PAH-2012 AR-SRM2779-WK-4.0-002
12)	Sample	12	ENV3093A	PAH-2012
13)	Sample	13	ENV3093B	PAH-2012
14)	Sample	14	ENV3093C	PAH-2012 5x
15)	Sample	15	ENV3093D	PAH-2012 5x
16)	Sample	16	ENV3093E	PAH-2012 5x
17)	Sample	17	ARC1816	PAH-2012 5x
18)	Sample	18	ARC1817	PAH-2012
19)	Sample	19	MS60146L	PAH-2012 AR-WKCC-250-038
20)	Sample	20	ARC1818	PAH-2012 5x
21)	Sample	21	ARC1819	PAH-2012
22)	Sample	22	ARC1820	PAH-2012
23)	Sample	23	ARC1821	PAH-2012 5x
24)	Sample	24	ARC1822	PAH-2012 5x
25)	Sample	25	ARC1823	PAH-2012
26)	Sample	26	ARC1824	PAH-2012
27)	Sample	27	ARC1825	PAH-2012
28)	Sample	28	MS60146M	PAH-2012 AR-WKCC-250-038
29)	Sample	29	ARC1826	PAH-2012 5x
30)	Sample	30	ARC1829	PAH-2012
31)	Sample	31	ARC1830	PAH-2012
32)	Sample	32	ARC1833	PAH-2012
33)	Sample	33	ARC1834	PAH-2012
34)	Sample	34	ARC1835	PAH-2012
35)	Sample	35	ARC1839	PAH-2012
36)	Sample	36	ARC1840	PAH-2012
37)	Sample	37	MS60146N	PAH-2012 AR-WKCC-250-038

Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60146\
Data File : MS60146J.D
Acq On : 3 Sep 2013 5:11 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 11 17:06:20 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 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	1.702	1.642	3.5	85	0.03
3	T	cis/trans Decalin	0.323	0.326	-0.9	87	0.00
4	un	C1-Decalins	0.323	0.000	100.0#	0#	-12.40#
5	un	C2-Decalins	0.323	0.000	100.0#	0#	-14.54#
6	un	C3-Decalins	0.323	0.000	100.0#	0#	-16.24#
7	un	C4-Decalins	0.323	0.000	100.0#	0#	-18.53#
8	T	Naphthalene	1.817	1.782	1.9	87	0.00
9	T	2-Methylnaphthalene	1.191	1.128	5.3	84	0.03
10	T	1-Methylnaphthalene	1.110	1.054	5.0	84	0.03
11	T	2,6-Dimethylnaphthalene	1.088	1.013	6.9	82	0.00
12	T	1,6,7-Trimethylnaphthalene	1.015	0.957	5.7	83	0.00
13	un	C2-Naphthalenes	1.817	0.000	100.0#	0#	-18.11#
14	un	C3-Naphthalenes	1.817	0.000	100.0#	0#	-20.25#
15	un	C4-Naphthalenes	1.817	0.000	100.0#	0#	-21.84#
16	T	Benzothiophene	1.453	1.419	2.3	85	0.00
17	un	C1-Benzothiophenes	1.453	0.000	100.0#	0#	-15.38#
18	un	C2-Benzothiophenes	1.453	0.000	100.0#	0#	-18.55#
19	un	C3-Benzothiophenes	1.453	0.000	100.0#	0#	-20.20#
20	un	C4-Benzothiophenes	1.453	0.000	100.0#	0#	-22.12#
21	S	Acenaphthene-d10	0.968	0.905	6.5	83	0.00
22	T	Biphenyl	1.580	1.502	4.9	84	0.00
23	T	Acenaphthylene	1.819	1.683	7.5	82	0.00
24	T	Acenaphthene	1.015	0.951	6.3	83	-0.03
25	T	Dibenzofuran	1.684	1.610	4.4	84	0.00
26	T	Fluorene	1.314	1.215	7.5	83	0.00
27	T	1-Methylfluorene	0.814	0.704	13.5	79	0.00
28	un	C1-Fluorenes	1.314	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.314	0.000	100.0#	0#	-25.31#
30	un	C3-Fluorenes	1.314	0.000	100.0#	0#	-26.59#
31	I	Pyrene-d10	1.000	1.000	0.0	77	0.00
32	S	Phenanthrene-d10	0.817	0.804	1.6	83	0.00
33	T	Carbazole	0.751	0.746	0.7	83	0.00
34	T	Dibenzothiophene	0.871	0.898	-3.1	85	0.00
35	T	4-Methyldibenzothiophene	0.779	0.749	3.9	81	0.00
36	un	2/3-Methyldibenzothiophene	0.779	0.000	100.0#	0#	-26.11#
37	un	1-Methyldibenzothiophene	0.779	0.000	100.0#	0#	-26.45#
38	un	C2-Dibenzothiophenes	0.871	0.000	100.0#	0#	-27.25#
39	un	C3-Dibenzothiophenes	0.871	0.000	100.0#	0#	-28.74#
40	un	C4-Dibenzothiophenes	0.871	0.000	100.0#	0#	-30.40#
41	T	Phenanthrene	1.026	0.973	5.2	82	0.00
42	T	Anthracene	0.993	0.928	6.5	81	0.00
43	un	3-Methylphenanthrene	0.787	0.000	100.0#	0#	-26.87#
44	un	2-Methylphenanthrene	0.787	0.000	100.0#	0#	-26.87#
45	un	2-Methylanthracene	0.787	0.000	100.0#	0#	-26.87#
46	un	4/9-Methylphenanthrene	0.787	0.000	100.0#	0#	-26.87#

Data Path : C:\GCMS6\MS60146\
Data File : MS60146J.D
Acq On : 3 Sep 2013 5:11 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 11 17:06:20 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 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	0.787	0.798	-1.4	84	0.00
48	T	3,6-Dimethylphenanthrene	0.669	0.658	1.6	84	-0.03
49	T	Retene	0.375	0.339	9.6	78	0.00
50	un	C2-Phenanthrenes/Anthracene	1.026	0.000	100.0#	0#	-28.50#
51	un	C3-Phenanthrenes/Anthracene	1.026	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.026	0.000	100.0#	0#	-32.00#
53	T	Naphthobenzothiophene	1.491	1.438	3.6	82	0.00
54	un	C1-Naphthobenzothiophenes	1.491	0.000	100.0#	0#	-34.19#
55	un	C2-Naphthobenzothiophenes	1.491	0.000	100.0#	0#	-35.78#
56	un	C3-Naphthobenzothiophenes	1.491	0.000	100.0#	0#	-37.30#
57	un	C4-Naphthobenzothiophenes	1.491	0.000	100.0#	0#	-38.46#
58	T	Fluoranthene	1.109	1.096	1.2	83	-0.03
59	T	Pyrene	1.432	1.362	4.9	80	0.00
60	T	2-Methylfluoranthene	0.958	0.846	11.7	76	0.00
61	T	Benzo(b)fluorene	0.802	0.695	13.3	78	0.00
62	un	C1-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-30.65#
63	un	C2-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-32.13#
64	un	C3-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-34.19#
65	un	C4-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-34.19#
66	S	Chrysene-d12	1.397	1.457	-4.3	83	0.00
67	T	Benz(a)anthracene	1.486	1.435	3.4	80	0.00
68	T	Chrysene/Triphenylene	1.401	1.487	-6.1	84	0.00
69	un	C1-Chrysenes	1.401	0.000	100.0#	0#	-35.55#
70	un	C2-Chrysenes	1.401	0.000	100.0#	0#	-36.36#
71	un	C3-Chrysenes	1.401	0.000	100.0#	0#	-38.07#
72	un	C4-Chrysenes	1.401	0.000	100.0#	0#	-39.62#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	78	0.00
74	un	C29-Hopane	0.449	0.000	100.0#	0#	-41.08#
75	un	18a-Oleanane	0.449	0.000	100.0#	0#	-41.96#
76	T	C30-Hopane	0.449	0.427	4.9	81	-0.04
77	T	Benzo(b)fluoranthene	1.282	1.237	3.5	82	0.00
78	T	Benzo(k,j)fluoranthene	1.150	1.142	0.7	81	-0.04
79	un	Benzo(a)fluoranthene	1.150	0.000	100.0#	0#	-37.26#
80	T	Benzo(e)pyrene	1.248	1.207	3.3	81	-0.04
81	T	Benzo(a)pyrene	1.256	1.205	4.1	80	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.567	1.484	5.3	80	-0.04
83	T	Dibenzo(a,h)anthracene	1.238	1.188	4.0	80	-0.04
84	un	C1-Dibenzo(a,h)anthracenes	1.238	0.000	100.0#	0#	-49.34#
85	un	C2-Dibenzo(a,h)anthracenes	1.238	0.000	100.0#	0#	-50.63#
86	un	C3-Dibenzo(a,h)anthracenes	1.238	0.000	100.0#	0#	-50.66#
87	T	Benzo(g,h,i)perylene	1.370	1.313	4.2	80	-0.07
88	S	Perylene-d12	1.127	1.035	8.2	80	0.00
89	T	Perylene	1.292	1.235	4.4	80	0.00
90	S	5(b)H-Cholane	0.189	0.186	1.6	82	0.00
91	un	C20-TAS	1.683	0.000	100.0#	0#	-33.22#
92	un	C21-TAS	1.683	0.000	100.0#	0#	-34.19#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60146\
Data File : MS60146J.D
Acq On : 3 Sep 2013 5:11 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 11 17:06:20 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 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	1.683	0.000	100.0#	0#	-38.65#
94 T	C26(20R)/C27(20S)-TAS	1.683	1.490	11.5	77	0.00
95 un	C28(20S)-TAS	1.683	0.000	100.0#	0#	-40.12#
96 un	C27(20R)-TAS	1.683	0.000	100.0#	0#	-40.56#
97 un	C28(20R)-TAS	1.683	0.000	100.0#	0#	-41.70#

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146J.D
Acq On : 3 Sep 2013 5:11 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 11 17:06:20 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.342	176	131881m	251.05		0.00
31) Pyrene-d10	29.572	212	250590m	250.63		0.00
73) Benzo(a)pyrene-d12	38.341	264	356595m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.706	136	215775m	241.27		0.03
21) Acenaphthene-d10	19.558	164	118949m	234.00		0.00
32) Phenanthrene-d10	24.688	188	201195m	246.41		0.00
66) Chrysene-d12	33.762	240	364175m	260.81		0.00
88) Perylene-d12	38.651	264	368600m	229.50		0.00
90) 5(b)H-Cholane	34.150	217	66099m	245.26		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.059	138	42375m	249.50		
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	13.762	128	234069m	245.20		
9) 2-Methylnaphthalene	16.019	142	148348m	237.03		
10) 1-Methylnaphthalene	16.354	142	138346m	237.26		
11) 2,6-Dimethylnaphthalene	18.109	156	133050m	232.89		
12) 1,6,7-Trimethylnaphtha...	20.952	170	125689m	235.64		
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	13.929	134	185291m	242.70		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.580	154	195537m	235.61		
23) Acenaphthylene	19.057	152	219199m	229.33		
24) Acenaphthene	19.642	154	125174m	234.66		
25) Dibenzofuran	20.255	168	210408m	237.79		
26) Fluorene	21.425	166	159902m	231.66		
27) 1-Methylfluorene	23.441	180	93122m	217.71		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.484	167	184802m	246.26		
34) Dibenzothiophene	24.307	184	221281m	254.07		
35) 4-Methyldibenzothiophene	25.831	198	188719m	242.27		
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.757	178	240959m	234.81		
42) Anthracene	24.930	178	232575m	234.28		

Data Path : C:\GCMS6\MS60146\
Data File : MS60146J.D
Acq On : 3 Sep 2013 5:11 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 11 17:06:20 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 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	26.870	192	197166m	250.68		
48) 3,6-Dimethylphenanthrene	27.944	206	164599m	245.90		
49) Retene	30.645	234	75781m	202.01		
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	32.908	234	361714m	242.67		
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	28.844	202	274350m	247.35		
59) Pyrene	29.641	202	340558m	237.93		
60) 2-Methylfluoranthene	30.403	216	212944m	222.33		
61) Benzo(b)fluorene	31.027	216	175388m	218.84		
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	33.723	228	357936m	240.88		
68) Chrysene/Triphenylene	33.839	228	369491m	263.76		
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	42.663	191	152170m	237.72		
77) Benzo(b)fluoranthene	37.254	252	441582m	241.71		
78) Benzo(k,j)fluoranthene	37.332	252	404923m	247.07		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.224	252	428151m	240.89		
81) Benzo(a)pyrene	38.419	252	428414m	239.49		
82) Indeno(1,2,3-c,d)pyrene	43.068	276	519620m	232.84		
83) Dibenzo(a,h)anthracene	43.142	278	419339m	237.72		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.433	276	463296m	237.37		
89) Perylene	38.729	252	440366m	239.23		
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	39.350	231	530485m	221.22		
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	

Data Path : C:\GCMS6\MS60146\
Data File : MS60146J.D
Acq On : 3 Sep 2013 5:11 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 11 17:06:20 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

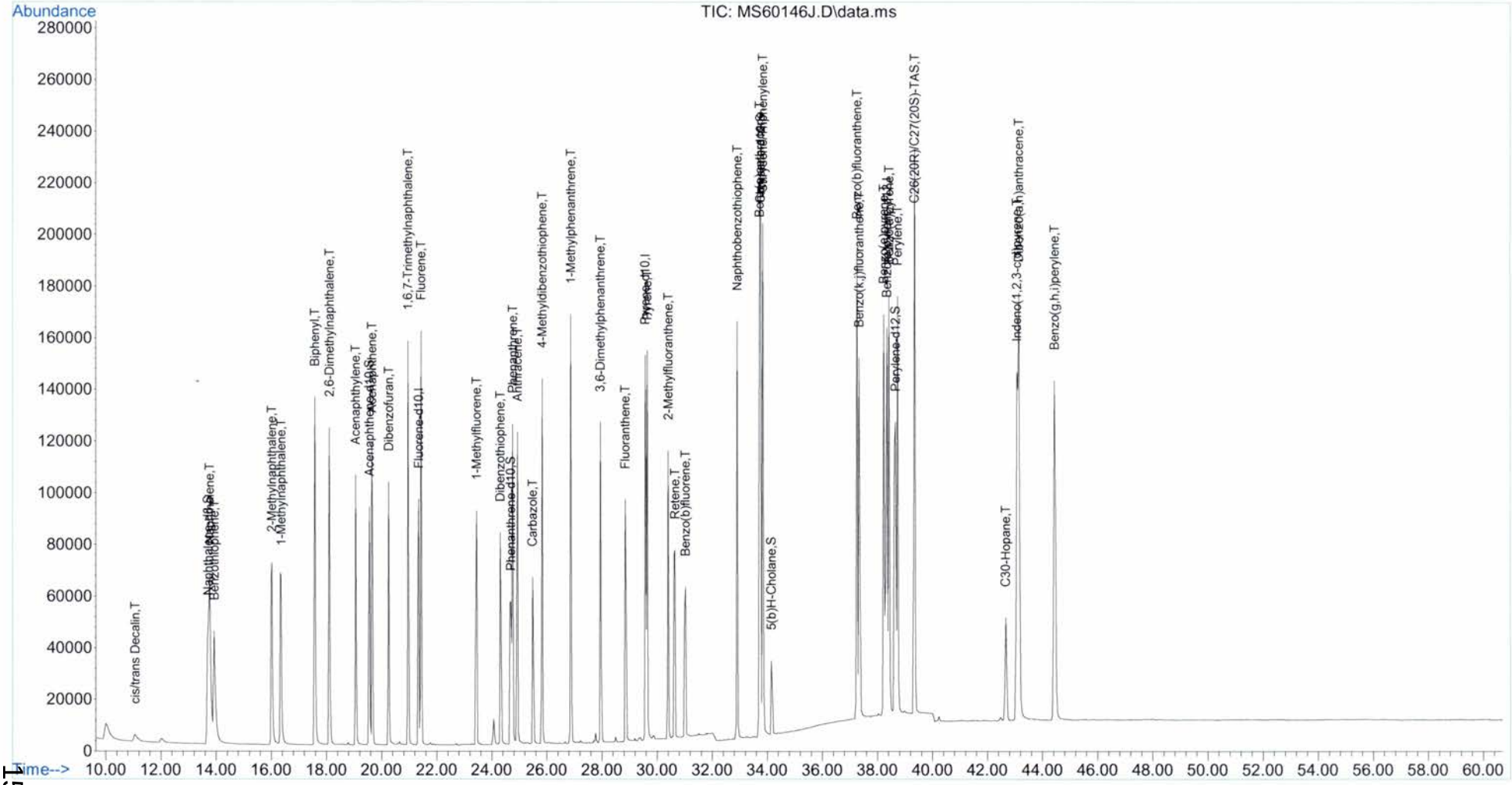
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146J.D
Acq On : 3 Sep 2013 5:11 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 11 17:06:20 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60146\
Data File : MS60146L.D
Acq On : 3 Sep 2013 3:43 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Sep 11 16:50:28 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 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	90	-0.20
2	S	Naphthalene-d8	1.702	1.425	16.3	80	-0.14
3	T	cis/trans Decalin	0.323	0.278	13.9	81	-0.17
4	un	C1-Decalins	0.323	0.000	100.0#	0#	-12.40#
5	un	C2-Decalins	0.323	0.000	100.0#	0#	-14.54#
6	un	C3-Decalins	0.323	0.000	100.0#	0#	-16.24#
7	un	C4-Decalins	0.323	0.000	100.0#	0#	-18.53#
8	T	Naphthalene	1.817	1.529	15.9	82	-0.17
9	T	2-Methylnaphthalene	1.191	1.052	11.7	86	-0.17
10	T	1-Methylnaphthalene	1.110	0.987	11.1	86	-0.17
11	T	2,6-Dimethylnaphthalene	1.088	0.996	8.5	88	-0.17
12	T	1,6,7-Trimethylnaphthalene	1.015	0.993	2.2	95	-0.17
13	un	C2-Naphthalenes	1.817	0.000	100.0#	0#	-18.11#
14	un	C3-Naphthalenes	1.817	0.000	100.0#	0#	-20.25#
15	un	C4-Naphthalenes	1.817	0.000	100.0#	0#	-21.84#
16	T	Benzothiophene	1.453	1.226	15.6	81	-0.17
17	un	C1-Benzothiophenes	1.453	0.000	100.0#	0#	-15.38#
18	un	C2-Benzothiophenes	1.453	0.000	100.0#	0#	-18.55#
19	un	C3-Benzothiophenes	1.453	0.000	100.0#	0#	-20.20#
20	un	C4-Benzothiophenes	1.453	0.000	100.0#	0#	-22.12#
21	S	Acenaphthene-d10	0.968	0.911	5.9	91	-0.20
22	T	Biphenyl	1.580	1.385	12.3	84	-0.17
23	T	Acenaphthylene	1.819	1.684	7.4	89	-0.17
24	T	Acenaphthene	1.015	0.983	3.2	94	-0.20
25	T	Dibenzofuran	1.684	1.526	9.4	88	-0.17
26	T	Fluorene	1.314	1.259	4.2	94	-0.17
27	T	1-Methylfluorene	0.814	0.846	-3.9	104	-0.17
28	un	C1-Fluorenes	1.314	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.314	0.000	100.0#	0#	-25.31#
30	un	C3-Fluorenes	1.314	0.000	100.0#	0#	-26.59#
31	I	Pyrene-d10	1.000	1.000	0.0	111	-0.17
32	S	Phenanthrene-d10	0.817	0.672	17.7	100	-0.21
33	T	Carbazole	0.751	0.673	10.4	108	-0.17
34	T	Dibenzothiophene	0.871	0.744	14.6	102	-0.17
35	T	4-Methyldibenzothiophene	0.779	0.652	16.3	102	-0.17
36	un	2/3-Methyldibenzothiophene	0.779	0.000	100.0#	0#	-26.11#
37	un	1-Methyldibenzothiophene	0.779	0.000	100.0#	0#	-26.45#
38	un	C2-Dibenzothiophenes	0.871	0.000	100.0#	0#	-27.25#
39	un	C3-Dibenzothiophenes	0.871	0.000	100.0#	0#	-28.74#
40	un	C4-Dibenzothiophenes	0.871	0.000	100.0#	0#	-30.40#
41	T	Phenanthrene	1.026	0.787	23.3	95	-0.17
42	T	Anthracene	0.993	0.798	19.6	101	-0.17
43	un	3-Methylphenanthrene	0.787	0.000	100.0#	0#	-26.87#
44	un	2-Methylphenanthrene	0.787	0.000	100.0#	0#	-26.87#
45	un	2-Methylanthracene	0.787	0.000	100.0#	0#	-26.87#
46	un	4/9-Methylphenanthrene	0.787	0.000	100.0#	0#	-26.87#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60146\
Data File : MS60146L.D
Acq On : 3 Sep 2013 3:43 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Sep 11 16:50:28 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 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	0.787	0.722	8.3	110	-0.17
48	T	3,6-Dimethylphenanthrene	0.669	0.585	12.6	108	-0.21
49	T	Retene	0.375	0.392	-4.5	131	-0.17
50	un	C2-Phenanthrenes/Anthracene	1.026	0.000	100.0#	0#	-28.50#
51	un	C3-Phenanthrenes/Anthracene	1.026	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.026	0.000	100.0#	0#	-32.00#
53	T	Naphthobenzothiophene	1.491	1.011	32.2#	84	-0.16
54	un	C1-Naphthobenzothiophenes	1.491	0.000	100.0#	0#	-34.19#
55	un	C2-Naphthobenzothiophenes	1.491	0.000	100.0#	0#	-35.78#
56	un	C3-Naphthobenzothiophenes	1.491	0.000	100.0#	0#	-37.30#
57	un	C4-Naphthobenzothiophenes	1.491	0.000	100.0#	0#	-38.46#
58	T	Fluoranthene	1.109	0.989	10.8	109	-0.21
59	T	Pyrene	1.432	1.214	15.2	103	-0.17
60	T	2-Methylfluoranthene	0.958	0.867	9.5	113	-0.17
61	T	Benzo(b)fluorene	0.802	0.722	10.0	117	-0.17
62	un	C1-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-30.65#
63	un	C2-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-32.13#
64	un	C3-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-34.19#
65	un	C4-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-34.19#
66	S	Chrysene-d12	1.397	1.066	23.7	88	-0.16
67	T	Benz(a)anthracene	1.486	1.080	27.3#	87	-0.19
68	T	Chrysene/Triphenylene	1.401	1.189	15.1	97	-0.16
69	un	C1-Chrysenes	1.401	0.000	100.0#	0#	-35.55#
70	un	C2-Chrysenes	1.401	0.000	100.0#	0#	-36.36#
71	un	C3-Chrysenes	1.401	0.000	100.0#	0#	-38.07#
72	un	C4-Chrysenes	1.401	0.000	100.0#	0#	-39.62#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	89	-0.23
74	un	C29-Hopane	0.449	0.000	100.0#	0#	-41.08#
75	un	18a-Oleanane	0.449	0.000	100.0#	0#	-41.96#
76	T	C30-Hopane	0.449	0.446	0.7	96	-0.33
77	T	Benzo(b)fluoranthene	1.282	1.303	-1.6	99	-0.19
78	T	Benzo(k,j)fluoranthene	1.150	1.199	-4.3	97	-0.23
79	un	Benzo(a)fluoranthene	1.150	0.000	100.0#	0#	-37.26#
80	T	Benzo(e)pyrene	1.248	1.328	-6.4	102	-0.23
81	T	Benzo(a)pyrene	1.256	1.177	6.3	89	-0.19
82	T	Indeno(1,2,3-c,d)pyrene	1.567	1.506	3.9	93	-0.33
83	T	Dibenzo(a,h)anthracene	1.238	1.262	-1.9	97	-0.33
84	un	C1-Dibenzo(a,h)anthracenes	1.238	0.000	100.0#	0#	-49.34#
85	un	C2-Dibenzo(a,h)anthracenes	1.238	0.000	100.0#	0#	-50.63#
86	un	C3-Dibenzo(a,h)anthracenes	1.238	0.000	100.0#	0#	-50.66#
87	T	Benzo(g,h,i)perylene	1.370	1.318	3.8	92	-0.37
88	S	Perylene-d12	1.127	1.152	-2.2	102	-0.23
89	T	Perylene	1.292	1.217	5.8	91	-0.23
90	S	5(b)H-Cholane	0.189	0.291	-54.0#	147	-0.16
91	un	C20-TAS	1.683	0.000	100.0#	0#	-33.22#
92	un	C21-TAS	1.683	0.000	100.0#	0#	-34.19#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60146\
Data File : MS60146L.D
Acq On : 3 Sep 2013 3:43 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Sep 11 16:50:28 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 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	1.683	0.000	100.0#	0#	-38.65#
94 T	C26(20R)/C27(20S)-TAS	1.683	1.726	-2.6	102	-0.23
95 un	C28(20S)-TAS	1.683	0.000	100.0#	0#	-40.12#
96 un	C27(20R)-TAS	1.683	0.000	100.0#	0#	-40.56#
97 un	C28(20R)-TAS	1.683	0.000	100.0#	0#	-41.70#

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146L.D
Acq On : 3 Sep 2013 3:43 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Sep 11 16:50:28 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.146	176	144136m	251.05		-0.20
31) Pyrene-d10	29.397	212	361786m	250.63		-0.17
73) Benzo(a)pyrene-d12	38.109	264	407922m	250.32		-0.23
System Monitoring Compounds						
2) Naphthalene-d8	13.538	136	204648m	209.38		-0.14
21) Acenaphthene-d10	19.362	164	130903m	235.62		-0.20
32) Phenanthrene-d10	24.479	188	242587m	205.79		-0.21
66) Chrysene-d12	33.608	240	384873m	190.91		-0.16
88) Perylene-d12	38.420	264	469377m	255.48		-0.23
90) 5(b)H-Cholane	33.996	217	118361m	383.91		-0.16
Target Compounds						Qvalue
3) cis/trans Decalin	10.891	138	39421m	212.37		
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	13.594	128	219400m	210.29		
9) 2-Methylnaphthalene	15.823	142	151189m	221.03		
10) 1-Methylnaphthalene	16.158	142	141490m	222.02		
11) 2,6-Dimethylnaphthalene	17.941	156	143011m	229.05		
12) 1,6,7-Trimethylnaphtha...	20.784	170	142550m	244.53		
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	13.761	134	174845m	209.55		
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	17.412	154	196978m	217.17		
23) Acenaphthylene	18.889	152	239748m	229.51		
24) Acenaphthene	19.474	154	141388m	242.52		
25) Dibenzofuran	20.087	168	218000m	225.42		
26) Fluorene	21.257	166	181081m	240.04		
27) 1-Methylfluorene	23.266	180	122351m	261.72		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.		
33) Carbazole	25.310	167	240628m	222.10		
34) Dibenzothiophene	24.132	184	264761m	210.56		
35) 4-Methyldibenzothiophene	25.656	198	237076m	210.81		
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.		
41) Phenanthrene	24.583	178	281474m	189.99		
42) Anthracene	24.756	178	288756m	201.47		

Data Path : C:\GCMS6\MS60146\
Data File : MS60146L.D
Acq On : 3 Sep 2013 3:43 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Sep 11 16:50:28 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 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	26.695	192	257832m	227.06		
48) 3,6-Dimethylphenanthrene	27.769	206	211211m	218.56		
49) Retene	30.471	234	126364m	233.31		
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	32.754	234	367187m	170.63		
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.670	202	357266m	223.10		
59) Pyrene	29.467	202	438222m	212.06		
60) 2-Methylfluoranthene	30.229	216	315150m	227.91		
61) Benzo(b)fluorene	30.852	216	262891m	227.21		
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	33.530	228	388916m	181.28		
68) Chrysene/Triphenylene	33.685	228	426544m	210.90		
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.		
75) 18a-Oleanane	0.000		0	N.D.		
76) C30-Hopane	42.366	191	181671m	248.10		
77) Benzo(b)fluoranthene	37.061	252	532006m	254.56		
78) Benzo(k,j)fluoranthene	37.139	252	486412m	259.45		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.032	252	538697m	264.95		
81) Benzo(a)pyrene	38.226	252	478376m	233.77		
82) Indeno(1,2,3-c,d)pyrene	42.772	276	603169m	236.27		
83) Dibenzo(a,h)anthracene	42.846	278	509405m	252.44		
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	44.137	276	532167m	238.35		
89) Perylene	38.497	252	496327m	235.71		
91) C20-TAS	0.000		0	N.D.		
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.118	231	703049m	256.30		
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.		

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146L.D
Acq On : 3 Sep 2013 3:43 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Sep 11 16:50:28 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

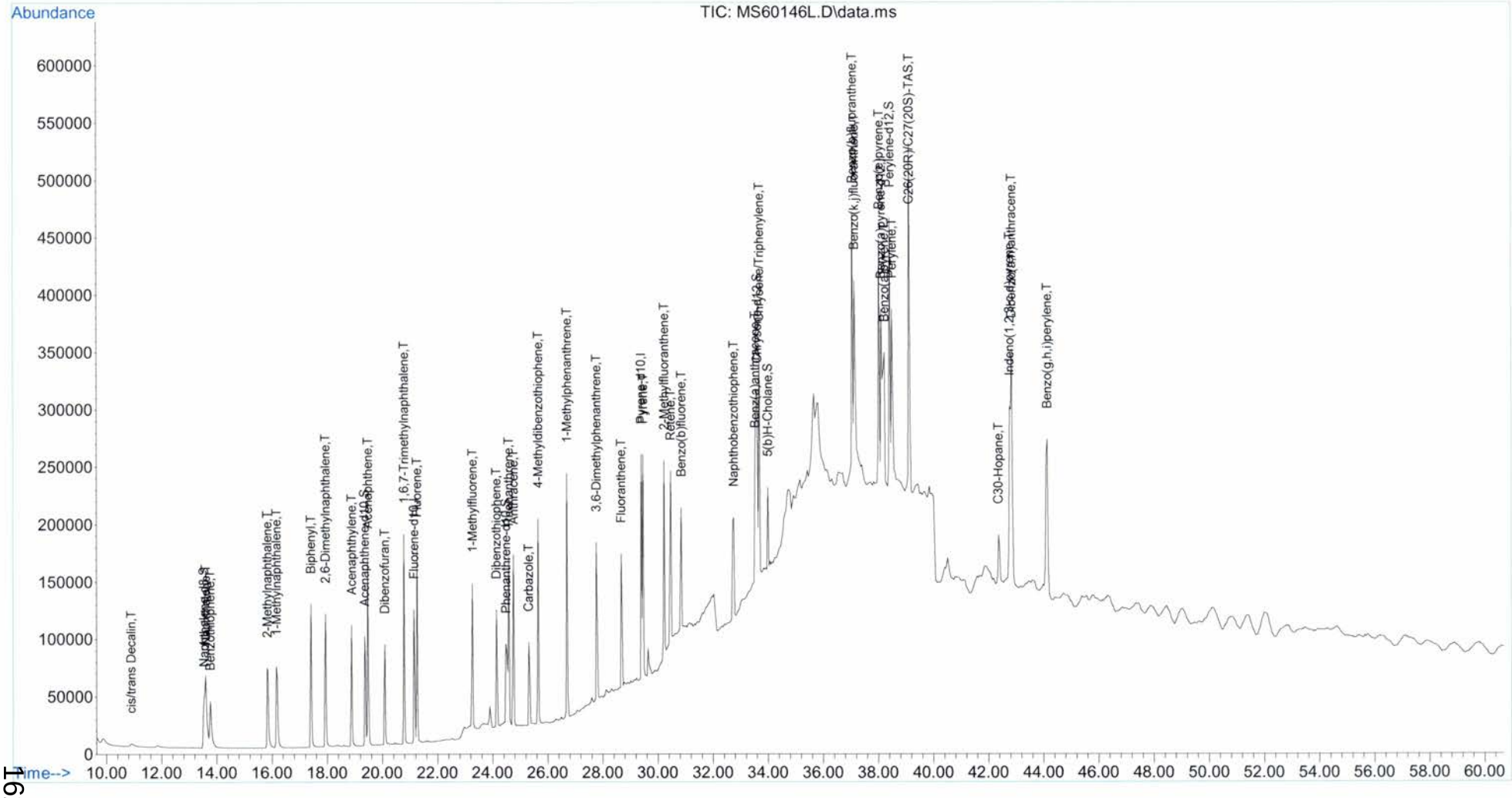
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146L.D
Acq On : 3 Sep 2013 3:43 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Sep 11 16:50:28 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60146\
Data File : MS60146M.D
Acq On : 4 Sep 2013 2:11 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Sep 11 16:56:56 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 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	96	-0.20
2	S	Naphthalene-d8	1.702	1.356	20.3	81	-0.14
3	T	cis/trans Decalin	0.323	0.254	21.4	78	-0.17
4	un	C1-Decalins	0.323	0.000	100.0#	0#	-12.40#
5	un	C2-Decalins	0.323	0.000	100.0#	0#	-14.54#
6	un	C3-Decalins	0.323	0.000	100.0#	0#	-16.24#
7	un	C4-Decalins	0.323	0.000	100.0#	0#	-18.53#
8	T	Naphthalene	1.817	1.469	19.2	83	-0.17
9	T	2-Methylnaphthalene	1.191	1.004	15.7	87	-0.17
10	T	1-Methylnaphthalene	1.110	0.947	14.7	87	-0.17
11	T	2,6-Dimethylnaphthalene	1.088	0.934	14.2	88	-0.17
12	T	1,6,7-Trimethylnaphthalene	1.015	0.954	6.0	96	-0.17
13	un	C2-Naphthalenes	1.817	0.000	100.0#	0#	-18.11#
14	un	C3-Naphthalenes	1.817	0.000	100.0#	0#	-20.25#
15	un	C4-Naphthalenes	1.817	0.000	100.0#	0#	-21.84#
16	T	Benzothiophene	1.453	1.152	20.7	81	-0.17
17	un	C1-Benzothiophenes	1.453	0.000	100.0#	0#	-15.38#
18	un	C2-Benzothiophenes	1.453	0.000	100.0#	0#	-18.55#
19	un	C3-Benzothiophenes	1.453	0.000	100.0#	0#	-20.20#
20	un	C4-Benzothiophenes	1.453	0.000	100.0#	0#	-22.12#
21	S	Acenaphthene-d10	0.968	0.872	9.9	92	-0.20
22	T	Biphenyl	1.580	1.323	16.3	86	-0.17
23	T	Acenaphthylene	1.819	1.600	12.0	90	-0.17
24	T	Acenaphthene	1.015	0.943	7.1	96	-0.20
25	T	Dibenzofuran	1.684	1.476	12.4	90	-0.17
26	T	Fluorene	1.314	1.206	8.2	95	-0.17
27	T	1-Methylfluorene	0.814	0.777	4.5	101	-0.17
28	un	C1-Fluorenes	1.314	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.314	0.000	100.0#	0#	-25.31#
30	un	C3-Fluorenes	1.314	0.000	100.0#	0#	-26.59#
31	I	Pyrene-d10	1.000	1.000	0.0	100	-0.17
32	S	Phenanthrene-d10	0.817	0.752	8.0	101	-0.21
33	T	Carbazole	0.751	0.728	3.1	105	-0.17
34	T	Dibenzothiophene	0.871	0.850	2.4	104	-0.17
35	T	4-Methyldibenzothiophene	0.779	0.726	6.8	103	-0.17
36	un	2/3-Methyldibenzothiophene	0.779	0.000	100.0#	0#	-26.11#
37	un	1-Methyldibenzothiophene	0.779	0.000	100.0#	0#	-26.45#
38	un	C2-Dibenzothiophenes	0.871	0.000	100.0#	0#	-27.25#
39	un	C3-Dibenzothiophenes	0.871	0.000	100.0#	0#	-28.74#
40	un	C4-Dibenzothiophenes	0.871	0.000	100.0#	0#	-30.40#
41	T	Phenanthrene	1.026	0.881	14.1	96	-0.17
42	T	Anthracene	0.993	0.865	12.9	98	-0.17
43	un	3-Methylphenanthrene	0.787	0.000	100.0#	0#	-26.87#
44	un	2-Methylphenanthrene	0.787	0.000	100.0#	0#	-26.87#
45	un	2-Methylanthracene	0.787	0.000	100.0#	0#	-26.87#
46	un	4/9-Methylphenanthrene	0.787	0.000	100.0#	0#	-26.87#

Data Path : C:\GCMS6\MS60146\
Data File : MS60146M.D
Acq On : 4 Sep 2013 2:11 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Sep 11 16:56:56 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 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	0.787	0.813	-3.3	112	-0.17
48	T	3,6-Dimethylphenanthrene	0.669	0.652	2.5	109	-0.21
49	T	Retene	0.375	0.409	-9.1	123	-0.17
50	un	C2-Phenanthrenes/Anthracene	1.026	0.000	100.0#	0#	-28.50#
51	un	C3-Phenanthrenes/Anthracene	1.026	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.026	0.000	100.0#	0#	-32.00#
53	T	Naphthobenzothiophene	1.491	1.056	29.2#	79	-0.16
54	un	C1-Naphthobenzothiophenes	1.491	0.000	100.0#	0#	-34.19#
55	un	C2-Naphthobenzothiophenes	1.491	0.000	100.0#	0#	-35.78#
56	un	C3-Naphthobenzothiophenes	1.491	0.000	100.0#	0#	-37.30#
57	un	C4-Naphthobenzothiophenes	1.491	0.000	100.0#	0#	-38.46#
58	T	Fluoranthene	1.109	1.103	0.5	109	-0.21
59	T	Pyrene	1.432	1.387	3.1	106	-0.17
60	T	2-Methylfluoranthene	0.958	0.948	1.0	111	-0.17
61	T	Benzo(b)fluorene	0.802	0.772	3.7	112	-0.17
62	un	C1-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-30.65#
63	un	C2-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-32.13#
64	un	C3-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-34.19#
65	un	C4-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-34.19#
66	S	Chrysene-d12	1.397	1.057	24.3	79	-0.16
67	T	Benz(a)anthracene	1.486	1.120	24.6	82	-0.19
68	T	Chrysene/Triphenylene	1.401	1.242	11.3	92	-0.16
69	un	C1-Chrysenes	1.401	0.000	100.0#	0#	-35.55#
70	un	C2-Chrysenes	1.401	0.000	100.0#	0#	-36.36#
71	un	C3-Chrysenes	1.401	0.000	100.0#	0#	-38.07#
72	un	C4-Chrysenes	1.401	0.000	100.0#	0#	-39.62#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	88	-0.23
74	un	C29-Hopane	0.449	0.000	100.0#	0#	-41.08#
75	un	18a-Oleanane	0.449	0.000	100.0#	0#	-41.96#
76	T	C30-Hopane	0.449	0.428	4.7	91	-0.33
77	T	Benzo(b)fluoranthene	1.282	1.278	0.3	95	-0.19
78	T	Benzo(k,j)fluoranthene	1.150	1.160	-0.9	92	-0.23
79	un	Benzo(a)fluoranthene	1.150	0.000	100.0#	0#	-37.26#
80	T	Benzo(e)pyrene	1.248	1.308	-4.8	99	-0.23
81	T	Benzo(a)pyrene	1.256	1.154	8.1	86	-0.19
82	T	Indeno(1,2,3-c,d)pyrene	1.567	1.464	6.6	88	-0.33
83	T	Dibenzo(a,h)anthracene	1.238	1.199	3.2	90	-0.33
84	un	C1-Dibenzo(a,h)anthracenes	1.238	0.000	100.0#	0#	-49.34#
85	un	C2-Dibenzo(a,h)anthracenes	1.238	0.000	100.0#	0#	-50.63#
86	un	C3-Dibenzo(a,h)anthracenes	1.238	0.000	100.0#	0#	-50.66#
87	T	Benzo(g,h,i)perylene	1.370	1.282	6.4	88	-0.37
88	S	Perylene-d12	1.127	1.140	-1.2	99	-0.23
89	T	Perylene	1.292	1.174	9.1	86	-0.23
90	S	5(b)H-Cholane	0.189	0.281	-48.7#	140	-0.16
91	un	C20-TAS	1.683	0.000	100.0#	0#	-33.22#
92	un	C21-TAS	1.683	0.000	100.0#	0#	-34.19#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60146\
Data File : MS60146M.D
Acq On : 4 Sep 2013 2:11 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Sep 11 16:56:56 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 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	1.683	0.000	100.0#	0#	-38.65#
94 T	C26(20R)/C27(20S)-TAS	1.683	1.682	0.1	98	-0.23
95 un	C28(20S)-TAS	1.683	0.000	100.0#	0#	-40.12#
96 un	C27(20R)-TAS	1.683	0.000	100.0#	0#	-40.56#
97 un	C28(20R)-TAS	1.683	0.000	100.0#	0#	-41.70#

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146M.D
Acq On : 4 Sep 2013 2:11 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Sep 11 16:56:56 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.146	176	153115m	251.05		-0.20
31) Pyrene-d10	29.398	212	325822m	250.63		-0.17
73) Benzo(a)pyrene-d12	38.109	264	400256m	250.32		-0.23
System Monitoring Compounds						
2) Naphthalene-d8	13.538	136	206928m	199.29		-0.14
21) Acenaphthene-d10	19.362	164	133031m	225.41		-0.20
32) Phenanthrene-d10	24.479	188	244753m	230.54		-0.21
66) Chrysene-d12	33.608	240	343734m	189.33		-0.16
88) Perylene-d12	38.420	264	455580m	252.72		-0.23
90) 5(b)H-Cholane	33.996	217	112280m	371.16		-0.16
Target Compounds						Qvalue
3) cis/trans Decalin	10.891	138	38279m	194.13		
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	13.594	128	223915m	202.03		
9) 2-Methylnaphthalene	15.823	142	153247m	210.90		
10) 1-Methylnaphthalene	16.158	142	144299m	213.15		
11) 2,6-Dimethylnaphthalene	17.941	156	142467m	214.79		
12) 1,6,7-Trimethylnaphtha...	20.784	170	145513m	234.98		
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	13.761	134	174618m	197.00		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.412	154	199834m	207.40		
23) Acenaphthylene	18.889	152	242076m	218.14		
24) Acenaphthene	19.474	154	144070m	232.63		
25) Dibenzofuran	20.087	168	223861m	217.91		
26) Fluorene	21.257	166	184269m	229.94		
27) 1-Methylfluorene	23.266	180	119418m	240.47		
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.		
33) Carbazole	25.310	167	234593m	240.43		
34) Dibenzothiophene	24.132	184	272305m	240.46		
35) 4-Methyldibenzothiophene	25.657	198	238057m	235.05		
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	24.583	178	283660m	212.60		
42) Anthracene	24.756	178	281863m	218.37		

Data Path : C:\GCMS6\MS60146\
Data File : MS60146M.D
Acq On : 4 Sep 2013 2:11 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Sep 11 16:56:56 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 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	26.696	192	261244m	255.46		
48)	3,6-Dimethylphenanthrene	27.770	206	212206m	243.83		
49)	Retene	30.471	234	118670m	243.29		
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	32.754	234	345445m	178.24		
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	28.670	202	358704m	248.73		
59)	Pyrene	29.467	202	450922m	242.30		
60)	2-Methylfluoranthene	30.229	216	310310m	249.18		
61)	Benzo(b)fluorene	30.852	216	253137m	242.93		
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	33.530	228	363171m	187.97		
68)	Chrysene/Triphenylene	33.685	228	401139m	220.23		
69)	C1-Chrysenes	0.000		0	N.D.	d	
70)	C2-Chrysenes	0.000		0	N.D.	d	
71)	C3-Chrysenes	0.000		0	N.D.	d	
72)	C4-Chrysenes	0.000		0	N.D.	d	
74)	C29-Hopane	0.000		0	N.D.	d	
75)	18a-Oleanane	0.000		0	N.D.	d	
76)	C30-Hopane	42.366	191	171262m	238.36		
77)	Benzo(b)fluoranthene	37.061	252	511907m	249.63		
78)	Benzo(k,j)fluoranthene	37.139	252	461859m	251.07		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.032	252	520850m	261.08		
81)	Benzo(a)pyrene	38.226	252	460314m	229.25		
82)	Indeno(1,2,3-c,d)pyrene	42.772	276	575175m	229.62		
83)	Dibenzo(a,h)anthracene	42.846	278	474982m	239.89		
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87)	Benzo(g,h,i)perylene	44.136	276	507809m	231.80		
89)	Perylene	38.497	252	469744m	227.35		
91)	C20-TAS	0.000		0	N.D.	d	
92)	C21-TAS	0.000		0	N.D.	d	
93)	C26(20S)-TAS	0.000		0	N.D.	d	
94)	C26(20R)/C27(20S)-TAS	39.118	231	672448m	249.84		
95)	C28(20S)-TAS	0.000		0	N.D.	d	
96)	C27(20R)-TAS	0.000		0	N.D.	d	
97)	C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146M.D
Acq On : 4 Sep 2013 2:11 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Sep 11 16:56:56 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

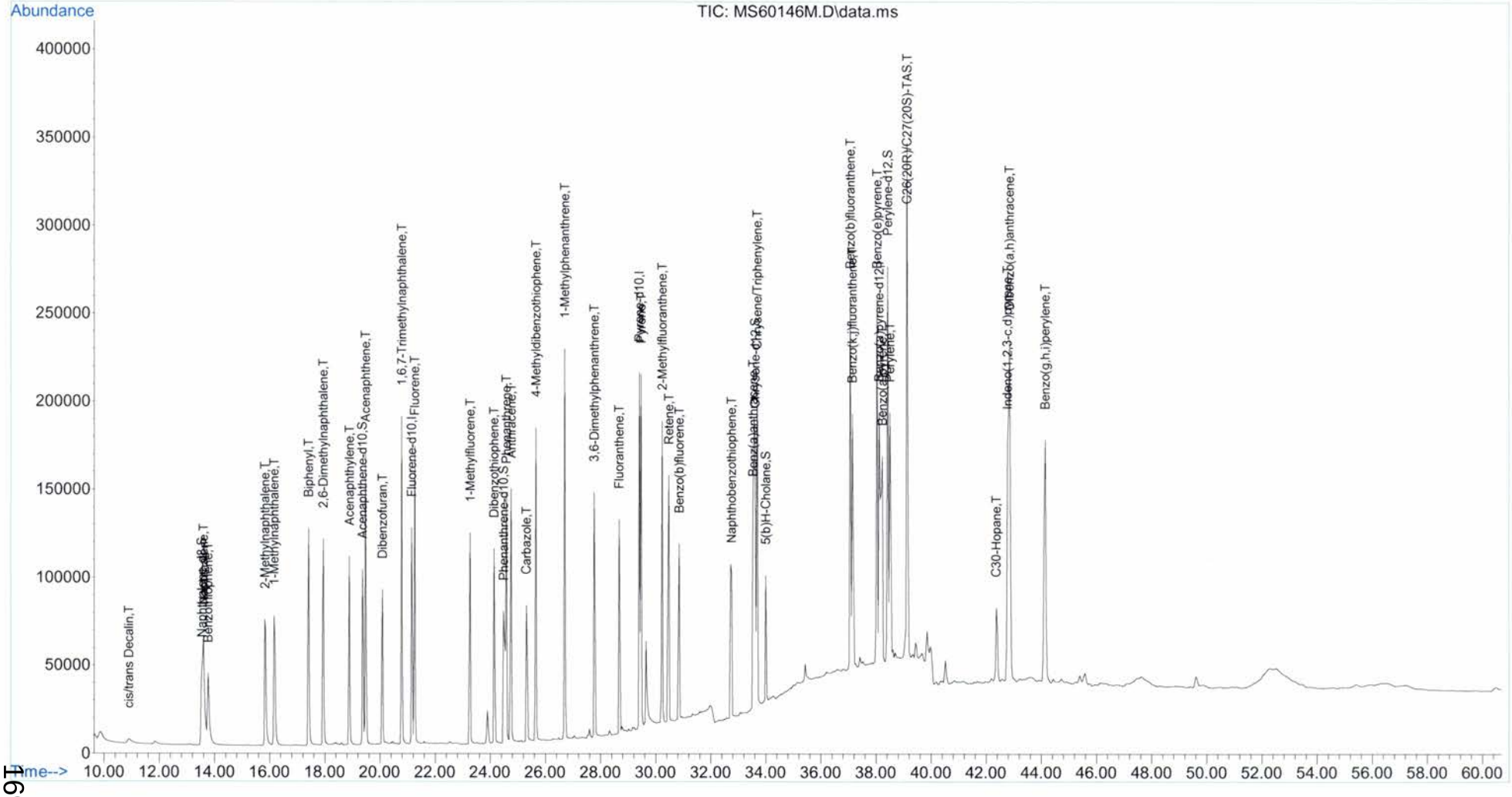
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146M.D
Acq On : 4 Sep 2013 2:11 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Sep 11 16:56:56 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60146\
Data File : MS60146N.D
Acq On : 4 Sep 2013 12:40 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Sep 11 17:05:05 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 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	98	-0.19
2	S	Naphthalene-d8	1.702	1.379	19.0	84	-0.14
3	T	cis/trans Decalin	0.323	0.252	22.0	79	-0.17
4	un	C1-Decalins	0.323	0.000	100.0#	0#	-12.40#
5	un	C2-Decalins	0.323	0.000	100.0#	0#	-14.54#
6	un	C3-Decalins	0.323	0.000	100.0#	0#	-16.24#
7	un	C4-Decalins	0.323	0.000	100.0#	0#	-18.53#
8	T	Naphthalene	1.817	1.457	19.8	84	-0.17
9	T	2-Methylnaphthalene	1.191	1.008	15.4	89	-0.17
10	T	1-Methylnaphthalene	1.110	0.951	14.3	90	-0.17
11	T	2,6-Dimethylnaphthalene	1.088	0.957	12.0	92	-0.17
12	T	1,6,7-Trimethylnaphthalene	1.015	0.984	3.1	101	-0.17
13	un	C2-Naphthalenes	1.817	0.000	100.0#	0#	-18.11#
14	un	C3-Naphthalenes	1.817	0.000	100.0#	0#	-20.25#
15	un	C4-Naphthalenes	1.817	0.000	100.0#	0#	-21.84#
16	T	Benzothiophene	1.453	1.138	21.7	81	-0.17
17	un	C1-Benzothiophenes	1.453	0.000	100.0#	0#	-15.38#
18	un	C2-Benzothiophenes	1.453	0.000	100.0#	0#	-18.55#
19	un	C3-Benzothiophenes	1.453	0.000	100.0#	0#	-20.20#
20	un	C4-Benzothiophenes	1.453	0.000	100.0#	0#	-22.12#
21	S	Acenaphthene-d10	0.968	0.882	8.9	96	-0.19
22	T	Biphenyl	1.580	1.349	14.6	89	-0.17
23	T	Acenaphthylene	1.819	1.636	10.1	94	-0.17
24	T	Acenaphthene	1.015	0.954	6.0	99	-0.19
25	T	Dibenzofuran	1.684	1.523	9.6	95	-0.17
26	T	Fluorene	1.314	1.231	6.3	99	-0.17
27	T	1-Methylfluorene	0.814	0.797	2.1	106	-0.17
28	un	C1-Fluorenes	1.314	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.314	0.000	100.0#	0#	-25.31#
30	un	C3-Fluorenes	1.314	0.000	100.0#	0#	-26.59#
31	I	Pyrene-d10	1.000	1.000	0.0	107	-0.17
32	S	Phenanthrene-d10	0.817	0.737	9.8	106	-0.21
33	T	Carbazole	0.751	0.706	6.0	109	-0.17
34	T	Dibenzothiophene	0.871	0.844	3.1	111	-0.17
35	T	4-Methyldibenzothiophene	0.779	0.706	9.4	107	-0.17
36	un	2/3-Methyldibenzothiophene	0.779	0.000	100.0#	0#	-26.11#
37	un	1-Methyldibenzothiophene	0.779	0.000	100.0#	0#	-26.45#
38	un	C2-Dibenzothiophenes	0.871	0.000	100.0#	0#	-27.25#
39	un	C3-Dibenzothiophenes	0.871	0.000	100.0#	0#	-28.74#
40	un	C4-Dibenzothiophenes	0.871	0.000	100.0#	0#	-30.40#
41	T	Phenanthrene	1.026	0.868	15.4	102	-0.17
42	T	Anthracene	0.993	0.862	13.2	105	-0.17
43	un	3-Methylphenanthrene	0.787	0.000	100.0#	0#	-26.87#
44	un	2-Methylphenanthrene	0.787	0.000	100.0#	0#	-26.87#
45	un	2-Methylanthracene	0.787	0.000	100.0#	0#	-26.87#
46	un	4/9-Methylphenanthrene	0.787	0.000	100.0#	0#	-26.87#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60146\
Data File : MS60146N.D
Acq On : 4 Sep 2013 12:40 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Sep 11 17:05:05 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 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	0.787	0.797	-1.3	118	-0.17
48	T	3,6-Dimethylphenanthrene	0.669	0.640	4.3	115	-0.21
49	T	Retene	0.375	0.374	0.3	121	-0.17
50	un	C2-Phenanthrenes/Anthracene	1.026	0.000	100.0#	0#	-28.50#
51	un	C3-Phenanthrenes/Anthracene	1.026	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.026	0.000	100.0#	0#	-32.00#
53	T	Naphthobenzothiophene	1.491	1.022	31.5#	82	-0.16
54	un	C1-Naphthobenzothiophenes	1.491	0.000	100.0#	0#	-34.19#
55	un	C2-Naphthobenzothiophenes	1.491	0.000	100.0#	0#	-35.78#
56	un	C3-Naphthobenzothiophenes	1.491	0.000	100.0#	0#	-37.30#
57	un	C4-Naphthobenzothiophenes	1.491	0.000	100.0#	0#	-38.46#
58	T	Fluoranthene	1.109	1.101	0.7	117	-0.21
59	T	Pyrene	1.432	1.349	5.8	110	-0.17
60	T	2-Methylfluoranthene	0.958	0.901	5.9	114	-0.17
61	T	Benzo(b)fluorene	0.802	0.726	9.5	113	-0.17
62	un	C1-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-30.65#
63	un	C2-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-32.13#
64	un	C3-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-34.19#
65	un	C4-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-34.19#
66	S	Chrysene-d12	1.397	1.048	25.0	84	-0.16
67	T	Benz(a)anthracene	1.486	1.041	29.9#	82	-0.16
68	T	Chrysene/Triphenylene	1.401	1.249	10.8	99	-0.16
69	un	C1-Chrysenes	1.401	0.000	100.0#	0#	-35.55#
70	un	C2-Chrysenes	1.401	0.000	100.0#	0#	-36.36#
71	un	C3-Chrysenes	1.401	0.000	100.0#	0#	-38.07#
72	un	C4-Chrysenes	1.401	0.000	100.0#	0#	-39.62#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	88	-0.23
74	un	C29-Hopane	0.449	0.000	100.0#	0#	-41.08#
75	un	18a-Oleanane	0.449	0.000	100.0#	0#	-41.96#
76	T	C30-Hopane	0.449	0.444	1.1	95	-0.33
77	T	Benzo(b)fluoranthene	1.282	1.284	-0.2	96	-0.20
78	T	Benzo(k,j)fluoranthene	1.150	1.131	1.7	90	-0.23
79	un	Benzo(a)fluoranthene	1.150	0.000	100.0#	0#	-37.26#
80	T	Benzo(e)pyrene	1.248	1.353	-8.4	103	-0.23
81	T	Benzo(a)pyrene	1.256	1.164	7.3	87	-0.20
82	T	Indeno(1,2,3-c,d)pyrene	1.567	1.474	5.9	89	-0.33
83	T	Dibenzo(a,h)anthracene	1.238	1.180	4.7	89	-0.33
84	un	C1-Dibenzo(a,h)anthracenes	1.238	0.000	100.0#	0#	-49.34#
85	un	C2-Dibenzo(a,h)anthracenes	1.238	0.000	100.0#	0#	-50.63#
86	un	C3-Dibenzo(a,h)anthracenes	1.238	0.000	100.0#	0#	-50.66#
87	T	Benzo(g,h,i)perylene	1.370	1.296	5.4	89	-0.37
88	S	Perylene-d12	1.127	1.158	-2.8	101	-0.23
89	T	Perylene	1.292	1.189	8.0	87	-0.23
90	S	5(b)H-Cholane	0.189	0.285	-50.8#	142	-0.16
91	un	C20-TAS	1.683	0.000	100.0#	0#	-33.22#
92	un	C21-TAS	1.683	0.000	100.0#	0#	-34.19#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60146\
Data File : MS60146N.D
Acq On : 4 Sep 2013 12:40 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Sep 11 17:05:05 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 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	1.683	0.000	100.0#	0#	-38.65#
94 T	C26(20R)/C27(20S)-TAS	1.683	1.701	-1.1	99	-0.23
95 un	C28(20S)-TAS	1.683	0.000	100.0#	0#	-40.12#
96 un	C27(20R)-TAS	1.683	0.000	100.0#	0#	-40.56#
97 un	C28(20R)-TAS	1.683	0.000	100.0#	0#	-41.70#

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146N.D
Acq On : 4 Sep 2013 12:40 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Sep 11 17:05:05 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.147	176	156251m	251.05		-0.19
31) Pyrene-d10	29.399	212	350040m	250.63		-0.17
73) Benzo(a)pyrene-d12	38.108	264	402231m	250.32		-0.23
System Monitoring Compounds						
2) Naphthalene-d8	13.540	136	214725m	202.65		-0.14
21) Acenaphthene-d10	19.364	164	137388m	228.12		-0.19
32) Phenanthrene-d10	24.480	188	257695m	225.94		-0.21
66) Chrysene-d12	33.607	240	366080m	187.68		-0.16
88) Perylene-d12	38.419	264	465307m	256.85		-0.23
90) 5(b)H-Cholane	33.995	217	114399m	376.31		-0.16
Target Compounds						Qvalue
3) cis/trans Decalin	10.892	138	38804m	192.84		
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	13.595	128	226639m	200.39		
9) 2-Methylnaphthalene	15.825	142	157011m	211.75		
10) 1-Methylnaphthalene	16.159	142	147837m	213.99		
11) 2,6-Dimethylnaphthalene	17.942	156	148833m	219.89		
12) 1,6,7-Trimethylnaphtha...	20.785	170	153040m	242.17		
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	13.763	134	176005m	194.58		
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	17.413	154	208009m	211.55		
23) Acenaphthylene	18.890	152	252505m	222.98		
24) Acenaphthene	19.475	154	148800m	235.44		
25) Dibenzofuran	20.088	168	235858m	224.98		
26) Fluorene	21.259	166	191881m	234.64		
27) 1-Methylfluorene	23.268	180	124903m	246.46		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.		
33) Carbazole	25.312	167	244417m	233.16		
34) Dibenzothiophene	24.134	184	290467m	238.76		
35) 4-Methyldibenzothiophene	25.658	198	248563m	228.44		
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	24.584	178	300380m	209.55		
42) Anthracene	24.758	178	302006m	217.78		

Data Path : C:\GCMS6\MS60146\
Data File : MS60146N.D
Acq On : 4 Sep 2013 12:40 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Sep 11 17:05:05 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 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	26.697	192	275121m	250.41		
48) 3,6-Dimethylphenanthrene	27.771	206	223872m	239.43		
49) Retene	30.473	234	116754m	222.80		
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	32.753	234	359167m	172.50		
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	28.672	202	384875m	248.41		
59) Pyrene	29.468	202	470898m	235.52		
60) 2-Methylfluoranthene	30.231	216	316635m	236.67		
61) Benzo(b)fluorene	30.854	216	255666m	228.38		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.568	228	362880m	174.82		
68) Chrysene/Triphenylene	33.685	228	433460m	221.51		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.366	191	178358m	247.02		
77) Benzo(b)fluoranthene	37.061	252	516820m	250.79		
78) Benzo(k,j)fluoranthene	37.138	252	452381m	244.71		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.031	252	541162m	269.92		
81) Benzo(a)pyrene	38.225	252	466744m	231.31		
82) Indeno(1,2,3-c,d)pyrene	42.772	276	581973m	231.19		
83) Dibenzo(a,h)anthracene	42.846	278	469915m	236.17		
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	44.136	276	516026m	234.39		
89) Perylene	38.496	252	478164m	230.29		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.117	231	683410m	252.66		
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146N.D
Acq On : 4 Sep 2013 12:40 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Sep 11 17:05:05 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

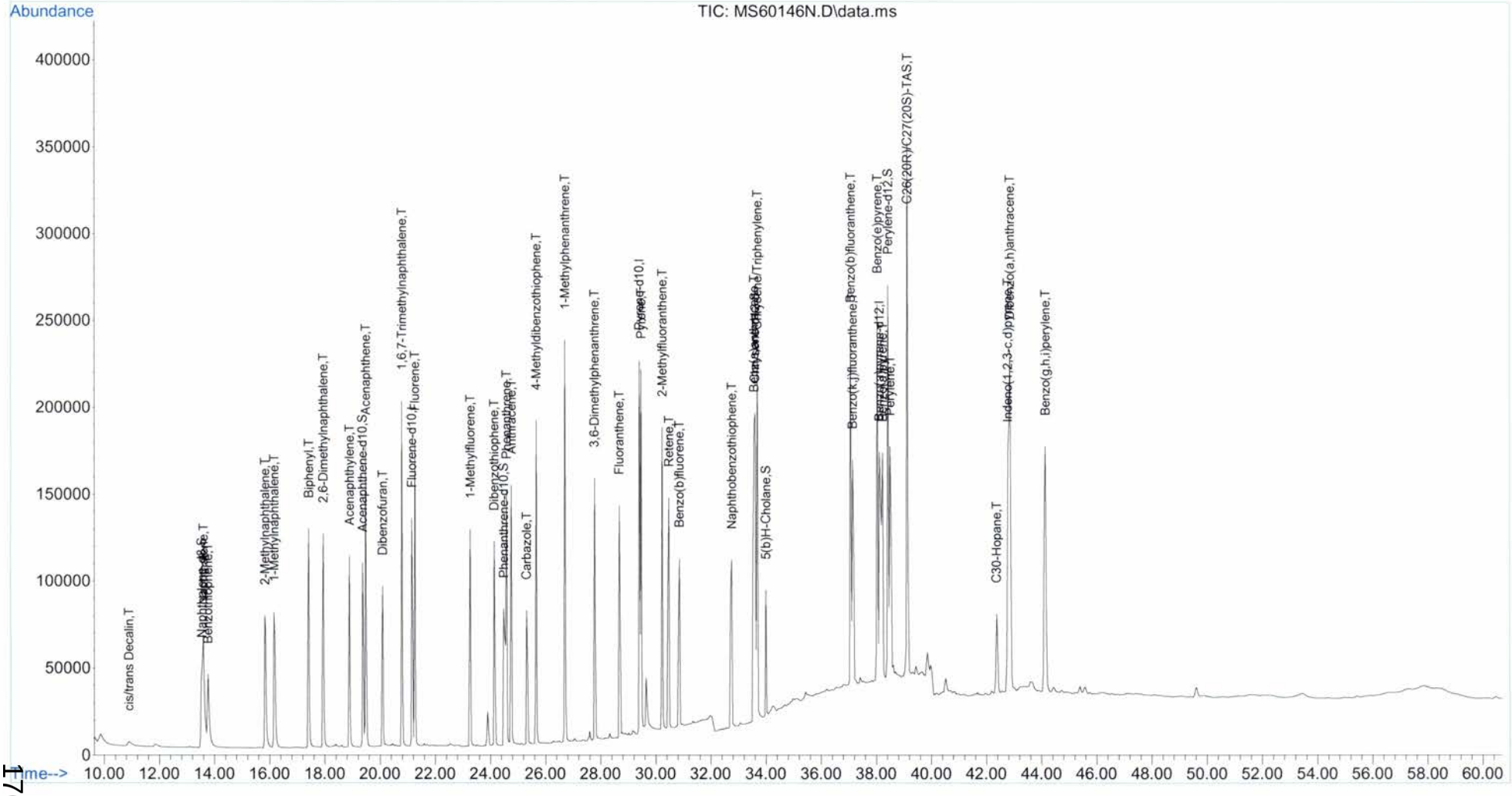
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146N.D
Acq On : 4 Sep 2013 12:40 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Sep 11 17:05:05 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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

Data File Name	MS60146H.D
Data File Path	C:\GCMS6\MS60146\
Operator	YM
Date Acquired	9/3/2013 2:52
Acq. Method File	PAH-2012.M
Sample Name	AR-WKISSU-250-002
Misc Info	0
Instrument Name	GCMS6
Vial Number	8
Sample Multiplier	1
Sample Amount	0

Surrogate/Internal Multiplier Factor:	1.00
AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

MS60146H.D
AR-WKISSU-250-002
9/3/2013
PAH-2012.M
1

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

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	0.00	0	0.0000	0.0000
10)	1-Methylnaphthalene	0.00	0	0.0000	0.0000
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	0.00	0	0.0000	0.0000
36)	2/3-Methyldibenzothiophene	0.00	0	0.0000	0.0000
37)	1-Methyldibenzothiophene	0.00	0	0.0000	0.0000
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	0.00	0	0.0000	0.0000
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.71	242587	244.95	97.93
21)	Acenaphthene-d10	19.56	129843	230.67	92.21
32)	Phenanthrene-d10	24.69	218716	220.10	87.97
66)	Chrysene-d12	33.76	394424	232.10	92.82
88)	Perylene-d12	38.65	410266	230.14	92.04
90)	5(b)H-Cholane	34.15	77066	257.61	103.05
	Internal Standards				
1)	Fluorene-d10	21.34	146041	251.05	
31)	Pyrene-d10	29.57	304977	250.63	
73)	Benzo(a)pyrene-d12	38.34	395816	250.33	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : MS60146H.D
Acq On : 3 Sep 2013 2:52 am
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 11 17:23:55 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.341	176	146041m	251.05	0.00
31) Pyrene-d10	29.571	212	304977m	250.63	0.00
73) Benzo(a)pyrene-d12	38.342	264	395816m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.705	136	242587m	244.95	0.03
21) Acenaphthene-d10	19.557	164	129843m	230.67	0.00
32) Phenanthrene-d10	24.687	188	218716m	220.10	0.00
66) Chrysene-d12	33.763	240	394424m	232.10	0.00
88) Perylene-d12	38.652	264	410266m	230.14	0.00
90) 5(b)H-Cholane	34.151	217	77066m	257.61	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	0.000		0	N.D. d	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	0.000		0	N.D. d	
9) 2-Methylnaphthalene	0.000		0	N.D. d	
10) 1-Methylnaphthalene	0.000		0	N.D. d	
11) 2,6-Dimethylnaphthalene	0.000		0	N.D. d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D. d	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D. d	
16) Benzothiophene	0.000		0	N.D. d	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	0.000		0	N.D. d	
23) Acenaphthylene	0.000		0	N.D. d	
24) Acenaphthene	0.000		0	N.D. d	
25) Dibenzofuran	0.000		0	N.D. d	
26) Fluorene	0.000		0	N.D. d	
27) 1-Methylfluorene	0.000		0	N.D. d	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	0.000		0	N.D. d	
34) Dibenzothiophene	0.000		0	N.D. d	
35) 4-Methyldibenzothiophene	0.000		0	N.D. d	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	0.000		0	N.D. d	
42) Anthracene	0.000		0	N.D. d	
43) 3-Methylphenanthrene	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : MS60146H.D
Acq On : 3 Sep 2013 2:52 am
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 11 17:23:55 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 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\MS60146\
Data File : MS60146H.D
Acq On : 3 Sep 2013 2:52 am
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 11 17:23:55 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

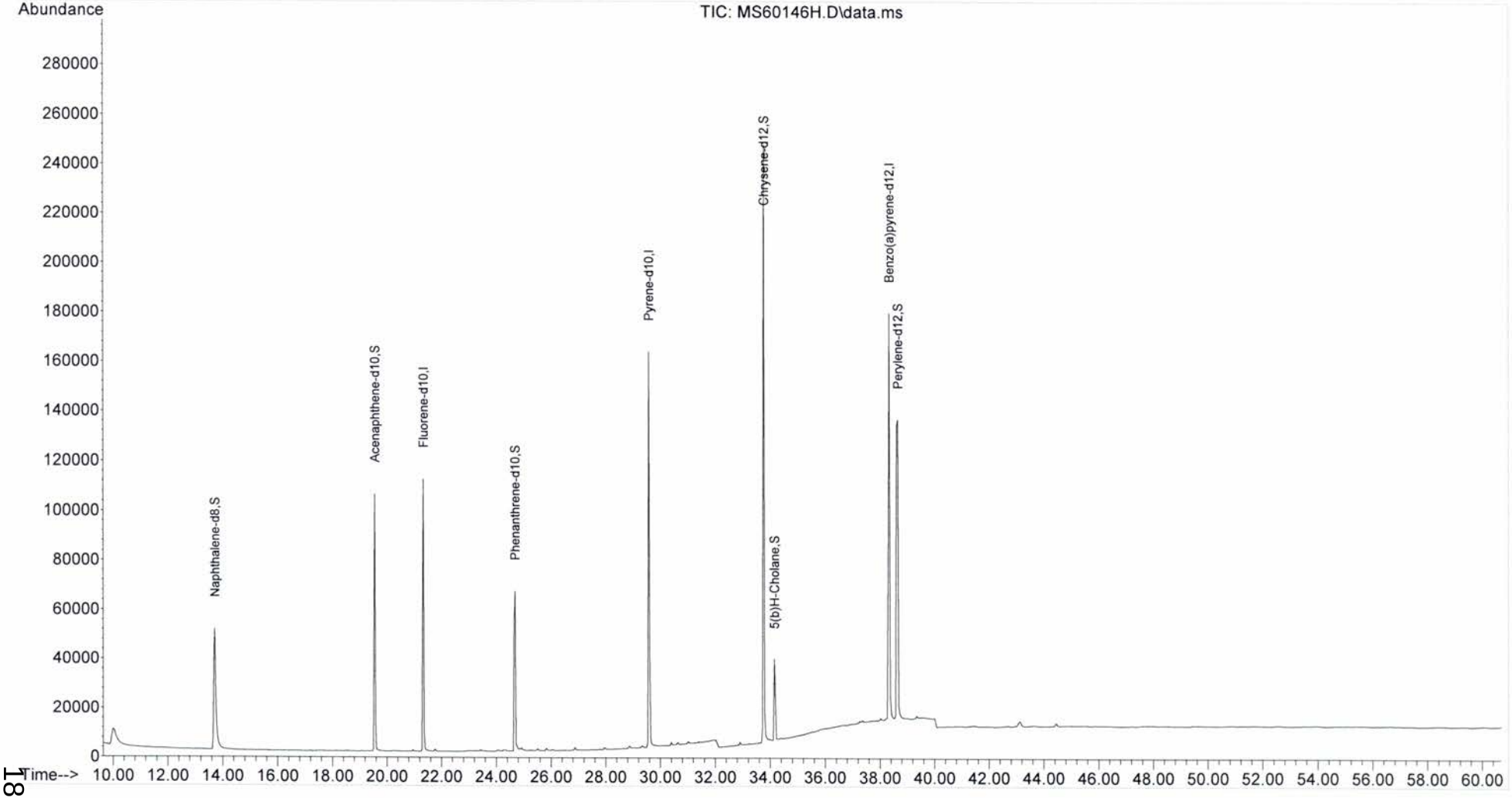
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : MS60146H.D
Acq On : 3 Sep 2013 2:52 am
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 11 17:23:55 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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

Data File Name	MS60146K.D
Data File Path	P:\2013\J13034\PAH\MSDChemstation\MS60146\
Operator	YM
Date Acquired	9/3/2013 6:23
Acq. Method File	PAH-2012.M
Sample Name	AR-SRM2779-WK-4.0-002
Misc Info	0
Instrument Name	GCMS6
Vial Number	11
Sample Multiplier	0.24461
Sample Amount	0

Surrogate/Internal Multiplier Factor:	1.00
AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

MS60146K.D
AR-SRM2779-WK-4.0-002
9/3/2013
PAH-2012.M
4.088140305

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	10.89	854899	677.0193	722.3599
4)	C1-Decalins	12.06	1087220	861.0027	918.6648
5)	C2-Decalins	14.43	1029590	815.3610	869.9664
6)	C3-Decalins	16.41	923028	730.9705	779.9242
7)	C4-Decalins	18.39	602357	477.0237	508.9704
8)	Naphthalene	13.59	4314200	607.8485	648.5567
9)+10)	C1-Naphthalenes	15.99	9286270	1308.3875	1396.0114
13)	C2-Naphthalenes	18.19	11385300	1604.1230	1711.5525
14)	C3-Naphthalenes	20.20	8087650	1139.5083	1215.8222
15)	C4-Naphthalenes	22.54	4358600	614.1032	655.2302
16)	Benzothiophene	13.79	37473	6.6018	7.0439
17)	C1-Benzothiophenes	15.35	167163	29.4498	31.4221
18)	C2-Benzothiophenes	18.33	156229	27.5235	29.3668
19)	C3-Benzothiophenes	20.03	164040	28.8997	30.8351
20)	C4-Benzothiophenes	21.81	152754	26.9113	28.7135
22)	Biphenyl	17.41	815101	132.1009	140.9478
23)	Acenaphthylene	18.89	48281	6.7940	7.2490
24)	Acenaphthene	19.47	44828	11.3030	12.0600
25)	Dibenzofuran	20.06	169676	25.7914	27.5187
26)	Fluorene	21.26	523085	101.9287	108.7550
28)	C1-Fluorenes	23.27	1130040	220.1996	234.9466
29)	C2-Fluorenes	25.00	1829500	356.4971	380.3720
30)	C3-Fluorenes	26.63	1612770	314.2651	335.3118
33)	Carbazole	25.31	26596	4.2340	4.5175
42)	Anthracene	24.72	29736	3.5784	3.8181
41)	Phenanthrene	24.55	1506730	175.4130	187.1606
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.47	3965020	461.6063	492.5205
50)	C2-Phenanthrenes/Anthracenes	28.15	4649290	541.2706	577.5199
51)	C3-Phenanthrenes/Anthracenes	29.71	3372810	392.6626	418.9596
52)	C4-Phenanthrenes/Anthracenes	31.55	2116730	246.4299	262.9335
34)	Dibenzothiophene	24.13	310075	42.5328	45.3812
35)+36)+37)	C1-Dibenzothiophenes	25.96	743844	102.0326	108.8658
38)	C2-Dibenzothiophenes	27.04	1141080	156.5215	167.0039
39)	C3-Dibenzothiophenes	28.57	843989	115.7693	123.5224
40)	C4-Dibenzothiophenes	29.99	415989	57.0609	60.8823
58)	Fluoranthene	28.70	42681	4.5971	4.9050
59)	Pyrene	29.57	132919	11.0942	11.8372
62)	C1-Fluoranthenes/Pyrenes	30.61	678803	73.1127	78.0091
63)	C2-Fluoranthenes/Pyrenes	32.37	1233310	132.8379	141.7342
64)	C3-Fluoranthenes/Pyrenes	33.76	1363290	146.8377	156.6715
65)	C4-Fluoranthenes/Pyrenes	34.93	958069	103.1922	110.1030
53)	Naphthobenzothiophene	32.72	240590	19.2830	20.5744
54)	C1-Naphthobenzothiophenes	33.88	534903	42.8718	45.7430
55)	C2-Naphthobenzothiophenes	35.78	649409	52.0493	55.5351
56)	C3-Naphthobenzothiophenes	36.95	681859	54.6503	58.3103
57)	C4-Naphthobenzothiophenes	37.92	270712	21.6972	23.1503
67)	Benz(a)anthracene	33.53	68451	5.5032	5.8717
68)	Chrysene/Triphenylene	33.65	421788	35.9704	38.3794
69)	C1-Chrysenes	34.89	1181320	100.7439	107.4908
70)	C2-Chrysenes	36.05	1417700	120.9019	128.9988
71)	C3-Chrysenes	37.72	1144490	97.6028	104.1394
72)	C4-Chrysenes	39.12	654750	55.8374	59.5768
77)	Benzo(b)fluoranthene	37.06	64462	4.5609	4.8663
78)	Benzo(k,j)fluoranthene	37.14	8099	0.6388	0.6816
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.03	121433	8.8312	9.4226
81)	Benzo(a)pyrene	38.19	12825	0.9267	0.9888
89)	Perylene	38.50	6939	0.4873	0.5199
82)	Indeno(1,2,3-c,d)pyrene	42.77	10331	0.5984	0.6385
83)	Dibenzo(a,h)anthracene	42.81	6082	0.4457	0.4755
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	44.10	30937	2.0489	2.1861

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	15.82	5633900	1210.7632	1291.8491
10)	1-Methylnaphthalene	16.16	3652370	842.4735	898.8947
11)	2,6-Dimethylnaphthalene	17.97	3125260	735.7869	785.0632
12)	1,6,7-Trimethylnaphthalene	20.78	855303	215.6748	230.1188
27)	1-Methylfluorene	23.27	576203	181.1834	193.3174
35)	4-Methyldibenzothiophene	25.66	400299	61.3930	65.5045
36)	2/3-Methyldibenzothiophene	25.93	199057	30.5290	32.5736
37)	1-Methyldibenzothiophene	26.28	144488	22.1598	23.6439
43)	3-Methylphenanthrene	26.25	840583	127.6783	136.2291
44)	2-Methylphenanthrene	26.31	1018360	154.6818	165.0410
45)	2-Methylanthracene	26.49	65473	9.9449	10.6109
46)	4/9-Methylphenanthrene	26.59	1199520	182.1980	194.4000
47)	1-Methylphenanthrene	26.70	841084	127.7544	136.3102
48)	3,6-Dimethylphenanthrene	27.87	382419	68.2533	72.8243
49)	Retene	30.44	54043	17.2104	18.3630
60)	2-Methylfluoranthene	30.23	23090	2.8801	3.0730
61)	Benzo(b)fluorene	30.82	90023	13.4194	14.3181
74)	C29-Hopane	40.37	99904	20.1738	21.5249
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	41.66	185366	37.4314	39.9383
91)	C20-TAS	33.14	53144	2.8647	3.0566
92)	C21-TAS	34.19	91847	4.9510	5.2825
93)	C26(20S)-TAS	38.26	61473	3.3137	3.5356
94)	C26(20R)/C27(20S)-TAS	39.16	201241	10.8478	11.5743
95)	C28(20S)-TAS	39.93	132508	7.1428	7.6211
96)	C27(20R)-TAS	40.34	126798	6.8350	7.2927
97)	C28(20R)-TAS	41.41	90323	4.8688	5.1949
	Surrogate Standards				
2)	Naphthalene-d8	13.51	342096	51.45	84.09
21)	Acenaphthene-d10	19.36	221174	58.52	95.63
32)	Phenanthrene-d10	24.48	392019	57.36	93.72
66)	Chrysene-d12	33.57	584221	49.98	81.72
88)	Perylene-d12	38.42	712817	57.37	93.80
90)	5(b)H-Cholane	34.00	160695	77.07	126.03
	Internal Standards				
1)	Fluorene-d10	21.15	239847	61.41	
31)	Pyrene-d10	29.40	513087	61.31	
73)	Benzo(a)pyrene-d12	38.11	674812	61.23	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : MS60146K.D
Acq On : 3 Sep 2013 6:23 am
Operator : YM
Sample : AR-SRM2779-WK-4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Sep 11 17:56:17 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.145	176	239847m	251.05		-0.20
31) Pyrene-d10	29.398	212	513087m	250.63		-0.17
73) Benzo(a)pyrene-d12	38.109	264	674812m	250.32		-0.23
System Monitoring Compounds						
2) Naphthalene-d8	13.510	136	342096m	51.45		-0.17
21) Acenaphthene-d10	19.362	164	221174m	58.52		-0.20
32) Phenanthrene-d10	24.479	188	392019m	57.36		-0.21
66) Chrysene-d12	33.569	240	584221m	49.98		-0.19
88) Perylene-d12	38.420	264	712817m	57.37		-0.23
90) 5(b)H-Cholane	33.996	217	160695m	77.07		-0.16
Target Compounds						Qvalue
3) cis/trans Decalin	10.891	138	854899m	677.02		
4) C1-Decalins	12.061	152	1087223m	861.00		
5) C2-Decalins	14.430	166	1029590m	815.36		
6) C3-Decalins	16.408	180	923028m	730.97		
7) C4-Decalins	18.387	194	602357m	477.02		
8) Naphthalene	13.594	128	4314201m	607.85		
9) 2-Methylnaphthalene	15.823	142	5633896m	1210.76		
10) 1-Methylnaphthalene	16.157	142	3652370m	842.47		
11) 2,6-Dimethylnaphthalene	17.969	156	3125259m	735.79		
12) 1,6,7-Trimethylnaphtha...	20.783	170	855303m	215.67		
13) C2-Naphthalenes	18.192	156	11385251m	1604.12		
14) C3-Naphthalenes	20.198	170	8087645m	1139.51		
15) C4-Naphthalenes	22.539	184	4358598m	614.10		
16) Benzothiophene	13.789	134	37473m	6.60		
17) C1-Benzothiophenes	15.349	148	167163m	29.45		
18) C2-Benzothiophenes	18.331	162	156229m	27.52		
19) C3-Benzothiophenes	20.031	176	164040m	28.90		
20) C4-Benzothiophenes	21.814	190	152754m	26.91		
22) Biphenyl	17.411	154	815101m	132.10		
23) Acenaphthylene	18.888	152	48281m	6.79		
24) Acenaphthene	19.473	154	44828m	11.30		
25) Dibenzofuran	20.059	168	169676m	25.79		
26) Fluorene	21.257	166	523085m	101.93		
27) 1-Methylfluorene	23.266	180	576203m	181.18		
28) C1-Fluorenes	23.266	180	1130036m	220.20		
29) C2-Fluorenes	24.998	194	1829495m	356.50		
30) C3-Fluorenes	26.626	208	1612773m	314.27		
33) Carbazole	25.310	167	26596m	4.23		
34) Dibenzothiophene	24.132	184	310075m	42.53		
35) 4-Methyldibenzothiophene	25.656	198	400299m	61.39		
36) 2/3-Methyldibenzothiop...	25.934	198	199057m	30.53		
37) 1-Methyldibenzothiophene	26.280	198	144488m	22.16		
38) C2-Dibenzothiophenes	27.042	212	1141083m	156.52		
39) C3-Dibenzothiophenes	28.566	226	843989m	115.77		
40) C4-Dibenzothiophenes	29.986	240	415989m	57.06		
41) Phenanthrene	24.548	178	1506727m	175.41		
42) Anthracene	24.721	178	29736m	3.58		
43) 3-Methylphenanthrene	26.245	192	840583m	127.68		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : MS60146K.D
Acq On : 3 Sep 2013 6:23 am
Operator : YM
Sample : AR-SRM2779-WK-4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Sep 11 17:56:17 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.315	192	1018363m	154.68		
45) 2-Methylanthracene	26.488	192	65473m	9.94		
46) 4/9-Methylphenanthrene	26.592	192	1199520m	182.20		
47) 1-Methylphenanthrene	26.696	192	841084m	127.75		
48) 3,6-Dimethylphenanthrene	27.873	206	382419m	68.25		
49) Retene	30.437	234	54043m	17.21		
50) C2-Phenanthrenes/Anthr...	28.151	206	4649289m	541.27		
51) C3-Phenanthrenes/Anthr...	29.709	220	3372806m	392.66		
52) C4-Phenanthrenes/Anthr...	31.545	234	2116733m	246.43		
53) Naphthobenzothiophene	32.715	234	240590m	19.28		
54) C1-Naphthobenzothiophenes	33.880	248	534903m	42.87		
55) C2-Naphthobenzothiophenes	35.781	262	649409m	52.05		
56) C3-Naphthobenzothiophenes	36.945	276	681859m	54.65		
57) C4-Naphthobenzothiophenes	37.915	290	270712m	21.70		
58) Fluoranthene	28.705	202	42681m	4.60		
59) Pyrene	29.571	202	132919m	11.09		
60) 2-Methylfluoranthene	30.229	216	23090m	2.88		
61) Benzo(b)fluorene	30.818	216	90023m	13.42		
62) C1-Fluoranthenes/Pyrenes	30.610	216	678803m	73.11		
63) C2-Fluoranthenes/Pyrenes	32.366	230	1233309m	132.84		
64) C3-Fluoranthenes/Pyrenes	33.763	244	1363289m	146.84		
65) C4-Fluoranthenes/Pyrenes	34.927	258	958069m	103.19		
67) Benz(a)anthracene	33.530	228	68451m	5.50		
68) Chrysene/Triphenylene	33.647	228	421788m	35.97		
69) C1-Chrysenes	34.889	242	1181323m	100.74		
70) C2-Chrysenes	36.053	256	1417698m	120.90		
71) C3-Chrysenes	37.721	270	1144492m	97.60		
72) C4-Chrysenes	39.118	284	654750m	55.84		
74) C29-Hopane	40.374	191	99904m	20.17		
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	41.665	191	185366m	37.43		
77) Benzo(b)fluoranthene	37.062	252	64462m	4.56		
78) Benzo(k,j)fluoranthene	37.139	252	8099m	0.64		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.032	252	121433m	8.83		
81) Benzo(a)pyrene	38.187	252	12825m	0.93		
82) Indeno(1,2,3-c,d)pyrene	42.771	276	10331m	0.60		
83) Dibenzo(a,h)anthracene	42.808	278	6082m	0.45		
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	44.099	276	30937m	2.05		
89) Perylene	38.497	252	6939m	0.49		
91) C20-TAS	33.142	231	53144m	2.86		
92) C21-TAS	34.190	231	91847m	4.95		
93) C26(20S)-TAS	38.265	231	61473m	3.31		
94) C26(20R)/C27(20S)-TAS	39.157	231	201241m	10.85		
95) C28(20S)-TAS	39.933	231	132508m	7.14		
96) C27(20R)-TAS	40.337	231	126798m	6.83		
97) C28(20R)-TAS	41.407	231	90323m	4.87		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : MS60146K.D
Acq On : 3 Sep 2013 6:23 am
Operator : YM
Sample : AR-SRM2779-WK-4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Sep 11 17:56:17 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

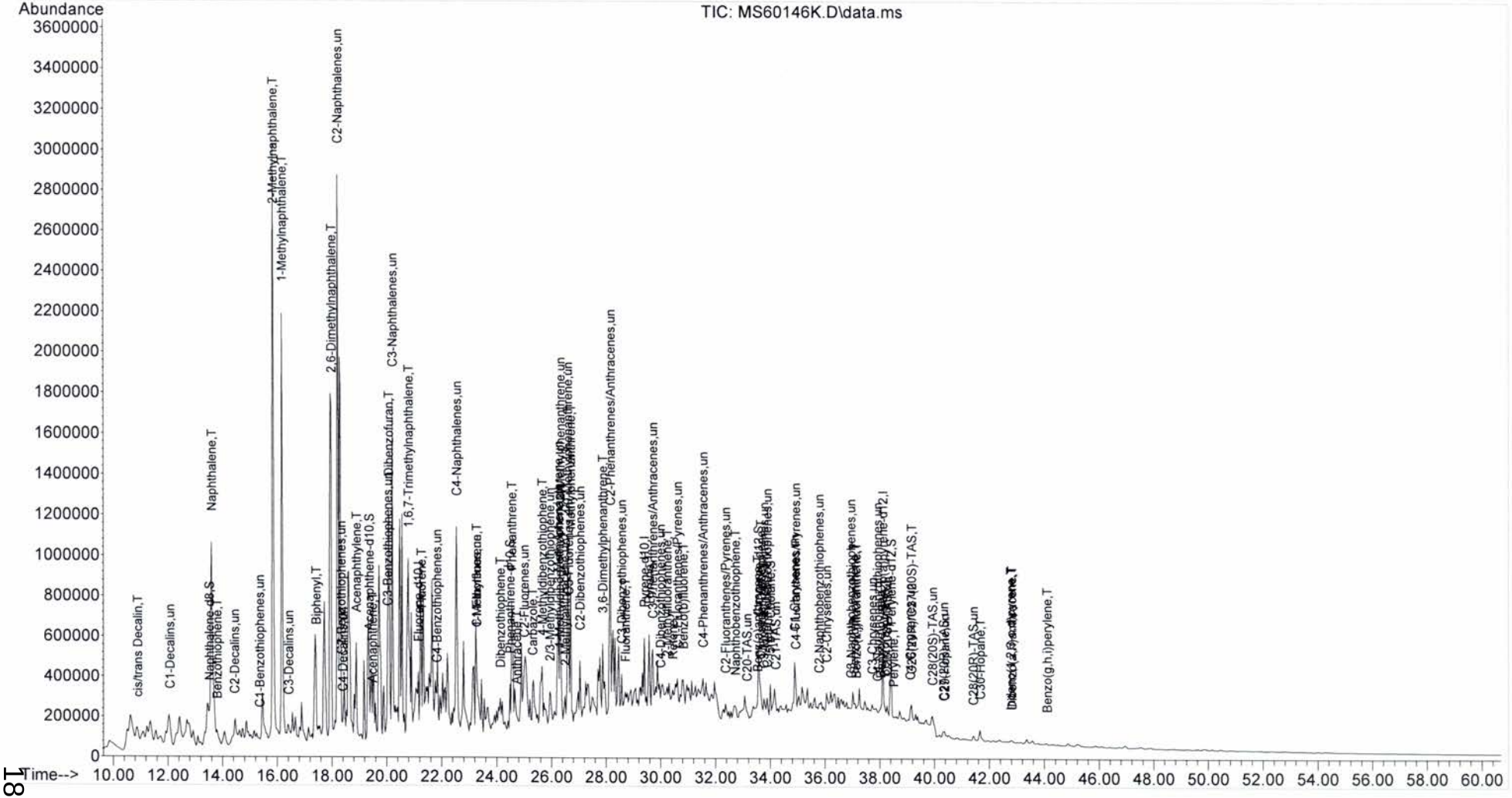
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : MS60146K.D
Acq On : 3 Sep 2013 6:23 am
Operator : YM
Sample : AR-SRM2779-WK-4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Sep 11 17:56:17 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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

Data File Name	ENV3093A.D
Data File Path	C:\GCMS6\MS60146\
Operator	YM
Date Acquired	9/3/2013 7:33
Acq. Method File	PAH-2012.M
Sample Name	Procedural Blank
Misc Info	0
Instrument Name	GCMS6
Vial Number	12
Sample Multiplier	0.06667
Sample Amount	0

Surrogate/Internal Multiplier Factor:	1.00
AR-WKSU-2500-001:	**(ng/mL)**
Naphthalene-d8	250.125
Acenaphthene-d10	250.163
Phenanthrene-d10	250.194
Chrysene-d12	250.038
Perylene-d12	250.031
5(b)H-Cholane	250.000

Copy data below to Spread Sheet

ENV3093A.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	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	17.39	2167	0.1679	0.1707
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	24.55	1704	0.1018	0.1035
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	28.67	1604	0.0887	0.0902
59)	Pyrene	29.43	1081	0.0463	0.0471
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	13.51	192819	13.86	83.13
21)	Acenaphthene-d10	19.37	110011	13.91	83.43
32)	Phenanthrene-d10	24.48	218443	16.40	98.33
66)	Chrysene-d12	33.57	363782	15.97	95.81
88)	Perylene-d12	38.38	368189	15.01	90.01
90)	5(b)H-Cholane	33.99	67766	16.46	98.74
	Internal Standards				
1)	Fluorene-d10	21.15	136749	16.74	
31)	Pyrene-d10	29.40	272517	16.71	
73)	Benzo(a)pyrene-d12	38.11	363223	16.69	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDCHEMSTATION\MS60146\
Data File : ENV3093A.D
Acq On : 3 Sep 2013 7:33 am
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 0.06667

Quant Time: Sep 11 18:00:55 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.150	176	136749m	251.05		-0.19
31) Pyrene-d10	29.399	212	272517m	250.63		-0.17
73) Benzo(a)pyrene-d12	38.108	264	363223m	250.32		-0.23
System Monitoring Compounds						
2) Naphthalene-d8	13.515	136	192819m	13.86		-0.16
21) Acenaphthene-d10	19.366	164	110011m	13.91		-0.19
32) Phenanthrene-d10	24.480	188	218443m	16.40		-0.21
66) Chrysene-d12	33.568	240	363782m	15.97		-0.20
88) Perylene-d12	38.380	264	368189m	15.01		-0.27
90) 5(b)H-Cholane	33.995	217	67766m	16.46		-0.16
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	0.000		0	N.D.	d	
9) 2-Methylnaphthalene	0.000		0	N.D.	d	
10) 1-Methylnaphthalene	0.000		0	N.D.	d	
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.	d	
16) Benzothiophene	0.000		0	N.D.		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.388	154	2167m	0.17		
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	24.549	178	1704m	0.10		
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDCHEMSTATION\MS60146\
Data File : ENV3093A.D
Acq On : 3 Sep 2013 7:33 am
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 0.06667

Quant Time: Sep 11 18:00:55 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	0.000		0	N.D.	d	
45)	2-Methylanthracene	0.000		0	N.D.	d	
46)	4/9-Methylphenanthrene	0.000		0	N.D.	d	
47)	1-Methylphenanthrene	0.000		0	N.D.	d	
48)	3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49)	Retene	0.000		0	N.D.	d	
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51)	C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52)	C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53)	Naphthobenzothiophene	0.000		0	N.D.	d	
54)	C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55)	C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56)	C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57)	C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58)	Fluoranthene	28.671	202	1604m	0.09		
59)	Pyrene	29.433	202	1081m	0.05		
60)	2-Methylfluoranthene	0.000		0	N.D.	d	
61)	Benzo(b)fluorene	0.000		0	N.D.	d	
62)	C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63)	C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64)	C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65)	C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67)	Benz(a)anthracene	0.000		0	N.D.	d	
68)	Chrysene/Triphenylene	0.000		0	N.D.	d	
69)	C1-Chrysenes	0.000		0	N.D.	d	
70)	C2-Chrysenes	0.000		0	N.D.	d	
71)	C3-Chrysenes	0.000		0	N.D.	d	
72)	C4-Chrysenes	0.000		0	N.D.	d	
74)	C29-Hopane	0.000		0	N.D.	d	
75)	18a-Oleanane	0.000		0	N.D.	d	
76)	C30-Hopane	0.000		0	N.D.	d	
77)	Benzo(b)fluoranthene	0.000		0	N.D.	d	
78)	Benzo(k,j)fluoranthene	0.000		0	N.D.	d	
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	0.000		0	N.D.	d	
81)	Benzo(a)pyrene	0.000		0	N.D.	d	
82)	Indeno(1,2,3-c,d)pyrene	0.000		0	N.D.	d	
83)	Dibenzo(a,h)anthracene	0.000		0	N.D.	d	
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87)	Benzo(g,h,i)perylene	0.000		0	N.D.	d	
89)	Perylene	0.000		0	N.D.	d	
91)	C20-TAS	0.000		0	N.D.	d	
92)	C21-TAS	0.000		0	N.D.	d	
93)	C26(20S)-TAS	0.000		0	N.D.	d	
94)	C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95)	C28(20S)-TAS	0.000		0	N.D.	d	
96)	C27(20R)-TAS	0.000		0	N.D.	d	
97)	C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDCHEMSTATION\MS60146\
Data File : ENV3093A.D
Acq On : 3 Sep 2013 7:33 am
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 0.06667

Quant Time: Sep 11 18:00:55 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

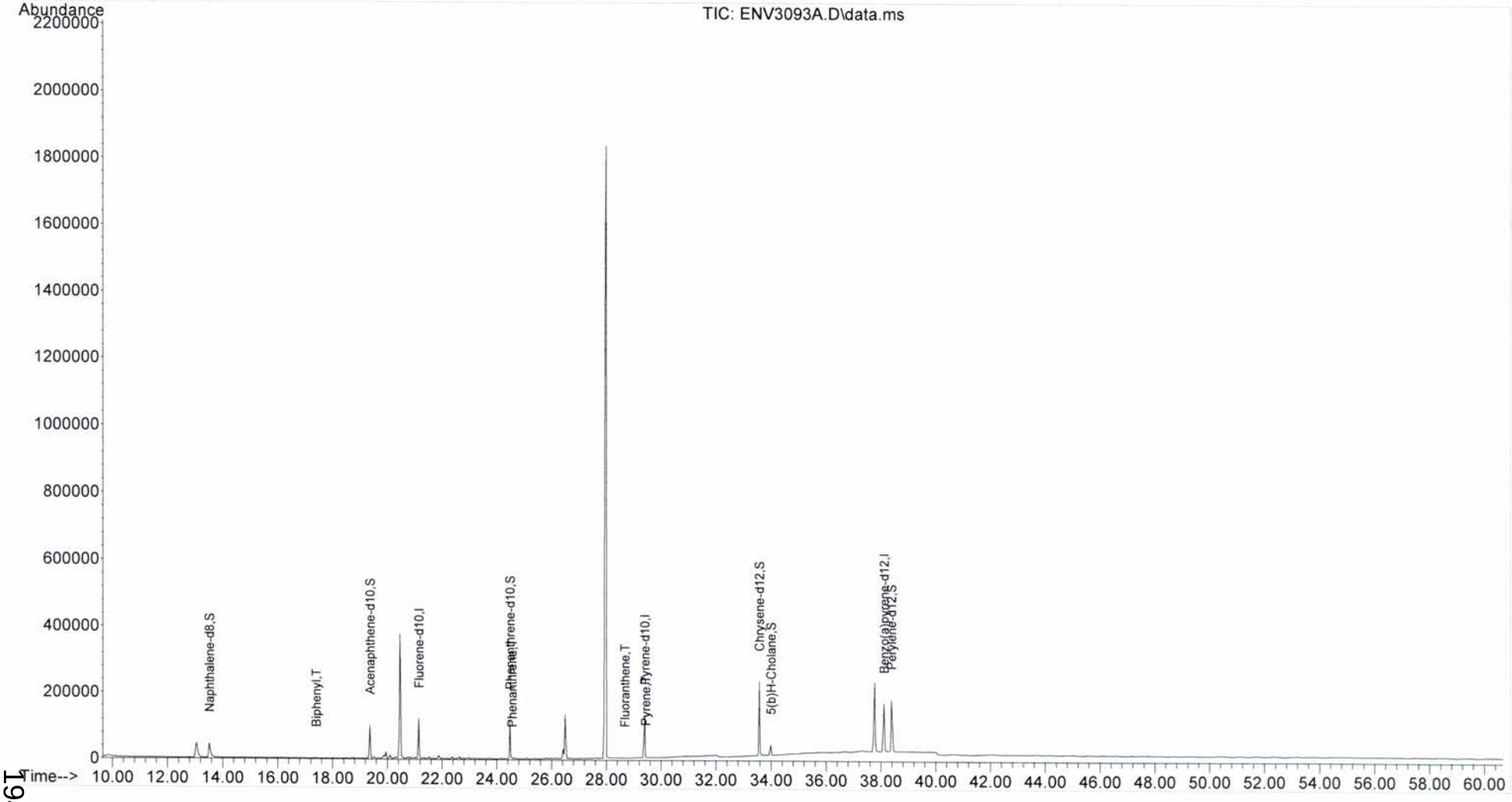
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDCHEMSTATION\MS60146\
Data File : ENV3093A.D
Acq On : 3 Sep 2013 7:33 am
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 0.06667

Quant Time: Sep 11 18:00:55 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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

Data File Name	ENV3093B.D
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS60146\
Operator	YM
Date Acquired	9/3/2013 8:43
Acq. Method File	PAH-2012.M
Sample Name	SRM 1941b
Misc Info	0
Instrument Name	GCMS6
Vial Number	13
Sample Multiplier	0.24691
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

ENV3093B.D
SRM 1941b
9/3/2013
PAH-2012.M
4.050058726

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.14	21888	36.8397	67.3231
4)	C1-Decalins	12.04	3346	5.6317	10.2917
5)	C2-Decalins	14.40	5223	8.7909	16.0650
6)	C3-Decalins	17.00	11473	19.3103	35.2887
7)	C4-Decalins	17.30	22948	38.6239	70.5836
8)	Naphthalene	13.57	1916380	573.8559	1048.6991
9)+10)	C1-Naphthalenes	15.99	563793	168.8266	308.5240
13)	C2-Naphthalenes	18.19	516141	154.5570	282.4469
14)	C3-Naphthalenes	20.20	428507	128.3154	234.4914
15)	C4-Naphthalenes	23.61	257961	77.2458	141.1637
16)	Benzothiophene	13.73	62158	23.2737	42.5317
17)	C1-Benzothiophenes	16.10	61697	23.1011	42.2163
18)	C2-Benzothiophenes	17.94	46071	17.2502	31.5241
19)	C3-Benzothiophenes	20.31	36738	13.7557	25.1381
20)	C4-Benzothiophenes	21.87	31852	11.9263	21.7948
22)	Biphenyl	17.39	145748	50.2022	91.7426
23)	Acenaphthylene	18.86	170607	51.0240	93.2443
24)	Acenaphthene	19.48	45029	24.1303	44.0971
25)	Dibenzofuran	20.06	198680	64.1852	117.2960
26)	Fluorene	21.23	87552	36.2590	66.2619
28)	C1-Fluorenes	23.23	82221	34.0511	62.2271
29)	C2-Fluorenes	25.66	242458	100.4121	183.4992
30)	C3-Fluorenes	27.32	302201	125.1542	228.7145
33)	Carbazole	25.31	52285	18.4337	33.6869
42)	Anthracene	24.72	507175	135.1674	247.0132
41)	Phenanthrene	24.55	1183020	305.0178	557.4081
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.46	860931	221.9737	405.6482
50)	C2-Phenanthrenes/Anthracenes	28.12	881180	227.1932	415.1868
51)	C3-Phenanthrenes/Anthracenes	29.67	783710	202.0625	369.2613
52)	C4-Phenanthrenes/Anthracenes	30.44	421124	108.5777	198.4215
34)	Dibenzothiophene	24.13	147932	44.9389	82.1240
35)+36)+37)	C1-Dibenzothiophenes	25.95	173318	52.6506	96.2170
38)	C2-Dibenzothiophenes	27.04	331841	100.8069	184.2207
39)	C3-Dibenzothiophenes	28.57	347454	105.5498	192.8882
40)	C4-Dibenzothiophenes	30.61	239817	72.8518	133.1338
58)	Fluoranthene	28.67	2390620	570.2485	1042.1068
59)	Pyrene	29.43	1794970	331.7952	606.3427
62)	C1-Fluoranthenes/Pyrenes	30.82	1385200	330.4199	603.8294
63)	C2-Fluoranthenes/Pyrenes	32.33	1579820	376.8439	688.6675
64)	C3-Fluoranthenes/Pyrenes	33.61	720223	171.7987	313.9555
65)	C4-Fluoranthenes/Pyrenes	35.08	709980	169.3556	309.4907
53)	Naphthobenzothiophene	32.71	622623	110.5162	201.9640
54)	C1-Naphthobenzothiophenes	33.88	516238	91.6327	167.4552
55)	C2-Naphthobenzothiophenes	35.59	506005	89.8162	164.1356
56)	C3-Naphthobenzothiophenes	36.94	388548	68.9676	126.0357
57)	C4-Naphthobenzothiophenes	37.76	181695	32.2509	58.9372
67)	Benz(a)anthracene	33.53	1422480	253.2704	462.8417
68)	Chrysene/Triphenylene	33.65	1622340	306.4030	559.9394
69)	C1-Chrysenes	34.89	1231440	232.5774	425.0260
70)	C2-Chrysenes	36.32	727658	137.4296	251.1472
71)	C3-Chrysenes	37.72	452491	85.4600	156.1748
72)	C4-Chrysenes	39.12	171224	32.3383	59.0970
77)	Benzo(b)fluoranthene	37.06	2519340	298.3191	545.1665
78)	Benzo(k,j)fluoranthene	37.06	2112510	278.8478	509.5834
79)	Benzo(a)fluoranthene	37.41	356452	47.0512	85.9842
80)	Benzo(e)pyrene	37.99	1658940	201.9116	368.9856
81)	Benzo(a)pyrene	38.19	1391790	168.3106	307.5811
89)	Perylene	38.50	1760860	206.9412	378.1769
82)	Indeno(1,2,3-c,d)pyrene	42.73	1756990	170.3178	311.2491
83)	Dibenzo(a,h)anthracene	42.81	279646	34.2951	62.6729
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	44.10	1448170	160.5122	293.3298

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	15.82	388817	177.5910	324.5406
10)	1-Methylnaphthalene	16.16	174976	85.7800	156.7596
11)	2,6-Dimethylnaphthalene	17.94	104319	52.1983	95.3903
12)	1,6,7-Trimethylnaphthalene	20.79	30445	16.3163	29.8174
27)	1-Methylfluorene	23.23	36367	24.3039	44.4144
35)	4-Methyldibenzothiophene	25.62	86215	29.2833	53.5140
36)	2/3-Methyldibenzothiophene	25.93	61753	20.9747	38.3305
37)	1-Methyldibenzothiophene	26.28	25350	8.6102	15.7349
43)	3-Methylphenanthrene	26.21	198939	66.9205	122.2946
44)	2-Methylphenanthrene	26.31	269576	90.6819	165.7176
45)	2-Methylanthracene	26.49	82628	27.7949	50.7941
46)	4/9-Methylphenanthrene	26.59	204508	68.7938	125.7180
47)	1-Methylphenanthrene	26.70	105280	35.4148	64.7191
48)	3,6-Dimethylphenanthrene	27.77	58428	23.0945	42.2043
49)	Retene	30.44	35133	24.7782	45.2811
60)	2-Methylfluoranthene	30.23	180288	49.8030	91.0130
61)	Benzo(b)fluorene	30.82	195927	64.6813	118.2025
74)	C29-Hopane	40.37	434085	146.7001	268.0887
75)	18a-Oleanane	41.44	71102	24.0291	43.9123
76)	C30-Hopane	41.67	586476	198.2011	362.2047
91)	C20-TAS	33.03	67072	6.0509	11.0577
92)	C21-TAS	34.15	22355	2.0167	3.6855
93)	C26(20S)-TAS	38.26	16086	1.4512	2.6520
94)	C26(20R)/C27(20S)-TAS	39.16	64374	5.8074	10.6129
95)	C28(20S)-TAS	39.93	41168	3.7139	6.7870
96)	C27(20R)-TAS	40.30	47017	4.2416	7.7513
97)	C28(20R)-TAS	41.41	35853	3.2344	5.9108
	Surrogate Standards				
2)	Naphthalene-d8	13.51	82560	26.39	42.73
21)	Acenaphthene-d10	19.36	50541	28.42	46.01
32)	Phenanthrene-d10	24.48	104321	33.80	54.72
66)	Chrysene-d12	33.57	141545	26.82	43.44
88)	Perylene-d12	38.42	131399	17.70	28.67
90)	5(b)H-Cholane	34.00	35605	28.58	46.30
	Internal Standards				
1)	Fluorene-d10	21.15	113913	61.99	
31)	Pyrene-d10	29.40	233858	61.88	
73)	Benzo(a)pyrene-d12	38.11	407003	61.81	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ENV3093B.D
Acq On : 3 Sep 2013 8:43 am
Operator : YM
Sample : SRM 1941b
Misc :
ALS Vial : 13 Sample Multiplier: 0.24691

Quant Time: Sep 11 20:05:33 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.147	176	113913m	251.05		-0.19
31) Pyrene-d10	29.397	212	233858m	250.63		-0.17
73) Benzo(a)pyrene-d12	38.109	264	407003m	250.32		-0.23
System Monitoring Compounds						
2) Naphthalene-d8	13.512	136	82560m	26.39		-0.17
21) Acenaphthene-d10	19.364	164	50541m	28.42		-0.19
32) Phenanthrene-d10	24.479	188	104321m	33.80		-0.21
66) Chrysene-d12	33.569	240	141545m	26.82		-0.20
88) Perylene-d12	38.419	264	131399m	17.70		-0.23
90) 5(b)H-Cholane	33.995	217	35605m	28.58		-0.16
Target Compounds						Qvalue
3) cis/trans Decalin	11.143	138	21888m	36.84		
4) C1-Decalins	12.035	152	3346m	5.63		
5) C2-Decalins	14.404	166	5223m	8.79		
6) C3-Decalins	16.995	180	11473m	19.31		
7) C4-Decalins	17.302	194	22948m	38.62		
8) Naphthalene	13.568	128	1916380m	573.86		
9) 2-Methylnaphthalene	15.825	142	388817m	177.59		
10) 1-Methylnaphthalene	16.159	142	174976m	85.78		
11) 2,6-Dimethylnaphthalene	17.943	156	104319m	52.20		
12) 1,6,7-Trimethylnaphtha...	20.785	170	30445m	16.32		
13) C2-Naphthalenes	18.193	156	516141m	154.56		
14) C3-Naphthalenes	20.200	170	428507m	128.32		
15) C4-Naphthalenes	23.613	184	257961m	77.25		
16) Benzothiophene	13.735	134	62158m	23.27		
17) C1-Benzothiophenes	16.104	148	61697m	23.10		
18) C2-Benzothiophenes	17.943	162	46071m	17.25		
19) C3-Benzothiophenes	20.311	176	36738m	13.76		
20) C4-Benzothiophenes	21.872	190	31852m	11.93		
22) Biphenyl	17.385	154	145748m	50.20		
23) Acenaphthylene	18.862	152	170607m	51.02		
24) Acenaphthene	19.475	154	45029m	24.13		
25) Dibenzofuran	20.060	168	198680m	64.19		
26) Fluorene	21.231	166	87552m	36.26		
27) 1-Methylfluorene	23.232	180	36367m	24.30		
28) C1-Fluorenes	23.232	180	82221m	34.05		
29) C2-Fluorenes	25.656	194	242458m	100.41		
30) C3-Fluorenes	27.319	208	302201m	125.15		
33) Carbazole	25.310	167	52285m	18.43		
34) Dibenzothiophene	24.132	184	147932m	44.94		
35) 4-Methyldibenzothiophene	25.622	198	86215m	29.28		
36) 2/3-Methyldibenzothiop...	25.933	198	61753m	20.97		
37) 1-Methyldibenzothiophene	26.280	198	25350m	8.61		
38) C2-Dibenzothiophenes	27.042	212	331841m	100.81		
39) C3-Dibenzothiophenes	28.566	226	347454m	105.55		
40) C4-Dibenzothiophenes	30.610	240	239817m	72.85		
41) Phenanthrene	24.548	178	1183024m	305.02		
42) Anthracene	24.721	178	507175m	135.17		
43) 3-Methylphenanthrene	26.211	192	198939m	66.92		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ENV3093B.D
Acq On : 3 Sep 2013 8:43 am
Operator : YM
Sample : SRM 1941b
Misc :
ALS Vial : 13 Sample Multiplier: 0.24691

Quant Time: Sep 11 20:05:33 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.314	192	269576m	90.68		
45) 2-Methylanthracene	26.488	192	82628m	27.80		
46) 4/9-Methylphenanthrene	26.592	192	204508m	68.79		
47) 1-Methylphenanthrene	26.696	192	105280m	35.41		
48) 3,6-Dimethylphenanthrene	27.769	206	58428m	23.09		
49) Retene	30.437	234	35133m	24.78		
50) C2-Phenanthrenes/Anthr...	28.116	206	881180m	227.19		
51) C3-Phenanthrenes/Anthr...	29.674	220	783710m	202.06		
52) C4-Phenanthrenes/Anthr...	30.437	234	421124m	108.58		
53) Naphthobenzothiophene	32.715	234	622623m	110.52		
54) C1-Naphthobenzothiophenes	33.879	248	516238m	91.63		
55) C2-Naphthobenzothiophenes	35.587	262	506005m	89.82		
56) C3-Naphthobenzothiophenes	36.945	276	388548m	68.97		
57) C4-Naphthobenzothiophenes	37.760	290	181695m	32.25		
58) Fluoranthene	28.670	202	2390624m	570.25		
59) Pyrene	29.432	202	1794969m	331.79		
60) 2-Methylfluoranthene	30.229	216	180288m	49.80		
61) Benzo(b)fluorene	30.818	216	195927m	64.68		
62) C1-Fluoranthenes/Pyrenes	30.818	216	1385200m	330.42		
63) C2-Fluoranthenes/Pyrenes	32.327	230	1579821m	376.84		
64) C3-Fluoranthenes/Pyrenes	33.607	244	720223m	171.80		
65) C4-Fluoranthenes/Pyrenes	35.082	258	709980m	169.36		
67) Benz(a)anthracene	33.530	228	1422482m	253.27		
68) Chrysene/Triphenylene	33.646	228	1622340m	306.40		
69) C1-Chrysenes	34.888	242	1231444m	232.58		
70) C2-Chrysenes	36.324	256	727658m	137.43		
71) C3-Chrysenes	37.721	270	452491m	85.46		
72) C4-Chrysenes	39.118	284	171224m	32.34		
74) C29-Hopane	40.374	191	434085m	146.70		
75) 18a-Oleanane	41.444	191	71102m	24.03		
76) C30-Hopane	41.665	191	586476m	198.20		
77) Benzo(b)fluoranthene	37.061	252	2519338m	298.32		
78) Benzo(k,j)fluoranthene	37.061	252	2112511m	278.85		
79) Benzo(a)fluoranthene	37.410	252	356452m	47.05		
80) Benzo(e)pyrene	37.993	252	1658935m	201.91		
81) Benzo(a)pyrene	38.187	252	1391789m	168.31		
82) Indeno(1,2,3-c,d)pyrene	42.735	276	1756988m	170.32		
83) Dibenzo(a,h)anthracene	42.808	278	279646m	34.29		
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	44.099	276	1448169m	160.51		
89) Perylene	38.497	252	1760860m	206.94		
91) C20-TAS	33.025	231	67072m	6.05		
92) C21-TAS	34.151	231	22355m	2.02		
93) C26(20S)-TAS	38.264	231	16086m	1.45		
94) C26(20R)/C27(20S)-TAS	39.157	231	64374m	5.81		
95) C28(20S)-TAS	39.933	231	41168m	3.71		
96) C27(20R)-TAS	40.301	231	47017m	4.24		
97) C28(20R)-TAS	41.407	231	35853m	3.23		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ENV3093B.D
Acq On : 3 Sep 2013 8:43 am
Operator : YM
Sample : SRM 1941b
Misc :
ALS Vial : 13 Sample Multiplier: 0.24691

Quant Time: Sep 11 20:05:33 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

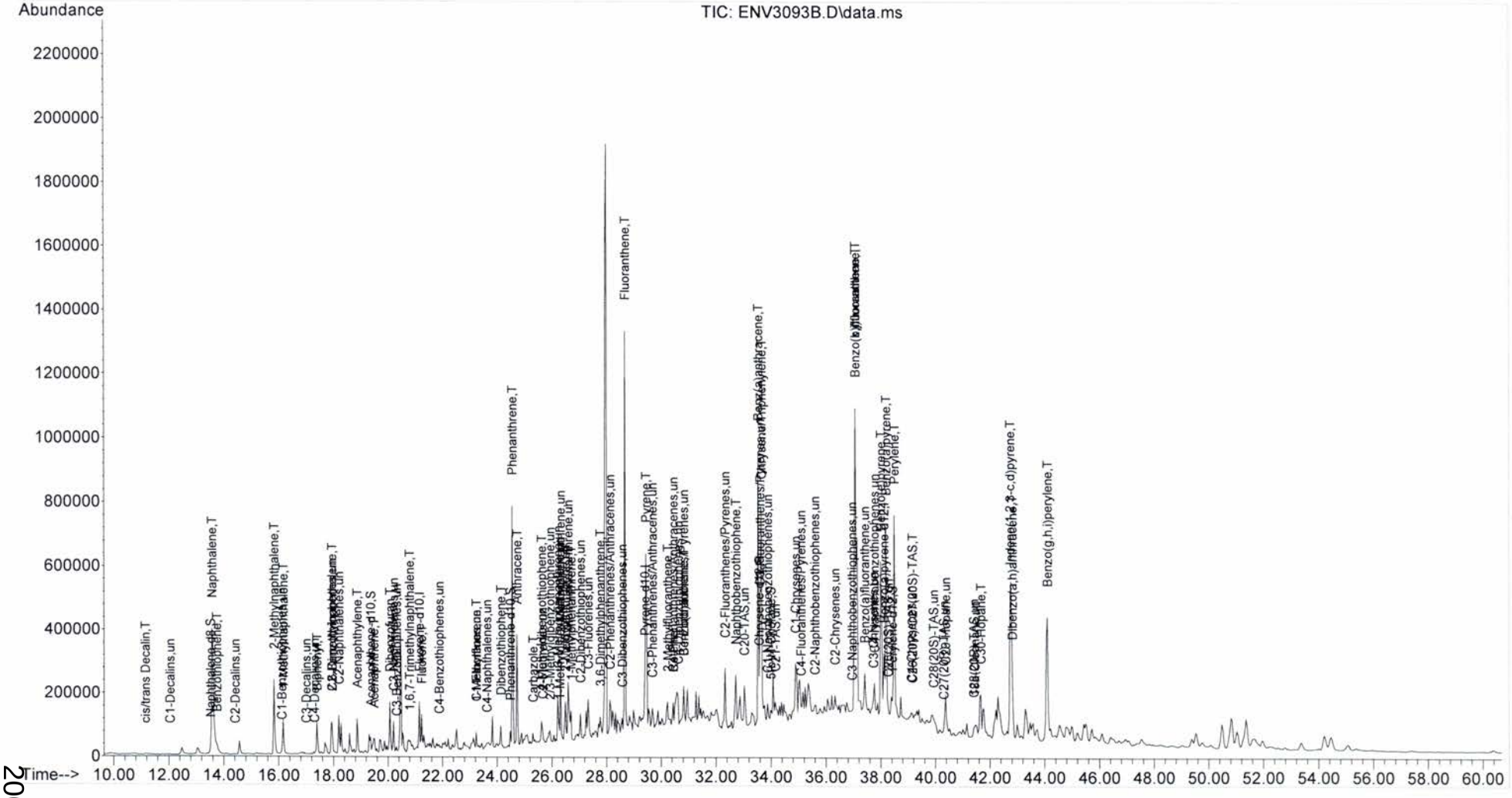
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ENV3093B.D
Acq On : 3 Sep 2013 8:43 am
Operator : YM
Sample : SRM 1941b
Misc :
ALS Vial : 13 Sample Multiplier: 0.24691

Quant Time: Sep 11 20:05:33 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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

Data File Name	ENV3093C.D
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS60146\
Operator	YM
Date Acquired	9/3/2013 9:54
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-019 (0-0.5) MS
Misc Info	0
Instrument Name	GCMS6
Vial Number	14
Sample Multiplier	0.3296
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

ENV3093C.D
SED-DA-019 (0-0.5) MS
9/3/2013
PAH-2012.M
3.033980583

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.14	27383	36.0510	37.7113
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	13.60	122890	28.7846	30.1103
9)+10)	C1-Naphthalenes	15.99	187215	43.8515	45.8710
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	13.76	20566	6.0234	6.3008
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	17.38	61128	16.4696	17.2281
23)	Acenaphthylene	18.86	63927	14.9549	15.6436
24)	Acenaphthene	19.47	35995	15.0881	15.7830
25)	Dibenzofuran	20.06	99437	25.1276	26.2849
26)	Fluorene	21.23	112246	36.3618	38.0364
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	25.31	54413	13.7778	14.4124
42)	Anthracene	24.72	100793	19.2924	20.1809
41)	Phenanthrene	24.55	456978	84.6189	88.5159
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	5.34	111926	20.7254	21.6799
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	24.13	165778	36.1683	37.8340
35)+36)+37)	C1-Dibenzothiophenes	8.55	159005	34.6906	36.2883
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	28.67	345837	59.2469	61.9754
59)	Pyrene	29.47	289379	38.4169	40.1861
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	33.53	134622	17.2146	18.0074
68)	Chrysene/Triphenylene	33.65	279671	37.9353	39.6824
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	37.06	612664	83.8183	87.6784
78)	Benzo(k,j)fluoranthene	37.14	209044	31.8808	33.3490
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.03	352390	49.5540	51.8362
81)	Benzo(a)pyrene	38.19	176349	24.6396	25.7744
89)	Perylene	38.50	1147680	155.8349	163.0116
82)	Indeno(1,2,3-c,d)pyrene	42.84	381030	42.6750	44.6403
83)	Dibenzo(a,h)anthracene	42.92	98101	13.9001	14.5402
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	44.32	602365	77.1386	80.6911

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	15.82	121601	43.4446	45.4453
10)	1-Methylnaphthalene	16.16	65614	25.1609	26.3197
11)	2,6-Dimethylnaphthalene	17.94	129634	50.7380	53.0746
12)	1,6,7-Trimethylnaphthalene	20.78	51947	21.7765	22.7794
27)	1-Methylfluorene	23.23	55367	28.9429	30.2759
35)	4-Methyldibenzothiophene	25.66	159005	38.7873	40.5736
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	26.70	111926	27.0404	28.2857
48)	3,6-Dimethylphenanthrene	27.77	56570	16.0589	16.7985
49)	Retene	30.47	51185	25.9263	27.1203
60)	2-Methylfluoranthene	30.23	44605	8.8494	9.2570
61)	Benzo(b)fluorene	30.82	66413	15.7463	16.4715
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	39.08	54192	5.6485	5.9086
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	13.51	265563	66.40	80.54
21)	Acenaphthene-d10	19.36	161402	71.00	86.10
32)	Phenanthrene-d10	24.48	338746	78.83	95.60
66)	Chrysene-d12	33.57	427173	58.13	70.54
88)	Perylene-d12	38.42	525736	81.82	99.28
90)	5(b)H-Cholane	34.00	139684	129.54	157.21
	Internal Standards				
1)	Fluorene-d10	21.15	194401	82.75	
31)	Pyrene-d10	29.40	434669	82.61	
73)	Benzo(a)pyrene-d12	38.11	470244	82.51	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ENV3093C.D
Acq On : 3 Sep 2013 9:54 am
Operator : YM
Sample : SED-DA-019 (0-0.5) MS
Misc :
ALS Vial : 14 Sample Multiplier: 0.3296

Quant Time: Sep 12 08:29:39 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.147	176	194401m	251.05		-0.19
31) Pyrene-d10	29.397	212	434669m	250.63		-0.17
73) Benzo(a)pyrene-d12	38.109	264	470244m	250.32		-0.23
System Monitoring Compounds						
2) Naphthalene-d8	13.511	136	265563m	66.40		-0.17
21) Acenaphthene-d10	19.363	164	161402m	71.00		-0.19
32) Phenanthrene-d10	24.478	188	338746m	78.83		-0.21
66) Chrysene-d12	33.568	240	427173m	58.13		-0.20
88) Perylene-d12	38.419	264	525736m	81.82		-0.23
90) 5(b)H-Cholane	33.995	217	139684m	129.54		-0.16
Target Compounds						Qvalue
3) cis/trans Decalin	11.143	138	27383m	36.05		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.595	128	122890m	28.78		
9) 2-Methylnaphthalene	15.824	142	121601m	43.44		
10) 1-Methylnaphthalene	16.159	142	65614m	25.16		
11) 2,6-Dimethylnaphthalene	17.942	156	129634m	50.74		
12) 1,6,7-Trimethylnaphtha...	20.784	170	51947m	21.78		
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	13.762	134	20566m	6.02		
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	17.385	154	61128m	16.47		
23) Acenaphthylene	18.862	152	63927m	14.95		
24) Acenaphthene	19.475	154	35995m	15.09		
25) Dibenzofuran	20.060	168	99437m	25.13		
26) Fluorene	21.230	166	112246m	36.36		
27) 1-Methylfluorene	23.231	180	55367m	28.94		
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	25.310	167	54413m	13.78		
34) Dibenzothiophene	24.132	184	165778m	36.17		
35) 4-Methyldibenzothiophene	25.656	198	159005m	38.79		
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	24.548	178	456978m	84.62		
42) Anthracene	24.721	178	100793m	19.29		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ENV3093C.D
Acq On : 3 Sep 2013 9:54 am
Operator : YM
Sample : SED-DA-019 (0-0.5) MS
Misc :
ALS Vial : 14 Sample Multiplier: 0.3296

Quant Time: Sep 12 08:29:39 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 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	26.695	192	111926m	27.04		
48) 3,6-Dimethylphenanthrene	27.769	206	56570m	16.06		
49) Retene	30.471	234	51185m	25.93		
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.670	202	345837m	59.25		
59) Pyrene	29.466	202	289379m	38.42		
60) 2-Methylfluoranthene	30.228	216	44605m	8.85		
61) Benzo(b)fluorene	30.817	216	66413m	15.75		
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	33.530	228	134622m	17.21		
68) Chrysene/Triphenylene	33.646	228	279671m	37.94		
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	37.061	252	612664m	83.82		
78) Benzo(k,j)fluoranthene	37.139	252	209044m	31.88		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.031	252	352390m	49.55		
81) Benzo(a)pyrene	38.186	252	176349m	24.64		
82) Indeno(1,2,3-c,d)pyrene	42.845	276	381030m	42.67		
83) Dibenzo(a,h)anthracene	42.919	278	98101m	13.90		
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	44.320	276	602365m	77.14		
89) Perylene	38.497	252	1147678m	155.84		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.079	231	54192m	5.65		
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\MS60146\
Data File : ENV3093C.D
Acq On : 3 Sep 2013 9:54 am
Operator : YM
Sample : SED-DA-019 (0-0.5) MS
Misc :
ALS Vial : 14 Sample Multiplier: 0.3296

Quant Time: Sep 12 08:29:39 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

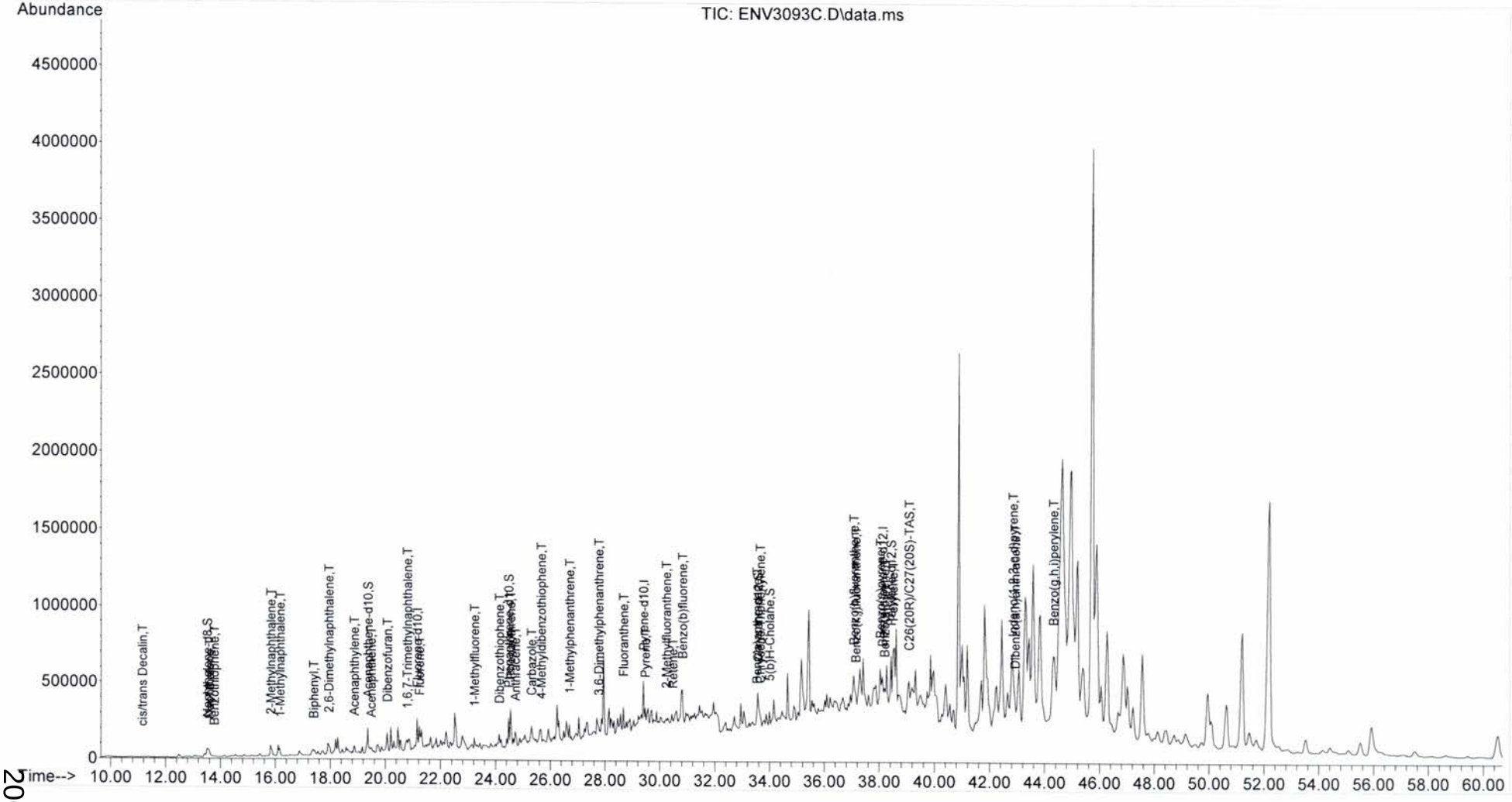
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ENV3093C.D
Acq On : 3 Sep 2013 9:54 am
Operator : YM
Sample : SED-DA-019 (0-0.5) MS
Misc :
ALS Vial : 14 Sample Multiplier: 0.3296

Quant Time: Sep 12 08:29:39 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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

Data File Name	ENV3093D.D
Data File Path	C:\GCMS6\MS60146\
Operator	YM
Date Acquired	9/3/2013 11:04
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-019 (0-0.5) MSD
Misc Info	0
Instrument Name	GCMS6
Vial Number	15
Sample Multiplier	0.33003
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

ENV3093D.D
SED-DA-019 (0-0.5) MSD
9/3/2013
PAH-2012.M
3.030027573

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.14	25873	33.4670	36.5821
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	13.59	71478	16.4495	17.9806
9)+10)	C1-Naphthalenes	15.99	159025	36.5970	40.0034
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	13.76	23134	6.6570	7.2766
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	17.38	49777	13.1767	14.4032
23)	Acenaphthylene	18.86	63635	14.6262	15.9876
24)	Acenaphthene	19.47	16779	6.9103	7.5535
25)	Dibenzofuran	20.06	52108	12.9373	14.1415
26)	Fluorene	21.23	63300	20.1471	22.0224
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	25.31	58472	13.9356	15.2327
42)	Anthracene	24.72	112302	20.2322	22.1154
41)	Phenanthrene	24.55	259341	45.2006	49.4079
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	5.34	111218	19.3842	21.1885
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	24.13	168663	34.6357	37.8595
35)+36)+37)	C1-Dibenzothiophenes	8.55	181605	37.2934	40.7646
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	28.67	341175	55.0137	60.1344
59)	Pyrene	29.47	320184	40.0085	43.7325
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	33.53	141112	16.9841	18.5650
68)	Chrysene/Triphenylene	33.65	298444	38.1030	41.6496
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	37.06	612115	79.9824	87.4272
78)	Benzo(k,j)fluoranthene	37.10	207706	30.2542	33.0703
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.03	380444	51.0966	55.8526
81)	Benzo(a)pyrene	38.23	219741	29.3236	32.0531
89)	Perylene	38.54	1466500	190.1824	207.8846
82)	Indeno(1,2,3-c,d)pyrene	42.85	359516	38.4571	42.0367
83)	Dibenzo(a,h)anthracene	42.92	106181	14.3693	15.7068
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	44.28	617708	75.5511	82.5834

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	15.82	98024	34.4086	37.6114
10)	1-Methylnaphthalene	16.16	61001	22.9829	25.1221
11)	2,6-Dimethylnaphthalene	17.94	138493	53.2573	58.2145
12)	1,6,7-Trimethylnaphthalene	20.78	54599	22.4879	24.5811
27)	1-Methylfluorene	23.23	51470	26.4352	28.8958
35)	4-Methyldibenzothiophene	25.66	181605	41.6973	45.5785
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	26.70	111218	25.2904	27.6445
48)	3,6-Dimethylphenanthrene	27.77	63861	17.0634	18.6516
49)	Retene	30.47	58303	27.7963	30.3836
60)	2-Methylfluoranthene	30.23	49070	9.1632	10.0161
61)	Benzo(b)fluorene	30.82	70183	15.6624	17.1202
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	39.08	71369	7.1048	7.7661
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	13.51	259025	63.63	77.08
21)	Acenaphthene-d10	19.36	163395	70.62	85.53
32)	Phenanthrene-d10	24.48	344859	75.54	91.48
66)	Chrysene-d12	33.57	428732	54.91	66.55
88)	Perylene-d12	38.42	520862	77.42	93.82
90)	5(b)H-Cholane	34.00	130745	115.81	140.36
	Internal Standards				
1)	Fluorene-d10	21.15	198120	82.85	
31)	Pyrene-d10	29.40	462408	82.71	
73)	Benzo(a)pyrene-d12	38.11	492997	82.61	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ENV3093D.D
Acq On : 3 Sep 2013 11:04 am
Operator : YM
Sample : SED-DA-019 (0-0.5) MSD
Misc :
ALS Vial : 15 Sample Multiplier: 0.33003

Quant Time: Sep 12 08:31:07 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.146	176	198120m	251.05	-0.19
31) Pyrene-d10	29.398	212	462408m	250.63	-0.17
73) Benzo(a)pyrene-d12	38.110	264	492997m	250.32	-0.23
System Monitoring Compounds					
2) Naphthalene-d8	13.511	136	259025m	63.63	-0.17
21) Acenaphthene-d10	19.363	164	163395m	70.62	-0.20
32) Phenanthrene-d10	24.480	188	344859m	75.54	-0.21
66) Chrysene-d12	33.570	240	428732m	54.91	-0.19
88) Perylene-d12	38.421	264	520862m	77.42	-0.23
90) 5(b)H-Cholane	33.997	217	130745m	115.81	-0.15
Target Compounds					Qvalue
3) cis/trans Decalin	11.142	138	25873m	33.47	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.595	128	71478m	16.45	
9) 2-Methylnaphthalene	15.824	142	98024m	34.41	
10) 1-Methylnaphthalene	16.158	142	61001m	22.98	
11) 2,6-Dimethylnaphthalene	17.942	156	138493m	53.26	
12) 1,6,7-Trimethylnaphtha...	20.784	170	54599m	22.49	
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	13.762	134	23134m	6.66	
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	17.384	154	49777m	13.18	
23) Acenaphthylene	18.861	152	63635m	14.63	
24) Acenaphthene	19.474	154	16779m	6.91	
25) Dibenzofuran	20.060	168	52108m	12.94	
26) Fluorene	21.230	166	63300m	20.15	
27) 1-Methylfluorene	23.233	180	51470m	26.44	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.311	167	58472m	13.94	
34) Dibenzothiophene	24.133	184	168663m	34.64	
35) 4-Methyldibenzothiophene	25.657	198	181605m	41.70	
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	24.549	178	259341m	45.20	
42) Anthracene	24.722	178	112302m	20.23	
43) 3-Methylphenanthrene	0.000		0	N.D. d	

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ENV3093D.D
Acq On : 3 Sep 2013 11:04 am
Operator : YM
Sample : SED-DA-019 (0-0.5) MSD
Misc :
ALS Vial : 15 Sample Multiplier: 0.33003

Quant Time: Sep 12 08:31:07 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 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	26.697	192	111218m	25.29		
48)	3,6-Dimethylphenanthrene	27.770	206	63861m	17.06		
49)	Retene	30.472	234	58303m	27.80		
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	28.671	202	341175m	55.01		
59)	Pyrene	29.468	202	320184m	40.01		
60)	2-Methylfluoranthene	30.230	216	49070m	9.16		
61)	Benzo(b)fluorene	30.819	216	70183m	15.66		
62)	C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63)	C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64)	C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65)	C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67)	Benz(a)anthracene	33.531	228	141112m	16.98		
68)	Chrysene/Triphenylene	33.648	228	298444m	38.10		
69)	C1-Chrysenes	0.000		0	N.D.	d	
70)	C2-Chrysenes	0.000		0	N.D.	d	
71)	C3-Chrysenes	0.000		0	N.D.	d	
72)	C4-Chrysenes	0.000		0	N.D.	d	
74)	C29-Hopane	0.000		0	N.D.	d	
75)	18a-Oleanane	0.000		0	N.D.	d	
76)	C30-Hopane	0.000		0	N.D.	d	
77)	Benzo(b)fluoranthene	37.063	252	612115m	79.98		
78)	Benzo(k,j)fluoranthene	37.101	252	207706m	30.25		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.033	252	380444m	51.10		
81)	Benzo(a)pyrene	38.227	252	219741m	29.32		
82)	Indeno(1,2,3-c,d)pyrene	42.847	276	359516m	38.46		
83)	Dibenzo(a,h)anthracene	42.920	278	106181m	14.37		
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	44.285	276	617708m	75.55		
89)	Perylene	38.537	252	1466495m	190.18		
91)	C20-TAS	0.000		0	N.D.	d	
92)	C21-TAS	0.000		0	N.D.	d	
93)	C26(20S)-TAS	0.000		0	N.D.	d	
94)	C26(20R)/C27(20S)-TAS	39.080	231	71369m	7.10		
95)	C28(20S)-TAS	0.000		0	N.D.	d	
96)	C27(20R)-TAS	0.000		0	N.D.	d	
97)	C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ENV3093D.D
Acq On : 3 Sep 2013 11:04 am
Operator : YM
Sample : SED-DA-019 (0-0.5) MSD
Misc :
ALS Vial : 15 Sample Multiplier: 0.33003

Quant Time: Sep 12 08:31:07 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

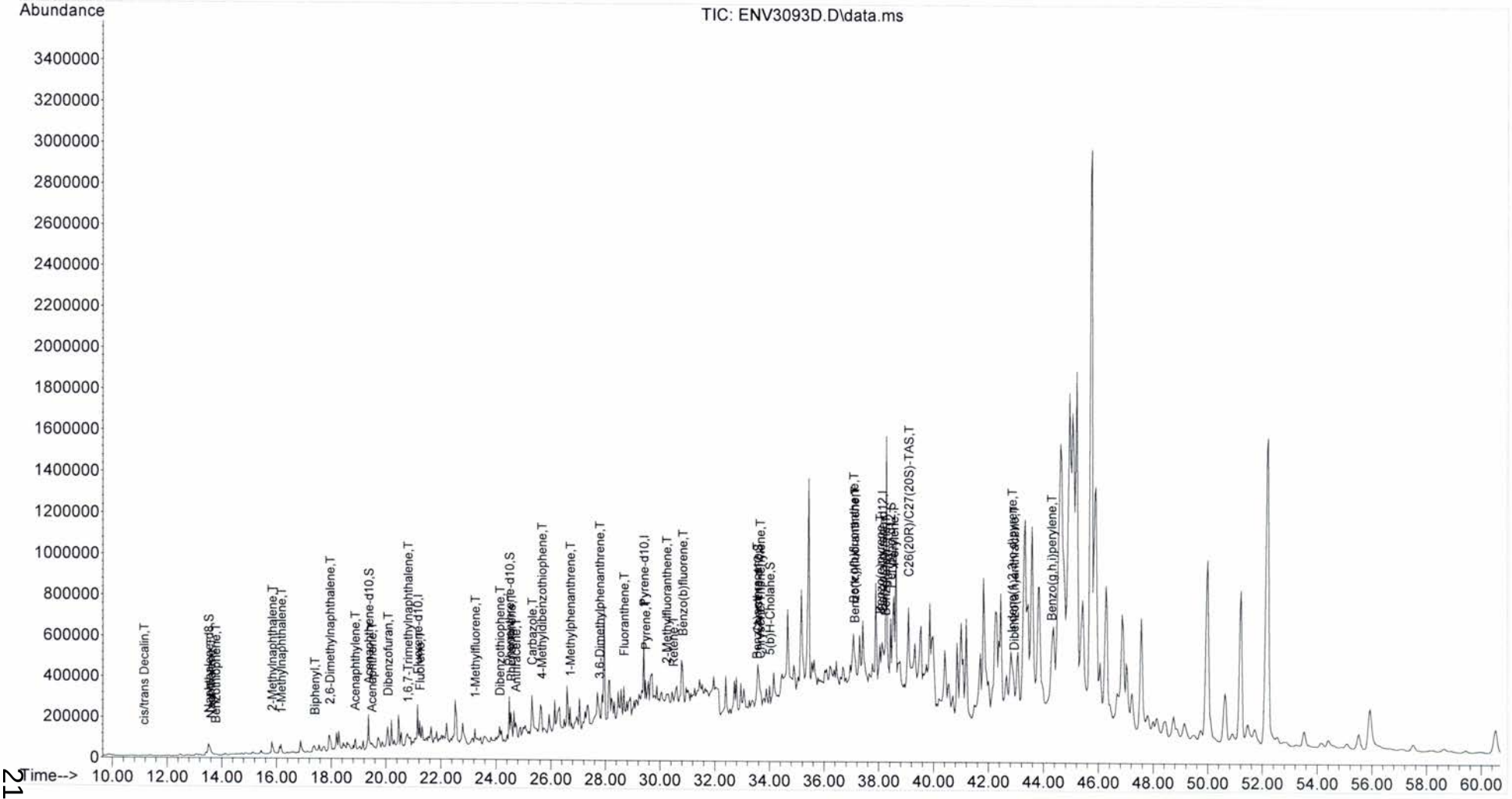
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ENV3093D.D
Acq On : 3 Sep 2013 11:04 am
Operator : YM
Sample : SED-DA-019 (0-0.5) MSD
Misc :
ALS Vial : 15 Sample Multiplier: 0.33003

Quant Time: Sep 12 08:31:07 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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

Data File Name	ENV3093E.D	**Surrogate/Internal Multiplier Factor:**	1.00		
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS60146\	**AR-WKSU-2500-001:**	**(ng/mL)**		
Operator	YM	Naphthalene-d8	250.125		
Date Acquired	9/3/2013 12:14	Acenaphthene-d10	250.163	***Copy data below***	
Acq. Method File	PAH-2012.M	Phenanthrene-d10	250.194	***to Spread Sheet***	
Sample Name	Dupl. (SED-DA-045 (0-0.5))	Chrysene-d12	250.038		
Misc Info	0	Perylene-d12	250.031	ENV3093E.D	
Instrument Name	GCMS6	5(b)H-Cholane	250.000	upl. (SED-DA-045 (0-0.5))	
Vial Number	16			9/3/2013	
Sample Multiplier	0.97656			PAH-2012.M	
Sample Amount	0			1.024002621	

#	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	13.59	74859	41.1392	45.6450
9)+10)	C1-Naphthalenes	15.99	865958	475.8917	528.0149
13)	C2-Naphthalenes	18.19	3963880	2178.3733	2416.9650
14)	C3-Naphthalenes	20.48	6615410	3635.5376	4033.7287
15)	C4-Naphthalenes	22.54	6205600	3410.3233	3783.8473
16)	Benzothiophene	13.79	17151	11.7855	13.0764
17)	C1-Benzothiophenes	15.35	195492	134.3346	149.0479
18)	C2-Benzothiophenes	18.33	656006	450.7820	500.1551
19)	C3-Benzothiophenes	20.03	1625110	1116.7159	1239.0269
20)	C4-Benzothiophenes	21.34	2215960	1522.7207	1689.5004
22)	Biphenyl	17.41	109913	69.4800	77.0900
23)	Acenaphthylene	18.89	49329	27.0750	30.0405
24)	Acenaphthene	19.47	25687	25.2623	28.0293
25)	Dibenzofuran	20.09	110728	65.6491	72.8395
26)	Fluorene	21.26	193843	147.3297	163.4663
28)	C1-Fluorenes	23.27	770098	585.3110	649.4186
29)	C2-Fluorenes	25.10	2215420	1683.8238	1868.2487
30)	C3-Fluorenes	27.08	2365490	1797.8860	1994.8039
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.72	56078	32.6305	36.2044
41)	Phenanthrene	24.58	981302	552.3960	612.8986
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.48	3579791	2015.1415	2235.8548
50)	C2-Phenanthrenes/Anthracenes	28.15	7223830	4066.4544	4511.8428
51)	C3-Phenanthrenes/Anthracenes	29.71	7333050	4127.9289	4580.0504
52)	C4-Phenanthrenes/Anthracenes	31.55	5933040	3339.8352	3705.6388
34)	Dibenzothiophene	24.13	783542	519.6852	576.6050
35)+36)+37)	C1-Dibenzothiophenes	25.96	3543679	2350.3494	2607.7772
38)	C2-Dibenzothiophenes	27.39	6957180	4614.3534	5119.7517
39)	C3-Dibenzothiophenes	29.26	8342400	5533.1011	6139.1275
40)	C4-Dibenzothiophenes	29.57	6332790	4200.2236	4660.2634
58)	Fluoranthene	28.71	220587	114.8815	127.4642
59)	Pyrene	29.47	434488	175.3511	194.5569
62)	C1-Fluoranthenes/Pyrenes	31.30	1844280	960.5005	1065.7016
63)	C2-Fluoranthenes/Pyrenes	32.37	3069060	1598.3650	1773.4299
64)	C3-Fluoranthenes/Pyrenes	33.92	3328140	1733.2963	1923.1399
65)	C4-Fluoranthenes/Pyrenes	34.97	3734940	1945.1610	2158.2095
53)	Naphthobenzothiophene	32.75	1309600	507.5231	563.1108
54)	C1-Naphthobenzothiophenes	34.50	3810060	1476.5587	1638.2824
55)	C2-Naphthobenzothiophenes	35.63	5938440	2301.3906	2553.4560
56)	C3-Naphthobenzothiophenes	36.98	4894310	1896.7432	2104.4886
57)	C4-Naphthobenzothiophenes	37.95	2426660	940.4312	1043.4342
67)	Benz(a)anthracene	33.57	123659	48.0708	53.3358
68)	Chrysene/Triphenylene	33.69	638652	263.3509	292.1950
69)	C1-Chrysenes	34.93	1931810	796.5898	883.8382
70)	C2-Chrysenes	36.71	2470540	1018.7376	1130.3174
71)	C3-Chrysenes	37.76	2617240	1079.2258	1197.4306
72)	C4-Chrysenes	39.20	1558860	642.8011	713.2054
77)	Benzo(b)fluoranthene	37.10	308269	108.9187	120.8482
78)	Benzo(k,j)fluoranthene	37.18	78354	30.8611	34.2412
79)	Benzo(a)fluoranthene	37.29	39062	15.3852	17.0703
80)	Benzo(e)pyrene	38.07	374299	135.9352	150.8238
81)	Benzo(a)pyrene	38.23	183806	66.3251	73.5895
89)	Perylene	38.54	301712	105.8025	117.3907
82)	Indeno(1,2,3-c,d)pyrene	42.85	151862	43.9259	48.7370
83)	Dibenzo(a,h)anthracene	42.88	76326	27.9302	30.9893
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	44.17	449003	148.4977	164.7622

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	15.82	502433	421.1581	467.2865
10)	1-Methylnaphthalene	16.16	363525	327.0636	362.8861
11)	2,6-Dimethylnaphthalene	17.94	981637	901.4342	1000.1660
12)	1,6,7-Trimethylnaphthalene	20.78	460185	452.6141	502.1877
27)	1-Methylfluorene	23.27	350640	430.0516	477.1541
35)	4-Methyldibenzothiophene	25.66	1601160	1187.3798	1317.4304
36)	2/3-Methyldibenzothiophene	25.93	1116020	827.6112	918.2573
37)	1-Methyldibenzothiophene	26.28	826499	612.9115	680.0421
43)	3-Methylphenanthrene	26.25	809171	594.2885	659.3794
44)	2-Methylphenanthrene	26.35	822039	603.7397	669.8657
45)	2-Methylanthracene	26.49	74221	54.5110	60.4814
46)	4/9-Methylphenanthrene	26.63	1151060	845.3894	937.9828
47)	1-Methylphenanthrene	26.70	723300	531.2213	589.4046
48)	3,6-Dimethylphenanthrene	27.80	189850	163.8384	181.7833
49)	Retene	30.47	165262	254.4759	282.3480
60)	2-Methylfluoranthene	30.26	101080	60.9638	67.6410
61)	Benzo(b)fluorene	30.85	99933	72.0295	79.9187
74)	C29-Hopane	40.41	2243040	2261.8985	2509.6385
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	41.70	2718240	2741.0867	3041.3110
91)	C20-TAS	33.14	340920	91.7712	101.8227
92)	C21-TAS	34.23	462235	124.4274	138.0556
93)	C26(20S)-TAS	38.30	476625	128.3014	142.3540
94)	C26(20R)/C27(20S)-TAS	39.20	1458520	392.6142	435.6163
95)	C28(20S)-TAS	39.97	1361220	366.4229	406.5563
96)	C27(20R)-TAS	40.38	979049	263.5472	292.4128
97)	C28(20R)-TAS	41.48	1070900	288.2717	319.8454
	Surrogate Standards				
2)	Naphthalene-d8	13.51	249976	146.64	60.03
21)	Acenaphthene-d10	19.36	164286	169.55	69.40
32)	Phenanthrene-d10	24.51	311262	220.21	90.13
66)	Chrysene-d12	33.61	572642	236.90	97.02
88)	Perylene-d12	38.46	566504	227.69	93.25
90)	5(b)H-Cholane	34.00	121706	291.50	119.40
	Internal Standards				
1)	Fluorene-d10	21.15	245495	245.17	
31)	Pyrene-d10	29.43	423638	244.75	
73)	Benzo(a)pyrene-d12	38.15	539483	244.46	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ENV3093E.D
Acq On : 3 Sep 2013 12:14 pm
Operator : YM
Sample : Dupl. (SED-DA-045 (0-0.5))
Misc :
ALS Vial : 16 Sample Multiplier: 0.97656

Quant Time: Sep 11 21:48:39 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.147	176	245495m	251.05		-0.19
31) Pyrene-d10	29.433	212	423638m	250.63		-0.14
73) Benzo(a)pyrene-d12	38.148	264	539483m	250.32		-0.19
System Monitoring Compounds						
2) Naphthalene-d8	13.511	136	249976m	146.64		-0.17
21) Acenaphthene-d10	19.363	164	164286m	169.55		-0.19
32) Phenanthrene-d10	24.514	188	311262m	220.21		-0.17
66) Chrysene-d12	33.608	240	572642m	236.90		-0.16
88) Perylene-d12	38.459	264	566504m	227.69		-0.19
90) 5(b)H-Cholane	33.996	217	121706m	291.50		-0.16
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	13.595	128	74859m	41.14		
9) 2-Methylnaphthalene	15.824	142	502433m	421.16		
10) 1-Methylnaphthalene	16.159	142	363525m	327.06		
11) 2,6-Dimethylnaphthalene	17.942	156	981637m	901.43		
12) 1,6,7-Trimethylnaphtha...	20.784	170	460185m	452.61		
13) C2-Naphthalenes	18.193	156	3963875m	2178.37		
14) C3-Naphthalenes	20.478	170	6615412m	3635.54		
15) C4-Naphthalenes	22.540	184	6205601m	3410.32		
16) Benzothiophene	13.790	134	17151m	11.79		
17) C1-Benzothiophenes	15.350	148	195492m	134.33		
18) C2-Benzothiophenes	18.332	162	656006m	450.78		
19) C3-Benzothiophenes	20.032	176	1625110m	1116.71		
20) C4-Benzothiophenes	21.342	190	2215956m	1522.72		
22) Biphenyl	17.412	154	109913m	69.48		
23) Acenaphthylene	18.889	152	49329m	27.08		
24) Acenaphthene	19.475	154	25687m	25.26		
25) Dibenzofuran	20.088	168	110728m	65.65		
26) Fluorene	21.258	166	193843m	147.33		
27) 1-Methylfluorene	23.267	180	350640m	430.05		
28) C1-Fluorenes	23.267	180	770098m	585.31		
29) C2-Fluorenes	25.103	194	2215424m	1683.83		
30) C3-Fluorenes	27.077	208	2365490m	1797.88		
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.133	184	783542m	519.68		
35) 4-Methyldibenzothiophene	25.657	198	1601163m	1187.38		
36) 2/3-Methyldibenzothiop...	25.934	198	1116017m	827.61		
37) 1-Methyldibenzothiophene	26.281	198	826499m	612.91		
38) C2-Dibenzothiophenes	27.389	212	6957183m	4614.36		
39) C3-Dibenzothiophenes	29.260	226	8342400m	5533.10		
40) C4-Dibenzothiophenes	29.572	240	6332790m	4200.23		
41) Phenanthrene	24.583	178	981302m	552.40		
42) Anthracene	24.722	178	56078m	32.63		
43) 3-Methylphenanthrene	26.246	192	809171m	594.29		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ENV3093E.D
Acq On : 3 Sep 2013 12:14 pm
Operator : YM
Sample : Dupl. (SED-DA-045 (0-0.5))
Misc :
ALS Vial : 16 Sample Multiplier: 0.97656

Quant Time: Sep 11 21:48:39 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.350	192	822039m	603.74		
45)	2-Methylanthracene	26.489	192	74221m	54.51		
46)	4/9-Methylphenanthrene	26.627	192	1151064m	845.39		
47)	1-Methylphenanthrene	26.696	192	723300m	531.22		
48)	3,6-Dimethylphenanthrene	27.805	206	189850m	163.84		
49)	Retene	30.472	234	165262m	254.48		
50)	C2-Phenanthrenes/Anthr...	28.151	206	7223833m	4066.45		
51)	C3-Phenanthrenes/Anthr...	29.710	220	7333047m	4127.93		
52)	C4-Phenanthrenes/Anthr...	31.546	234	5933043m	3339.84		
53)	Naphthobenzothiophene	32.754	234	1309599m	507.52		
54)	C1-Naphthobenzothiophenes	34.501	248	3810059m	1476.55		
55)	C2-Naphthobenzothiophenes	35.626	262	5938437m	2301.39		
56)	C3-Naphthobenzothiophenes	36.984	276	4894310m	1896.75		
57)	C4-Naphthobenzothiophenes	37.954	290	2426661m	940.43		
58)	Fluoranthene	28.706	202	220587m	114.88		
59)	Pyrene	29.468	202	434488m	175.35		
60)	2-Methylfluoranthene	30.264	216	101080m	60.96		
61)	Benzo(b)fluorene	30.853	216	99933m	72.03		
62)	C1-Fluoranthenes/Pyrenes	31.303	216	1844281m	960.50		
63)	C2-Fluoranthenes/Pyrenes	32.366	230	3069064m	1598.37		
64)	C3-Fluoranthenes/Pyrenes	33.918	244	3328141m	1733.29		
65)	C4-Fluoranthenes/Pyrenes	34.966	258	3734944m	1945.16		
67)	Benz(a)anthracene	33.569	228	123659m	48.07		
68)	Chrysene/Triphenylene	33.686	228	638652m	263.35		
69)	C1-Chrysenes	34.927	242	1931809m	796.59		
70)	C2-Chrysenes	36.713	256	2470544m	1018.74		
71)	C3-Chrysenes	37.760	270	2617241m	1079.23		
72)	C4-Chrysenes	39.196	284	1558858m	642.80		
74)	C29-Hopane	40.412	191	2243038m	2261.89		
75)	18a-Oleanane	0.000		0	N.D.	d	
76)	C30-Hopane	41.703	191	2718239m	2741.09		
77)	Benzo(b)fluoranthene	37.101	252	308269m	108.92		
78)	Benzo(k,j)fluoranthene	37.178	252	78354m	30.86		
79)	Benzo(a)fluoranthene	37.295	252	39062m	15.39		
80)	Benzo(e)pyrene	38.071	252	374299m	135.93		
81)	Benzo(a)pyrene	38.226	252	183806m	66.33		
82)	Indeno(1,2,3-c,d)pyrene	42.846	276	151862m	43.93		
83)	Dibenzo(a,h)anthracene	42.883	278	76326m	27.93		
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87)	Benzo(g,h,i)perylene	44.174	276	449003m	148.50		
89)	Perylene	38.536	252	301712m	105.80		
91)	C20-TAS	33.142	231	340920m	91.77		
92)	C21-TAS	34.229	231	462235m	124.43		
93)	C26(20S)-TAS	38.304	231	476625m	128.30		
94)	C26(20R)/C27(20S)-TAS	39.196	231	1458517m	392.61		
95)	C28(20S)-TAS	39.972	231	1361218m	366.42		
96)	C27(20R)-TAS	40.375	231	979049m	263.55		
97)	C28(20R)-TAS	41.482	231	1070896m	288.27		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ENV3093E.D
Acq On : 3 Sep 2013 12:14 pm
Operator : YM
Sample : Dupl. (SED-DA-045 (0-0.5))
Misc :
ALS Vial : 16 Sample Multiplier: 0.97656

Quant Time: Sep 11 21:48:39 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

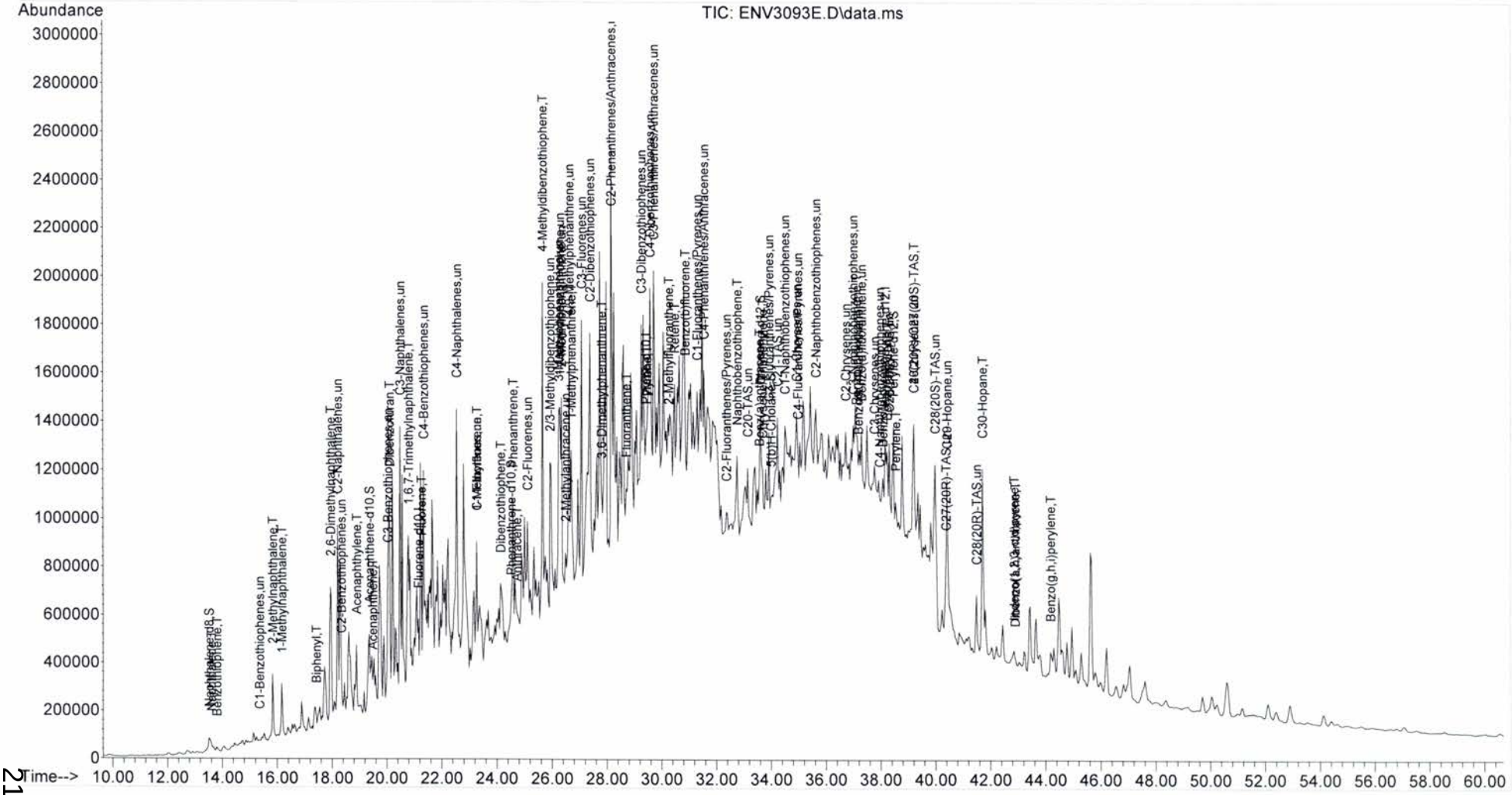
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ENV3093E.D
Acq On : 3 Sep 2013 12:14 pm
Operator : YM
Sample : Dupl. (SED-DA-045 (0-0.5))
Misc :
ALS Vial : 16 Sample Multiplier: 0.97656

Quant Time: Sep 11 21:48:39 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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

Data File Name	ARC1816.D
Data File Path	C:\GCMS6\MS60146\
Operator	YM
Date Acquired	9/3/2013 13:24
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-045 (0-0.5)
Misc Info	0
Instrument Name	GCMS6
Vial Number	17
Sample Multiplier	0.97466
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

ARC1816.D
SED-DA-045 (0-0.5)
9/3/2013
PAH-2012.M
1.02599881

#	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	13.60	76399	39.5465	44.6452
9)+10)	C1-Naphthalenes	15.99	939014	486.0633	548.7302
13)	C2-Naphthalenes	18.31	4342510	2247.8194	2537.6247
14)	C3-Naphthalenes	20.48	7298730	3778.0551	4265.1496
15)	C4-Naphthalenes	22.54	6922050	3583.0743	4045.0305
16)	Benzothiophene	13.79	19230	12.4465	14.0512
17)	C1-Benzothiophenes	15.35	175201	113.3978	128.0179
18)	C2-Benzothiophenes	18.33	709770	459.3953	518.6239
19)	C3-Benzothiophenes	20.03	1720220	1113.4029	1256.9509
20)	C4-Benzothiophenes	21.34	2370120	1534.0466	1731.8271
22)	Biphenyl	17.41	119729	71.2885	80.4795
23)	Acenaphthylene	18.89	52530	27.1571	30.6584
24)	Acenaphthene	19.48	25632	23.7440	26.8052
25)	Dibenzofuran	20.09	115379	64.4329	72.7401
26)	Fluorene	21.26	221560	158.6142	179.0639
28)	C1-Fluorenes	23.27	883532	632.5173	714.0661
29)	C2-Fluorenes	25.10	2501040	1790.4894	2021.3324
30)	C3-Fluorenes	27.08	2776780	1987.8873	2244.1803
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.72	64595	33.7041	38.0495
41)	Phenanthrene	24.58	1174430	592.8243	669.2555
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.50	4039899	2039.2447	2302.1591
50)	C2-Phenanthrenes/Anthracenes	28.15	7827960	3951.3886	4460.8305
51)	C3-Phenanthrenes/Anthracenes	30.82	8515620	4298.5040	4852.6986
52)	C4-Phenanthrenes/Anthracenes	31.58	5637160	2845.5199	3212.3851
34)	Dibenzothiophene	24.17	836537	497.5259	561.6706
35)+36)+37)	C1-Dibenzothiophenes	25.97	3803727	2262.2463	2553.9117
38)	C2-Dibenzothiophenes	27.08	7594050	4516.5160	5098.8182
39)	C3-Dibenzothiophenes	28.60	9741430	5793.6617	6540.6229
40)	C4-Dibenzothiophenes	30.64	7258260	4316.8081	4873.3626
58)	Fluoranthene	28.71	238321	111.2974	125.6467
59)	Pyrene	29.47	471451	170.6152	192.6122
62)	C1-Fluoranthenes/Pyrenes	30.99	1956760	913.8217	1031.6383
63)	C2-Fluoranthenes/Pyrenes	32.72	3232790	1509.7386	1704.3851
64)	C3-Fluoranthenes/Pyrenes	33.92	3649390	1704.2905	1924.0201
65)	C4-Fluoranthenes/Pyrenes	34.97	3948790	1844.1152	2081.8720
53)	Naphthobenzothiophene	32.75	1272260	442.1243	499.1262
54)	C1-Naphthobenzothiophenes	33.92	4117100	1430.7424	1615.2042
55)	C2-Naphthobenzothiophenes	35.82	6712280	2332.6050	2633.3415
56)	C3-Naphthobenzothiophenes	36.98	5612600	1950.4506	2201.9170
57)	C4-Naphthobenzothiophenes	37.95	2490650	865.5332	977.1240
67)	Benz(a)anthracene	33.57	152461	53.1456	59.9975
68)	Chrysene/Triphenylene	33.69	659267	243.7722	275.2011
69)	C1-Chrysenes	34.93	2208300	816.5468	921.8219
70)	C2-Chrysenes	36.71	3201250	1183.7051	1336.3170
71)	C3-Chrysenes	37.80	2622200	969.5908	1094.5975
72)	C4-Chrysenes	39.20	1803390	666.8273	752.7995
77)	Benzo(b)fluoranthene	37.10	359369	125.4202	141.5903
78)	Benzo(k,j)fluoranthene	37.18	94221	36.6565	41.3825
79)	Benzo(a)fluoranthene	37.29	45749	17.7986	20.0933
80)	Benzo(e)pyrene	38.07	423350	151.8676	171.4475
81)	Benzo(a)pyrene	38.26	226008	80.5557	90.9416
89)	Perylene	38.54	339327	117.5372	132.6909
82)	Indeno(1,2,3-c,d)pyrene	42.85	157469	44.9905	50.7910
83)	Dibenzo(a,h)anthracene	42.92	79833	28.8562	32.5765
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	44.21	511998	167.2595	188.8238

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	15.83	551623	435.5307	491.6825
10)	1-Methylnaphthalene	16.16	387391	328.2899	370.6154
11)	2,6-Dimethylnaphthalene	17.97	1067140	923.0274	1042.0308
12)	1,6,7-Trimethylnaphthalene	20.79	474721	439.7890	496.4898
27)	1-Methylfluorene	23.27	375079	433.3026	489.1672
35)	4-Methyldibenzothiophene	25.66	1646070	1094.6017	1235.7257
36)	2/3-Methyldibenzothiophene	25.97	1308450	870.0887	982.2669
37)	1-Methyldibenzothiophene	26.28	849207	564.7053	637.5113
43)	3-Methylphenanthrene	26.25	911191	600.0943	677.4628
44)	2-Methylphenanthrene	26.35	978529	644.4413	727.5274
45)	2-Methylanthracene	26.52	92260	60.7608	68.5945
46)	4/9-Methylphenanthrene	26.63	1360480	895.9845	1011.5013
47)	1-Methylphenanthrene	26.73	697439	459.3212	518.5402
48)	3,6-Dimethylphenanthrene	27.80	248227	192.0909	216.8566
49)	Retene	30.47	154786	213.7264	241.2815
60)	2-Methylfluoranthene	30.26	112328	60.7502	68.5825
61)	Benzo(b)fluorene	30.85	124635	80.5553	90.9410
74)	C29-Hopane	40.45	2256880	2248.0046	2537.8337
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	41.74	3207960	3195.3546	3607.3231
91)	C20-TAS	33.14	322709	85.8064	96.8692
92)	C21-TAS	34.23	434544	115.5430	130.4397
93)	C26(20S)-TAS	38.30	509642	135.5109	152.9819
94)	C26(20R)/C27(20S)-TAS	39.23	1524260	405.2929	457.5462
95)	C28(20S)-TAS	39.97	1517410	403.4712	455.4897
96)	C27(20R)-TAS	40.38	1177780	313.1631	353.5384
97)	C28(20R)-TAS	41.48	1216000	323.3259	365.0115
	Surrogate Standards				
2)	Naphthalene-d8	13.51	261731	144.62	59.32
21)	Acenaphthene-d10	19.36	193360	187.96	77.09
32)	Phenanthrene-d10	24.51	340486	216.01	88.58
66)	Chrysene-d12	33.61	589141	218.55	89.68
88)	Perylene-d12	38.46	586877	232.99	95.61
90)	5(b)H-Cholane	34.03	105605	249.84	102.53
	Internal Standards				
1)	Fluorene-d10	21.15	260128	244.69	
31)	Pyrene-d10	29.43	471516	244.27	
73)	Benzo(a)pyrene-d12	38.15	545102	243.98	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1816.D
Acq On : 3 Sep 2013 1:24 pm
Operator : YM
Sample : SED-DA-045 (0-0.5)
Misc :
ALS Vial : 17 Sample Multiplier: 0.97466

Quant Time: Sep 11 21:45:23 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.147	176	260128m	251.05		-0.19
31) Pyrene-d10	29.433	212	471516m	250.63		-0.14
73) Benzo(a)pyrene-d12	38.148	264	545102m	250.32		-0.19
System Monitoring Compounds						
2) Naphthalene-d8	13.512	136	261731m	144.61		-0.17
21) Acenaphthene-d10	19.364	164	193360m	187.96		-0.19
32) Phenanthrene-d10	24.514	188	340486m	216.01		-0.17
66) Chrysene-d12	33.608	240	589141m	218.55		-0.16
88) Perylene-d12	38.459	264	586877m	232.99		-0.19
90) 5(b)H-Cholane	34.035	217	105605m	249.84		-0.12
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	13.596	128	76399m	39.55		
9) 2-Methylnaphthalene	15.825	142	551623m	435.53		
10) 1-Methylnaphthalene	16.159	142	387391m	328.29		
11) 2,6-Dimethylnaphthalene	17.971	156	1067141m	923.03		
12) 1,6,7-Trimethylnaphtha...	20.785	170	474721m	439.79		
13) C2-Naphthalenes	18.305	156	4342507m	2247.82		
14) C3-Naphthalenes	20.479	170	7298726m	3778.06		
15) C4-Naphthalenes	22.541	184	6922046m	3583.07		
16) Benzothiophene	13.791	134	19230m	12.45		
17) C1-Benzothiophenes	15.351	148	175201m	113.40		
18) C2-Benzothiophenes	18.333	162	709770m	459.39		
19) C3-Benzothiophenes	20.033	176	1720224m	1113.41		
20) C4-Benzothiophenes	21.342	190	2370122m	1534.05		
22) Biphenyl	17.413	154	119729m	71.29		
23) Acenaphthylene	18.890	152	52530m	27.16		
24) Acenaphthene	19.475	154	25632m	23.74		
25) Dibenzofuran	20.089	168	115379m	64.43		
26) Fluorene	21.259	166	221560m	158.61		
27) 1-Methylfluorene	23.267	180	375079m	433.30		
28) C1-Fluorenes	23.267	180	883532m	632.52		
29) C2-Fluorenes	25.103	194	2501042m	1790.49		
30) C3-Fluorenes	27.077	208	2776776m	1987.88		
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.167	184	836537m	497.53		
35) 4-Methyldibenzothiophene	25.657	198	1646071m	1094.60		
36) 2/3-Methyldibenzothiop...	25.969	198	1308445m	870.09		
37) 1-Methyldibenzothiophene	26.280	198	849207m	564.70		
38) C2-Dibenzothiophenes	27.077	212	7594046m	4516.52		
39) C3-Dibenzothiophenes	28.601	226	9741427m	5793.66		
40) C4-Dibenzothiophenes	30.645	240	7258255m	4316.81		
41) Phenanthrene	24.583	178	1174425m	592.82		
42) Anthracene	24.722	178	64595m	33.70		
43) 3-Methylphenanthrene	26.246	192	911191m	600.09		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1816.D
Acq On : 3 Sep 2013 1:24 pm
Operator : YM
Sample : SED-DA-045 (0-0.5)
Misc :
ALS Vial : 17 Sample Multiplier: 0.97466

Quant Time: Sep 11 21:45:23 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.350	192	978529m	644.44		
45)	2-Methylanthracene	26.523	192	92260m	60.76		
46)	4/9-Methylphenanthrene	26.627	192	1360475m	895.98		
47)	1-Methylphenanthrene	26.731	192	697439m	459.32		
48)	3,6-Dimethylphenanthrene	27.805	206	248227m	192.09		
49)	Retene	30.472	234	154786m	213.73		
50)	C2-Phenanthrenes/Anthr...	28.151	206	7827962m	3951.39		
51)	C3-Phenanthrenes/Anthr...	30.818	220	8515615m	4298.50		
52)	C4-Phenanthrenes/Anthr...	31.580	234	5637161m	2845.52		
53)	Naphthobenzothiophene	32.754	234	1272255m	442.12		
54)	C1-Naphthobenzothiophenes	33.918	248	4117102m	1430.74		
55)	C2-Naphthobenzothiophenes	35.820	262	6712277m	2332.60		
56)	C3-Naphthobenzothiophenes	36.984	276	5612600m	1950.45		
57)	C4-Naphthobenzothiophenes	37.954	290	2490651m	865.53		
58)	Fluoranthene	28.705	202	238321m	111.30		
59)	Pyrene	29.467	202	471451m	170.62		
60)	2-Methylfluoranthene	30.264	216	112328m	60.75		
61)	Benzo(b)fluorene	30.853	216	124635m	80.56		
62)	C1-Fluoranthenes/Pyrenes	30.991	216	1956763m	913.82		
63)	C2-Fluoranthenes/Pyrenes	32.715	230	3232792m	1509.74		
64)	C3-Fluoranthenes/Pyrenes	33.918	244	3649388m	1704.29		
65)	C4-Fluoranthenes/Pyrenes	34.966	258	3948794m	1844.11		
67)	Benz(a)anthracene	33.569	228	152461m	53.15		
68)	Chrysene/Triphenylene	33.686	228	659267m	243.77		
69)	C1-Chrysenes	34.927	242	2208299m	816.55		
70)	C2-Chrysenes	36.712	256	3201245m	1183.70		
71)	C3-Chrysenes	37.799	270	2622197m	969.59		
72)	C4-Chrysenes	39.196	284	1803393m	666.83		
74)	C29-Hopane	40.449	191	2256875m	2248.01		
75)	18a-Oleanane	0.000		0	N.D.	d	
76)	C30-Hopane	41.740	191	3207962m	3195.36		
77)	Benzo(b)fluoranthene	37.100	252	359369m	125.42		
78)	Benzo(k,j)fluoranthene	37.178	252	94221m	36.66		
79)	Benzo(a)fluoranthene	37.295	252	45749m	17.80		
80)	Benzo(e)pyrene	38.071	252	423350m	151.87		
81)	Benzo(a)pyrene	38.265	252	226008m	80.56		
82)	Indeno(1,2,3-c,d)pyrene	42.846	276	157469m	44.99		
83)	Dibenzo(a,h)anthracene	42.920	278	79833m	28.86		
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	44.211	276	511998m	167.26		
89)	Perylene	38.536	252	339327m	117.54		
91)	C20-TAS	33.142	231	322709m	85.81		
92)	C21-TAS	34.229	231	434544m	115.54		
93)	C26(20S)-TAS	38.303	231	509642m	135.51		
94)	C26(20R)/C27(20S)-TAS	39.235	231	1524264m	405.29		
95)	C28(20S)-TAS	39.972	231	1517414m	403.47		
96)	C27(20R)-TAS	40.375	231	1177776m	313.16		
97)	C28(20R)-TAS	41.481	231	1215997m	323.33		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1816.D
Acq On : 3 Sep 2013 1:24 pm
Operator : YM
Sample : SED-DA-045 (0-0.5)
Misc :
ALS Vial : 17 Sample Multiplier: 0.97466

Quant Time: Sep 11 21:45:23 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

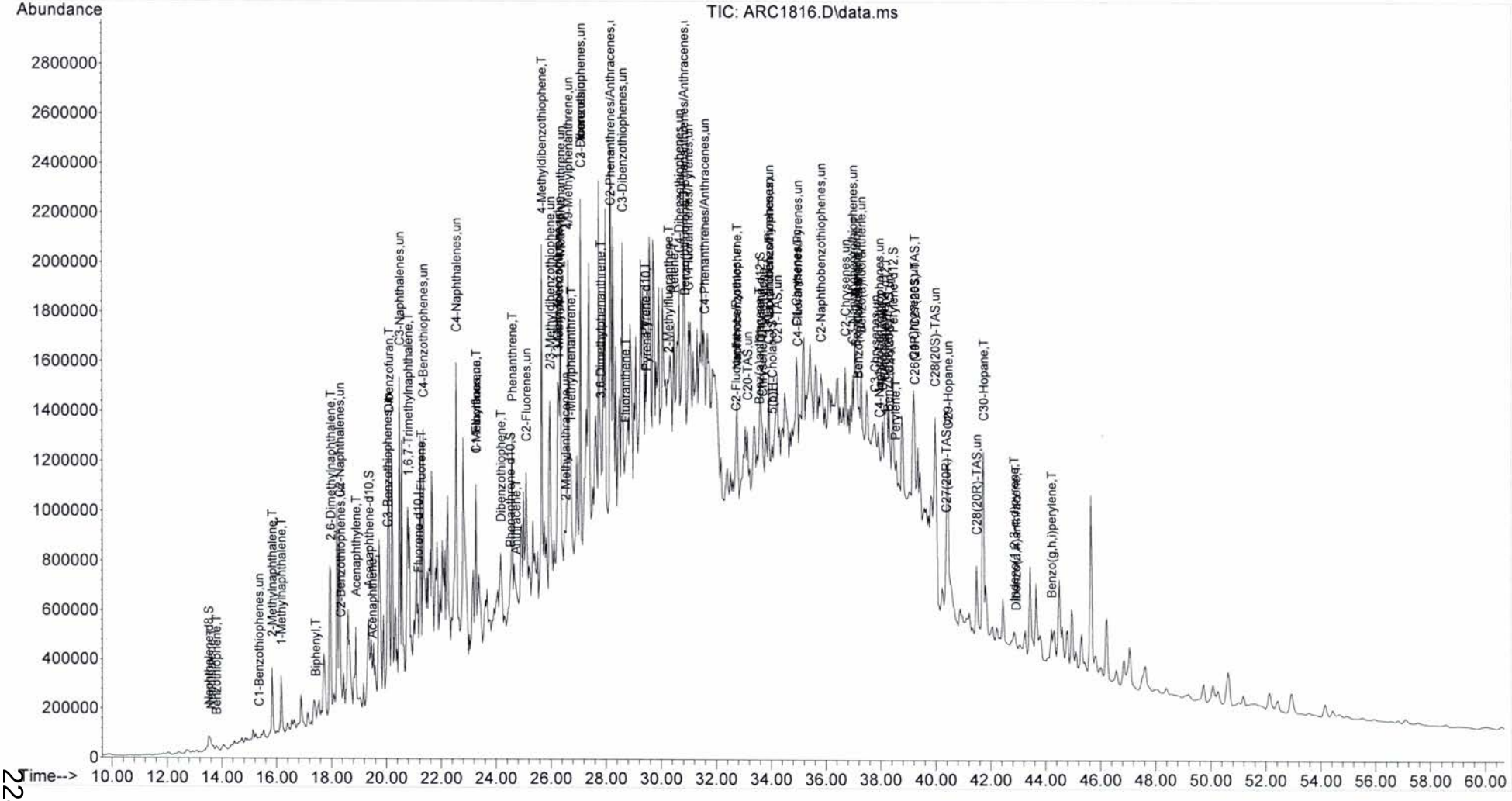
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1816.D
Acq On : 3 Sep 2013 1:24 pm
Operator : YM
Sample : SED-DA-045 (0-0.5)
Misc :
ALS Vial : 17 Sample Multiplier: 0.97466

Quant Time: Sep 11 21:45:23 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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

Data File Name	ARC1817.D
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS60146\
Operator	YM
Date Acquired	9/3/2013 14:33
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-045 (0.5-1.0)
Misc Info	0
Instrument Name	GCMS6
Vial Number	18
Sample Multiplier	0.06623
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

ARC1817.D
SED-DA-045 (0.5-1.0)
9/3/2013
PAH-2012.M
15.09889778

#	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	13.60	245838	10.1546	10.4151
9)+10)	C1-Naphthalenes	15.99	2278904	94.1330	96.5471
13)	C2-Naphthalenes	18.30	10054300	415.3025	425.9533
14)	C3-Naphthalenes	20.23	16619100	686.4740	704.0792
15)	C4-Naphthalenes	22.57	14904700	615.6569	631.4459
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	18.89	129714	5.3513	5.4885
24)	Acenaphthene	19.50	103259	7.6329	7.8287
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.26	569684	32.5445	33.3791
28)	C1-Fluorenes	23.30	2162780	123.5541	126.7227
29)	C2-Fluorenes	25.14	5562760	317.7854	325.9353
30)	C3-Fluorenes	27.11	5191760	296.5912	304.1975
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.72	117916	6.7961	6.9703
41)	Phenanthrene	24.62	2568160	143.1932	146.8655
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.52	9311833	519.2011	532.5165
50)	C2-Phenanthrenes/Anthracenes	28.19	16971200	946.2677	970.5356
51)	C3-Phenanthrenes/Anthracenes	30.85	18866600	1051.9510	1078.9291
52)	C4-Phenanthrenes/Anthracenes	31.62	14706100	819.9738	841.0027
34)	Dibenzothiophene	24.17	2449020	160.8872	165.0133
35)+36)+37)	C1-Dibenzothiophenes	25.99	9297370	610.7864	626.4506
38)	C2-Dibenzothiophenes	27.11	17093400	1122.9495	1151.7485
39)	C3-Dibenzothiophenes	28.64	20680200	1358.5826	1393.4246
40)	C4-Dibenzothiophenes	29.61	15832500	1040.1157	1066.7903
58)	Fluoranthene	28.74	665057	34.3069	35.1868
59)	Pyrene	29.50	1121380	44.8265	45.9761
62)	C1-Fluoranthenes/Pyrenes	31.03	3982400	205.4322	210.7007
63)	C2-Fluoranthenes/Pyrenes	32.75	7927020	408.9153	419.4023
64)	C3-Fluoranthenes/Pyrenes	33.88	5918240	305.2918	313.1213
65)	C4-Fluoranthenes/Pyrenes	35.00	6951060	358.5699	367.7657
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	33.61	313896	12.0863	12.3963
68)	Chrysene/Triphenylene	33.72	1375570	56.1829	57.6238
69)	C1-Chrysenes	34.97	4905370	200.3524	205.4906
70)	C2-Chrysenes	36.44	5842050	238.6095	244.7288
71)	C3-Chrysenes	37.84	5000340	204.2315	209.4692
72)	C4-Chrysenes	39.27	3480310	142.1475	145.7930
77)	Benzo(b)fluoranthene	37.18	929231	32.6601	33.4977
78)	Benzo(k,j)fluoranthene	37.25	269745	10.5687	10.8398
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.15	917885	33.1605	34.0109
81)	Benzo(a)pyrene	38.30	435531	15.6336	16.0345
89)	Perylene	38.65	10364200	361.5410	370.8130
82)	Indeno(1,2,3-c,d)pyrene	42.99	454052	13.0647	13.3997
83)	Dibenzo(a,h)anthracene	43.03	181248	6.5977	6.7670
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.39	1048190	34.4849	35.3693

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	15.82	1353970	85.3062	87.4940
10)	1-Methylnaphthalene	16.16	924934	62.5478	64.1519
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	25.69	4169960	306.2945	314.1497
36)	2/3-Methyldibenzothiophene	25.97	2952290	216.8536	222.4150
37)	1-Methyldibenzothiophene	26.32	2175120	159.7686	163.8660
43)	3-Methylphenanthrene	26.28	2047780	148.9678	152.7882
44)	2-Methylphenanthrene	26.39	2289940	166.5843	170.8565
45)	2-Methylanthracene	26.56	183513	13.3498	13.6922
46)	4/9-Methylphenanthrene	26.66	2911150	211.7751	217.2062
47)	1-Methylphenanthrene	26.73	1879450	136.7226	140.2289
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	13.54	172678	7.61	45.96
21)	Acenaphthene-d10	19.39	162819	12.63	76.23
32)	Phenanthrene-d10	24.51	230552	16.16	97.50
66)	Chrysene-d12	33.65	394422	16.16	97.59
88)	Perylene-d12	38.54	270451	10.81	65.30
90)	5(b)H-Cholane	34.07	71653	17.07	103.11
	Internal Standards				
1)	Fluorene-d10	21.20	221511	16.63	
31)	Pyrene-d10	29.47	290067	16.60	
73)	Benzo(a)pyrene-d12	38.22	367801	16.58	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1817.D
Acq On : 3 Sep 2013 2:33 pm
Operator : YM
Sample : SED-DA-045 (0.5-1.0)
Misc :
ALS Vial : 18 Sample Multiplier: 0.06623

Quant Time: Sep 11 22:12:22 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.203	176	221511m	251.05		-0.14
31) Pyrene-d10	29.468	212	290067m	250.63		-0.10
73) Benzo(a)pyrene-d12	38.225	264	367801m	250.32		-0.12
System Monitoring Compounds						
2) Naphthalene-d8	13.540	136	172678m	7.61		-0.14
21) Acenaphthene-d10	19.391	164	162819m	12.63		-0.17
32) Phenanthrene-d10	24.515	188	230552m	16.16		-0.17
66) Chrysene-d12	33.646	240	394422m	16.16		-0.12
88) Perylene-d12	38.535	264	270451m	10.81		-0.12
90) 5(b)H-Cholane	34.073	217	71653m	17.07		-0.08
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.595	128	245838m	10.15		
9) 2-Methylnaphthalene	15.825	142	1353971m	85.31		
10) 1-Methylnaphthalene	16.159	142	924934m	62.55		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.305	156	10054250m	415.30		
14) C3-Naphthalenes	20.227	170	16619100m	686.47		
15) C4-Naphthalenes	22.568	184	14904731m	615.66		
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	18.890	152	129714m	5.35		
24) Acenaphthene	19.503	154	103259m	7.63		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.258	166	569684m	32.54		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.302	180	2162780m	123.55		
29) C2-Fluorenes	25.138	194	5562755m	317.79		
30) C3-Fluorenes	27.113	208	5191763m	296.59		
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.168	184	2449018m	160.89		
35) 4-Methyldibenzothiophene	25.692	198	4169959m	306.29		
36) 2/3-Methyldibenzothiop...	25.970	198	2952290m	216.85		
37) 1-Methyldibenzothiophene	26.316	198	2175119m	159.77		
38) C2-Dibenzothiophenes	27.113	212	17093432m	1122.95		
39) C3-Dibenzothiophenes	28.637	226	20680236m	1358.58		
40) C4-Dibenzothiophenes	29.607	240	15832529m	1040.11		
41) Phenanthrene	24.619	178	2568155m	143.19		
42) Anthracene	24.723	178	117916m	6.80		
43) 3-Methylphenanthrene	26.281	192	2047778m	148.97		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1817.D
Acq On : 3 Sep 2013 2:33 pm
Operator : YM
Sample : SED-DA-045 (0.5-1.0)
Misc :
ALS Vial : 18 Sample Multiplier: 0.06623

Quant Time: Sep 11 22:12:22 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.385	192	2289942m	166.58		
45)	2-Methylanthracene	26.558	192	183513m	13.35		
46)	4/9-Methylphenanthrene	26.662	192	2911151m	211.77		
47)	1-Methylphenanthrene	26.732	192	1879446m	136.72		
48)	3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49)	Retene	0.000		0	N.D.	d	
50)	C2-Phenanthrenes/Anthr...	28.186	206	16971200m	946.27		
51)	C3-Phenanthrenes/Anthr...	30.854	220	18866621m	1051.95		
52)	C4-Phenanthrenes/Anthr...	31.616	234	14706145m	819.97		
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	28.741	202	665057m	34.31		
59)	Pyrene	29.503	202	1121381m	44.83		
60)	2-Methylfluoranthene	0.000		0	N.D.	d	
61)	Benzo(b)fluorene	0.000		0	N.D.	d	
62)	C1-Fluoranthenes/Pyrenes	31.027	216	3982404m	205.43		
63)	C2-Fluoranthenes/Pyrenes	32.753	230	7927023m	408.92		
64)	C3-Fluoranthenes/Pyrenes	33.879	244	5918235m	305.29		
65)	C4-Fluoranthenes/Pyrenes	35.004	258	6951055m	358.57		
67)	Benz(a)anthracene	33.607	228	313896m	12.09		
68)	Chrysene/Triphenylene	33.723	228	1375566m	56.18		
69)	C1-Chrysenes	34.965	242	4905368m	200.35		
70)	C2-Chrysenes	36.440	256	5842054m	238.61		
71)	C3-Chrysenes	37.837	270	5000338m	204.23		
72)	C4-Chrysenes	39.273	284	3480305m	142.15		
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	37.177	252	929231m	32.66		
78)	Benzo(k,j)fluoranthene	37.255	252	269745m	10.57		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.147	252	917885m	33.16		
81)	Benzo(a)pyrene	38.302	252	435531m	15.63		
82)	Indeno(1,2,3-c,d)pyrene	42.993	276	454052m	13.06		
83)	Dibenzo(a,h)anthracene	43.030	278	181248m	6.60		
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	44.394	276	1048189m	34.48		
89)	Perylene	38.652	252	10364172m	361.54		
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\MS60146\
Data File : ARC1817.D
Acq On : 3 Sep 2013 2:33 pm
Operator : YM
Sample : SED-DA-045 (0.5-1.0)
Misc :
ALS Vial : 18 Sample Multiplier: 0.06623

Quant Time: Sep 11 22:12:22 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

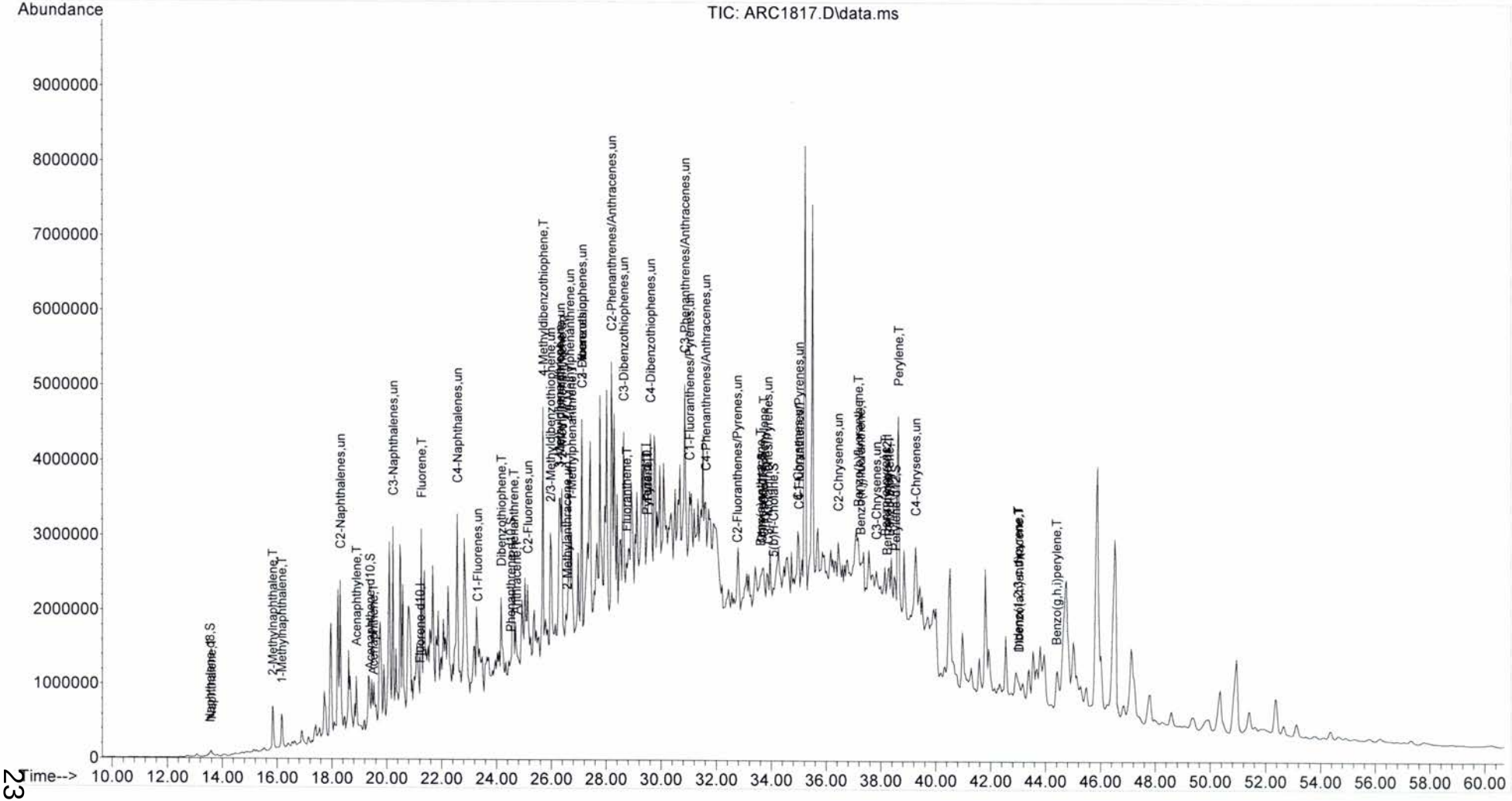
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1817.D
Acq On : 3 Sep 2013 2:33 pm
Operator : YM
Sample : SED-DA-045 (0.5-1.0)
Misc :
ALS Vial : 18 Sample Multiplier: 0.06623

Quant Time: Sep 11 22:12:22 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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

Data File Name	ARC1818.D
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS60146\
Operator	YM
Date Acquired	9/3/2013 16:54
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-052 (0-0.5)
Misc Info	0
Instrument Name	GCMS6
Vial Number	20
Sample Multiplier	0.33267
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

ARC1818.D
SED-DA-052 (0-0.5)
9/3/2013
PAH-2012.M
3.005981904

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	12.23	8534	12.1013	15.8948
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	13.59	62073	15.6600	20.5691
9)+10)	C1-Naphthalenes	15.99	300702	75.8622	99.6434
13)	C2-Naphthalenes	18.19	876003	221.0013	290.2805
14)	C3-Naphthalenes	20.48	1201560	303.1349	398.1611
15)	C4-Naphthalenes	22.54	1040580	262.5219	344.8168
16)	Benzothiophene	14.07	5168	1.6303	2.1413
17)	C1-Benzothiophenes	16.10	114858	36.2324	47.5905
18)	C2-Benzothiophenes	18.33	128439	40.5165	53.2176
19)	C3-Benzothiophenes	20.03	328773	103.7129	136.2246
20)	C4-Benzothiophenes	21.34	357787	112.8656	148.2466
22)	Biphenyl	17.41	42036	12.1986	16.0226
23)	Acenaphthylene	18.89	43397	10.9347	14.3624
24)	Acenaphthene	19.47	12321	5.5627	7.3065
25)	Dibenzofuran	20.09	46873	12.7577	16.7570
26)	Fluorene	21.26	68883	24.0343	31.5685
28)	C1-Fluorenes	23.27	166368	58.0483	76.2451
29)	C2-Fluorenes	25.10	485287	169.3237	222.4030
30)	C3-Fluorenes	27.32	616498	215.1051	282.5359
33)	Carbazole	25.35	35104	8.8968	11.6857
42)	Anthracene	24.76	76312	14.6200	19.2030
41)	Phenanthrene	24.58	327200	60.6434	79.6538
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.48	817832	151.5774	199.0936
50)	C2-Phenanthrenes/Anthracenes	28.15	1544820	286.3178	376.0722
51)	C3-Phenanthrenes/Anthracenes	29.71	1747010	323.7924	425.2943
52)	C4-Phenanthrenes/Anthracenes	31.55	1444730	267.7671	351.7063
34)	Dibenzothiophene	24.13	240019	52.4138	68.8444
35)+36)+37)	C1-Dibenzothiophenes	25.96	815425	178.0673	233.8876
38)	C2-Dibenzothiophenes	27.74	1390670	303.6845	398.8830
39)	C3-Dibenzothiophenes	29.26	1785800	389.9724	512.2203
40)	C4-Dibenzothiophenes	29.57	1455780	317.9028	417.5584
58)	Fluoranthene	28.67	256587	43.9976	57.7899
59)	Pyrene	29.47	333714	44.3432	58.2439
62)	C1-Fluoranthenes/Pyrenes	30.61	503408	86.3202	113.3797
63)	C2-Fluoranthenes/Pyrenes	32.37	933086	159.9980	210.1539
64)	C3-Fluoranthenes/Pyrenes	33.80	713352	122.3198	160.6644
65)	C4-Fluoranthenes/Pyrenes	35.16	996027	170.7908	224.3300
53)	Naphthobenzothiophene	32.75	374056	47.7285	62.6904
54)	C1-Naphthobenzothiophenes	34.50	1113100	142.0275	186.5500
55)	C2-Naphthobenzothiophenes	35.59	1946870	248.4150	326.2877
56)	C3-Naphthobenzothiophenes	36.98	1676240	213.8825	280.9301
57)	C4-Naphthobenzothiophenes	37.95	810089	103.3649	135.7676
67)	Benz(a)anthracene	33.57	114280	14.6268	19.2119
68)	Chrysene/Triphenylene	33.69	346645	47.0628	61.8160
69)	C1-Chrysenes	35.04	790354	107.3037	140.9411
70)	C2-Chrysenes	36.36	859673	116.7149	153.3026
71)	C3-Chrysenes	37.76	764168	103.7485	136.2714
72)	C4-Chrysenes	39.08	559947	76.0221	99.8534
77)	Benzo(b)fluoranthene	37.10	469129	68.7399	90.2884
78)	Benzo(k,j)fluoranthene	37.18	107076	17.4898	22.9725
79)	Benzo(a)fluoranthene	37.41	74326	12.1404	15.9462
80)	Benzo(e)pyrene	38.03	289656	43.6253	57.3010
81)	Benzo(a)pyrene	38.23	126072	18.8661	24.7802
89)	Perylene	38.54	587285	85.4074	112.1807
82)	Indeno(1,2,3-c,d)pyrene	42.88	287383	34.4729	45.2794
83)	Dibenzo(a,h)anthracene	42.92	62667	9.5101	12.4913
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	44.32	450021	61.7229	81.0717

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	15.82	179621	69.1198	90.7874
10)	1-Methylnaphthalene	16.16	121081	50.0096	65.6866
11)	2,6-Dimethylnaphthalene	17.97	217552	91.7115	120.4610
12)	1,6,7-Trimethylnaphthalene	20.78	82963	37.4593	49.2020
27)	1-Methylfluorene	23.27	76557	43.1044	56.6167
35)	4-Methyldibenzothiophene	25.66	351900	85.9203	112.8545
36)	2/3-Methyldibenzothiophene	25.93	254220	62.0709	81.5288
37)	1-Methyldibenzothiophene	26.28	209305	51.1044	67.1246
43)	3-Methylphenanthrene	26.25	184093	44.5159	58.4707
44)	2-Methylphenanthrene	26.35	192675	46.5914	61.1968
45)	2-Methylanthracene	26.49	39927	9.6548	12.6814
46)	4/9-Methylphenanthrene	26.63	221765	53.6257	70.4363
47)	1-Methylphenanthrene	26.70	179372	43.3745	56.9715
48)	3,6-Dimethylphenanthrene	27.91	69653	19.7910	25.9950
49)	Retene	30.47	42825	21.7116	28.5178
60)	2-Methylfluoranthene	30.23	40521	8.0466	10.5690
61)	Benzo(b)fluorene	30.85	39929	9.4757	12.4461
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	13.54	230019	61.94	74.44
21)	Acenaphthene-d10	19.36	145104	68.75	82.61
32)	Phenanthrene-d10	24.48	272041	63.37	76.13
66)	Chrysene-d12	33.61	449133	61.17	73.54
88)	Perylene-d12	38.46	424414	70.74	85.05
90)	5(b)H-Cholane	34.00	133647	132.75	159.61
	Internal Standards				
1)	Fluorene-d10	21.15	182171	83.52	
31)	Pyrene-d10	29.40	438316	83.38	
73)	Benzo(a)pyrene-d12	38.15	443147	83.28	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1818.D
Acq On : 3 Sep 2013 4:54 pm
Operator : YM
Sample : SED-DA-052 (0-0.5)
Misc :
ALS Vial : 20 Sample Multiplier: 0.33267

Quant Time: Sep 12 08:12:13 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.146	176	182171m	251.05		-0.19
31) Pyrene-d10	29.398	212	438316m	250.63		-0.17
73) Benzo(a)pyrene-d12	38.149	264	443147m	250.32		-0.19
System Monitoring Compounds						
2) Naphthalene-d8	13.539	136	230019m	61.94		-0.14
21) Acenaphthene-d10	19.363	164	145104m	68.75		-0.20
32) Phenanthrene-d10	24.479	188	272041m	63.37		-0.21
66) Chrysene-d12	33.608	240	449133m	61.17		-0.16
88) Perylene-d12	38.459	264	424414m	70.74		-0.19
90) 5(b)H-Cholane	33.996	217	133647m	132.75		-0.16
Target Compounds						Qvalue
3) cis/trans Decalin	12.229	138	8534m	12.10		
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	13.594	128	62073m	15.66		
9) 2-Methylnaphthalene	15.824	142	179621m	69.12		
10) 1-Methylnaphthalene	16.158	142	121081m	50.01		
11) 2,6-Dimethylnaphthalene	17.969	156	217552m	91.71		
12) 1,6,7-Trimethylnaphtha...	20.784	170	82963m	37.46		
13) C2-Naphthalenes	18.192	156	876003m	221.00		
14) C3-Naphthalenes	20.477	170	1201562m	303.13		
15) C4-Naphthalenes	22.539	184	1040581m	262.52		
16) Benzothiophene	14.068	134	5168m	1.63		
17) C1-Benzothiophenes	16.102	148	114858m	36.23		
18) C2-Benzothiophenes	18.332	162	128439m	40.52		
19) C3-Benzothiophenes	20.031	176	328773m	103.71		
20) C4-Benzothiophenes	21.341	190	357787m	112.87		
22) Biphenyl	17.412	154	42036m	12.20		
23) Acenaphthylene	18.889	152	43397m	10.93		
24) Acenaphthene	19.474	154	12321m	5.56		
25) Dibenzofuran	20.087	168	46873m	12.76		
26) Fluorene	21.258	166	68883m	24.03		
27) 1-Methylfluorene	23.267	180	76557m	43.10		
28) C1-Fluorenes	23.267	180	166368m	58.05		
29) C2-Fluorenes	25.103	194	485287m	169.32		
30) C3-Fluorenes	27.320	208	616498m	215.10		
33) Carbazole	25.345	167	35104m	8.90		
34) Dibenzothiophene	24.133	184	240019m	52.41		
35) 4-Methyldibenzothiophene	25.657	198	351900m	85.92		
36) 2/3-Methyldibenzothiop...	25.934	198	254220m	62.07		
37) 1-Methyldibenzothiophene	26.281	198	209305m	51.10		
38) C2-Dibenzothiophenes	27.736	212	1390665m	303.68		
39) C3-Dibenzothiophenes	29.260	226	1785799m	389.97		
40) C4-Dibenzothiophenes	29.571	240	1455775m	317.90		
41) Phenanthrene	24.583	178	327200m	60.64		
42) Anthracene	24.757	178	76312m	14.62		
43) 3-Methylphenanthrene	26.246	192	184093m	44.52		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1818.D
Acq On : 3 Sep 2013 4:54 pm
Operator : YM
Sample : SED-DA-052 (0-0.5)
Misc :
ALS Vial : 20 Sample Multiplier: 0.33267

Quant Time: Sep 12 08:12:13 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.350	192	192675m	46.59		
45)	2-Methylanthracene	26.488	192	39927m	9.65		
46)	4/9-Methylphenanthrene	26.627	192	221765m	53.63		
47)	1-Methylphenanthrene	26.696	192	179372m	43.37		
48)	3,6-Dimethylphenanthrene	27.909	206	69653m	19.79		
49)	Retene	30.472	234	42825m	21.71		
50)	C2-Phenanthrenes/Anthr...	28.151	206	1544820m	286.32		
51)	C3-Phenanthrenes/Anthr...	29.710	220	1747013m	323.79		
52)	C4-Phenanthrenes/Anthr...	31.546	234	1444730m	267.77		
53)	Naphthobenzothiophene	32.755	234	374056m	47.73		
54)	C1-Naphthobenzothiophenes	34.501	248	1113095m	142.03		
55)	C2-Naphthobenzothiophenes	35.587	262	1946872m	248.41		
56)	C3-Naphthobenzothiophenes	36.984	276	1676235m	213.88		
57)	C4-Naphthobenzothiophenes	37.955	290	810089m	103.36		
58)	Fluoranthene	28.671	202	256587m	44.00		
59)	Pyrene	29.467	202	333714m	44.34		
60)	2-Methylfluoranthene	30.230	216	40521m	8.05		
61)	Benzo(b)fluorene	30.853	216	39929m	9.48		
62)	C1-Fluoranthenes/Pyrenes	30.611	216	503408m	86.32		
63)	C2-Fluoranthenes/Pyrenes	32.366	230	933086m	160.00		
64)	C3-Fluoranthenes/Pyrenes	33.802	244	713352m	122.32		
65)	C4-Fluoranthenes/Pyrenes	35.160	258	996027m	170.79		
67)	Benz(a)anthracene	33.569	228	114280m	14.63		
68)	Chrysene/Triphenylene	33.686	228	346645m	47.06		
69)	C1-Chrysenes	35.044	242	790354m	107.30		
70)	C2-Chrysenes	36.363	256	859673m	116.71		
71)	C3-Chrysenes	37.760	270	764168m	103.75		
72)	C4-Chrysenes	39.080	284	559947m	76.02		
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	37.101	252	469129m	68.74		
78)	Benzo(k,j)fluoranthene	37.178	252	107076m	17.49		
79)	Benzo(a)fluoranthene	37.411	252	74326m	12.14		
80)	Benzo(e)pyrene	38.032	252	289656m	43.63		
81)	Benzo(a)pyrene	38.226	252	126072m	18.87		
82)	Indeno(1,2,3-c,d)pyrene	42.883	276	287383m	34.47		
83)	Dibenzo(a,h)anthracene	42.920	278	62667m	9.51		
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	44.321	276	450021m	61.72		
89)	Perylene	38.537	252	587285m	85.41		
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\MS60146\
Data File : ARC1818.D
Acq On : 3 Sep 2013 4:54 pm
Operator : YM
Sample : SED-DA-052 (0-0.5)
Misc :
ALS Vial : 20 Sample Multiplier: 0.33267

Quant Time: Sep 12 08:12:13 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

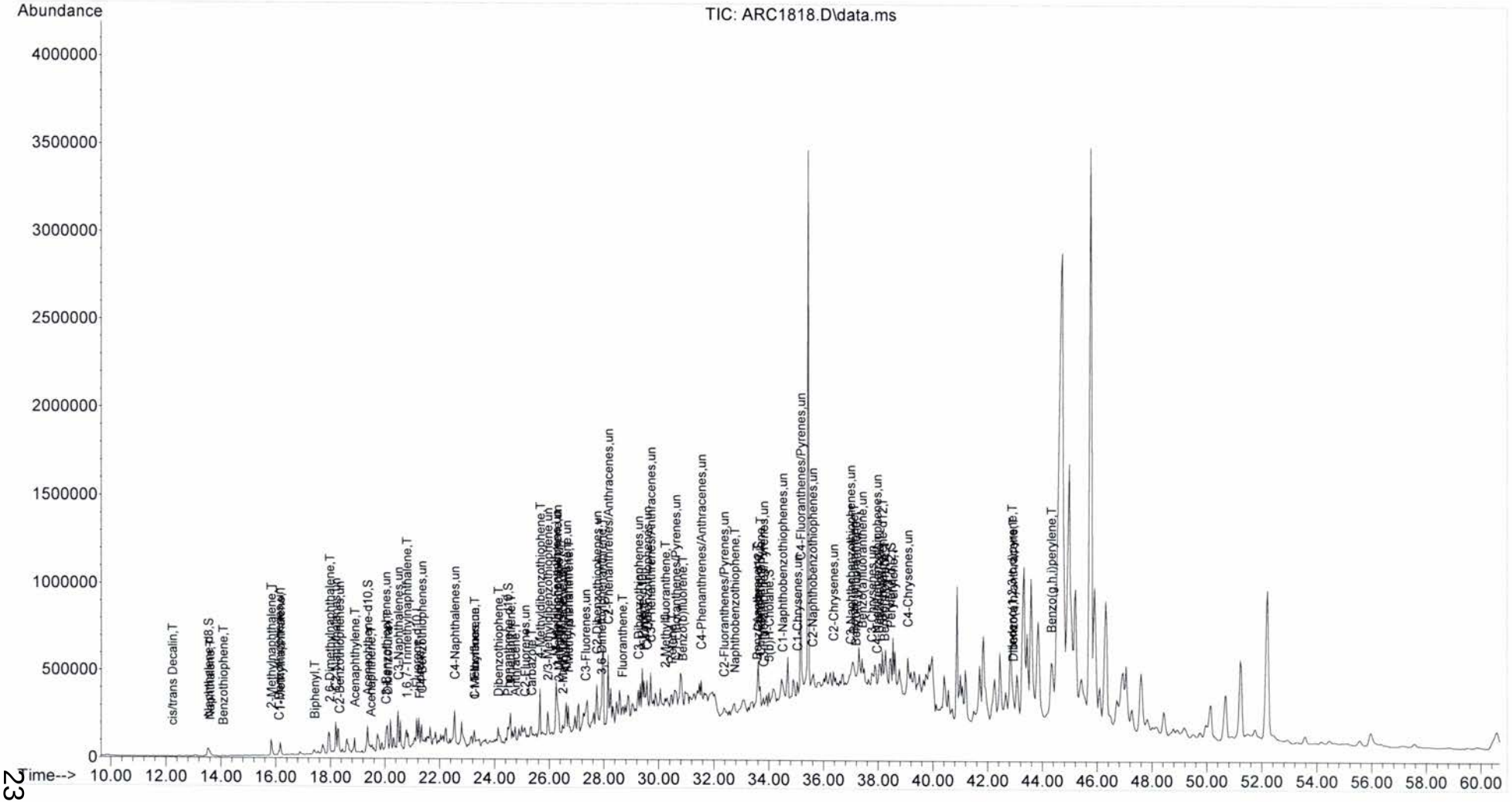
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1818.D
Acq On : 3 Sep 2013 4:54 pm
Operator : YM
Sample : SED-DA-052 (0-0.5)
Misc :
ALS Vial : 20 Sample Multiplier: 0.33267

Quant Time: Sep 12 08:12:13 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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

Data File Name ARC1819.D
Data File Path C:\GCMS6\MS60146\
Operator YM
Date Acquired 9/3/2013 18:03
Acq. Method File PAH-2012.M
Sample Name SED-DA-052 (0.5-1.0)
Misc Info 0
Instrument Name GCMS6
Vial Number 21
Sample Multiplier 0.06623
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

ARC1819.D
SED-DA-052 (0.5-1.0)
9/3/2013
PAH-2012.M
15.09889778

#	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	13.60	86085	5.5842	7.5343
9)+10)	C1-Naphthalenes	15.99	85111	5.5210	7.4491
13)	C2-Naphthalenes	18.31	172048	11.1604	15.0579
14)	C3-Naphthalenes	19.87	233729	15.1616	20.4564
15)	C4-Naphthalenes	22.54	296367	19.2247	25.9385
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	18.89	9127	0.5913	0.7978
24)	Acenaphthene	19.48	6847	0.7948	1.0724
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.26	73796	6.6205	8.9326
28)	C1-Fluorenes	23.16	40378	3.6225	4.8875
29)	C2-Fluorenes	25.31	95969	8.6098	11.6165
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.76	14120	0.7105	0.9586
41)	Phenanthrene	24.58	274410	13.3583	18.0233
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.49	163766	7.9721	10.7562
50)	C2-Phenanthrenes/Anthracenes	27.98	228021	11.1000	14.9764
51)	C3-Phenanthrenes/Anthracenes	29.71	204088	9.9350	13.4045
52)	C4-Phenanthrenes/Anthracenes	31.55	210150	10.2301	13.8027
34)	Dibenzothiophene	24.13	31826	1.8254	2.4629
35)+36)+37)	C1-Dibenzothiophenes	25.96	55731	3.1965	4.3128
38)	C2-Dibenzothiophenes	27.73	91142	5.2275	7.0532
39)	C3-Dibenzothiophenes	28.57	162251	9.3060	12.5560
40)	C4-Dibenzothiophenes	29.99	136845	7.8489	10.5900
58)	Fluoranthene	28.67	105039	4.7307	6.3827
59)	Pyrene	29.47	79593	2.7778	3.7479
62)	C1-Fluoranthenes/Pyrenes	30.61	95307	4.2924	5.7914
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	33.53	32585	1.0954	1.4779
68)	Chrysene/Triphenylene	33.69	77093	2.7491	3.7091
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	37.06	158441	5.6716	7.6523
78)	Benzo(k,j)fluoranthene	37.14	26691	1.0651	1.4370
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.03	68208	2.5097	3.3861
81)	Benzo(a)pyrene	38.23	39238	1.4345	1.9354
89)	Perylene	38.54	3266400	116.0482	156.5754
82)	Indeno(1,2,3-c,d)pyrene	42.81	84683	2.4816	3.3483
83)	Dibenzo(a,h)anthracene	43.25	46641	1.7292	2.3330
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.54	117966	3.9527	5.3331

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	15.83	58304	5.7688	7.7834
10)	1-Methylnaphthalene	16.16	26807	2.8469	3.8411
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	23.27	14705	2.1288	2.8723
35)	4-Methyldibenzothiophene	25.66	21862	1.4020	1.8916
36)	2/3-Methyldibenzothiophene	25.93	21962	1.4084	1.9003
37)	1-Methyldibenzothiophene	26.28	11907	0.7636	1.0303
43)	3-Methylphenanthrene	26.25	30402	1.9309	2.6052
44)	2-Methylphenanthrene	26.35	35028	2.2247	3.0016
45)	2-Methylanthracene	26.52	53380	3.3903	4.5743
46)	4/9-Methylphenanthrene	26.63	21392	1.3587	1.8331
47)	1-Methylphenanthrene	26.70	23564	1.4966	2.0193
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	13.51	179904	12.46	75.20
21)	Acenaphthene-d10	19.37	99720	12.15	73.32
32)	Phenanthrene-d10	24.48	200740	12.28	74.12
66)	Chrysene-d12	33.61	271572	9.72	58.67
88)	Perylene-d12	38.42	56741	2.31	13.95
90)	5(b)H-Cholane	34.00	114355	27.75	167.59
	Internal Standards				
1)	Fluorene-d10	21.15	141052	16.63	
31)	Pyrene-d10	29.40	332238	16.60	
73)	Benzo(a)pyrene-d12	38.15	361132	16.58	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1819.D
Acq On : 3 Sep 2013 6:03 pm
Operator : YM
Sample : SED-DA-052 (0.5-1.0)
Misc :
ALS Vial : 21 Sample Multiplier: 0.06623

Quant Time: Sep 11 22:45:53 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.149	176	141052m	251.05		-0.19
31) Pyrene-d10	29.397	212	332238m	250.63		-0.17
73) Benzo(a)pyrene-d12	38.148	264	361132m	250.32		-0.19
System Monitoring Compounds						
2) Naphthalene-d8	13.514	136	179904m	12.46		-0.16
21) Acenaphthene-d10	19.365	164	99720m	12.15		-0.19
32) Phenanthrene-d10	24.479	188	200740m	12.28		-0.21
66) Chrysene-d12	33.608	240	271572m	9.72		-0.16
88) Perylene-d12	38.420	264	56741m	2.31		-0.23
90) 5(b)H-Cholane	33.996	217	114355m	27.75		-0.16
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	13.597	128	86085m	5.58		
9) 2-Methylnaphthalene	15.826	142	58304m	5.77		
10) 1-Methylnaphthalene	16.161	142	26807m	2.85		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.307	156	172048m	11.16		
14) C3-Naphthalenes	19.867	170	233729m	15.16		
15) C4-Naphthalenes	22.542	184	296367m	19.22		
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	18.892	152	9127m	0.59		
24) Acenaphthene	19.477	154	6847m	0.79		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.260	166	73796m	6.62		
27) 1-Methylfluorene	23.266	180	14705m	2.13		
28) C1-Fluorenes	23.162	180	40378m	3.62		
29) C2-Fluorenes	25.310	194	95969m	8.61		
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.132	184	31826m	1.83		
35) 4-Methyldibenzothiophene	25.656	198	21862m	1.40		
36) 2/3-Methyldibenzothiop...	25.933	198	21962m	1.41		
37) 1-Methyldibenzothiophene	26.280	198	11907m	0.76		
38) C2-Dibenzothiophenes	27.735	212	91142m	5.23		
39) C3-Dibenzothiophenes	28.566	226	162251m	9.31		
40) C4-Dibenzothiophenes	29.986	240	136845m	7.85		
41) Phenanthrene	24.583	178	274410m	13.36		
42) Anthracene	24.756	178	14120m	0.71		
43) 3-Methylphenanthrene	26.245	192	30402m	1.93		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1819.D
Acq On : 3 Sep 2013 6:03 pm
Operator : YM
Sample : SED-DA-052 (0.5-1.0)
Misc :
ALS Vial : 21 Sample Multiplier: 0.06623

Quant Time: Sep 11 22:45:53 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.349	192	35028m	2.22		
45)	2-Methylanthracene	26.522	192	53380m	3.39		
46)	4/9-Methylphenanthrene	26.626	192	21392m	1.36		
47)	1-Methylphenanthrene	26.695	192	23564m	1.50		
48)	3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49)	Retene	0.000		0	N.D.	d	
50)	C2-Phenanthrenes/Anthr...	27.977	206	228021m	11.10		
51)	C3-Phenanthrenes/Anthr...	29.709	220	204088m	9.93		
52)	C4-Phenanthrenes/Anthr...	31.545	234	210150m	10.23		
53)	Naphthobenzothiophene	0.000		0	N.D.	d	
54)	C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55)	C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56)	C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57)	C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58)	Fluoranthene	28.670	202	105039m	4.73		
59)	Pyrene	29.467	202	79593m	2.78		
60)	2-Methylfluoranthene	0.000		0	N.D.	d	
61)	Benzo(b)fluorene	0.000		0	N.D.	d	
62)	C1-Fluoranthenes/Pyrenes	30.610	216	95307m	4.29		
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	33.530	228	32585m	1.10		
68)	Chrysene/Triphenylene	33.685	228	77093m	2.75		
69)	C1-Chrysenes	0.000		0	N.D.	d	
70)	C2-Chrysenes	0.000		0	N.D.	d	
71)	C3-Chrysenes	0.000		0	N.D.	d	
72)	C4-Chrysenes	0.000		0	N.D.	d	
74)	C29-Hopane	0.000		0	N.D.	d	
75)	18a-Oleanane	0.000		0	N.D.	d	
76)	C30-Hopane	0.000		0	N.D.	d	
77)	Benzo(b)fluoranthene	37.061	252	158441m	5.67		
78)	Benzo(k,j)fluoranthene	37.139	252	26691m	1.07		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.032	252	68208m	2.51		
81)	Benzo(a)pyrene	38.226	252	39238m	1.43		
82)	Indeno(1,2,3-c,d)pyrene	42.809	276	84683m	2.48		
83)	Dibenzo(a,h)anthracene	43.251	278	46641m	1.73		
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87)	Benzo(g,h,i)perylene	44.542	276	117966m	3.95		
89)	Perylene	38.536	252	3266399m	116.05		
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\MS60146\
Data File : ARC1819.D
Acq On : 3 Sep 2013 6:03 pm
Operator : YM
Sample : SED-DA-052 (0.5-1.0)
Misc :
ALS Vial : 21 Sample Multiplier: 0.06623

Quant Time: Sep 11 22:45:53 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

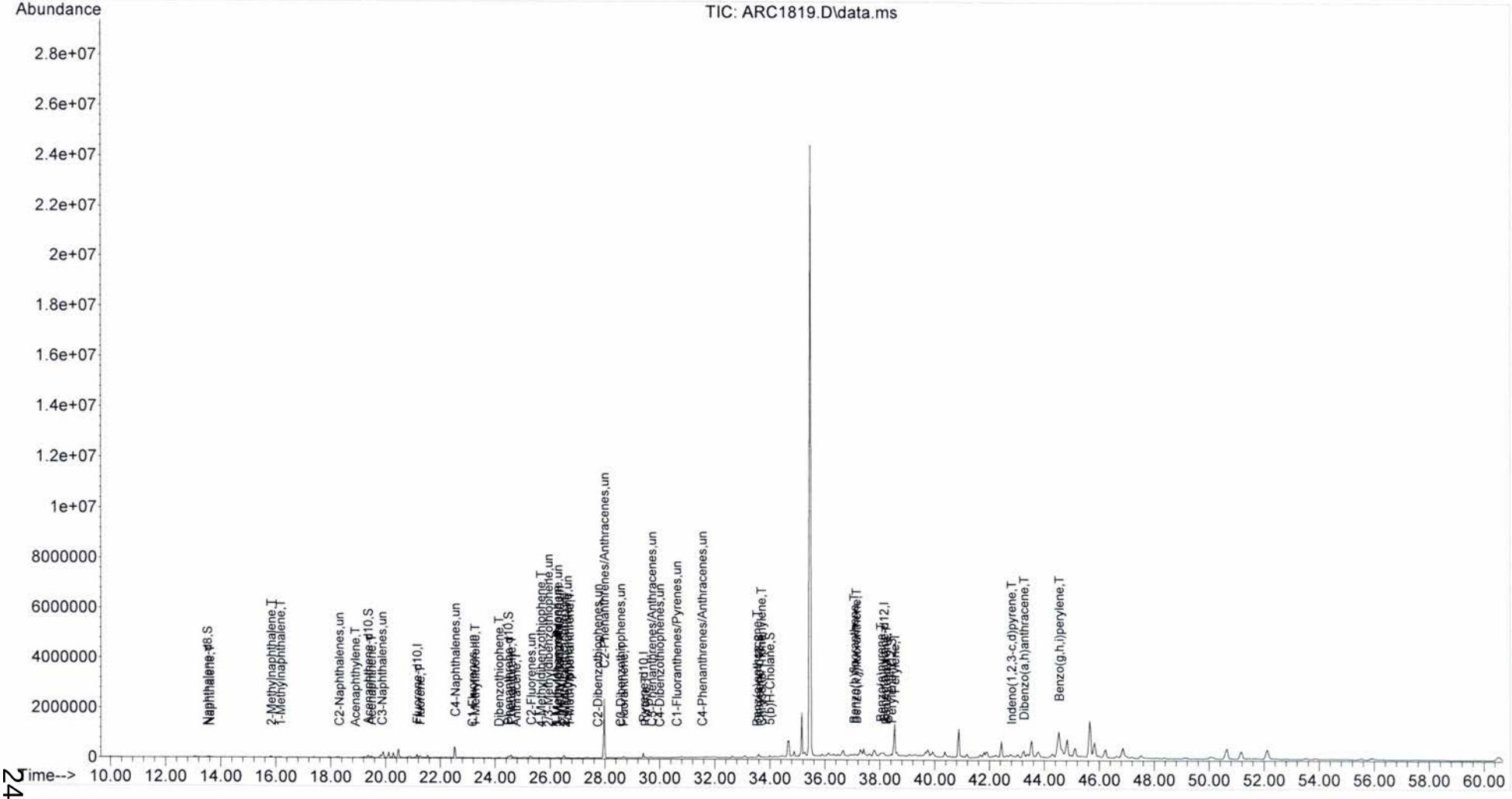
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1819.D
Acq On : 3 Sep 2013 6:03 pm
Operator : YM
Sample : SED-DA-052 (0.5-1.0)
Misc :
ALS Vial : 21 Sample Multiplier: 0.06623

Quant Time: Sep 11 22:45:53 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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

Data File Name ARC1820.D
Data File Path C:\GCMS6\MS60146\
Operator YM
Date Acquired 9/3/2013 19:13
Acq. Method File PAH-2012.M
Sample Name SED-DA-052 (1.0-1.5)
Misc Info 0
Instrument Name GCMS6
Vial Number 22
Sample Multiplier 0.06645
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ARC1820.D
SED-DA-052 (1.0-1.5)
9/3/2013
PAH-2012.M
15.04890895

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.60	44709	3.0547	4.1269
9)+10)	C1-Naphthalenes	15.99	43207	2.9521	3.9882
13)	C2-Naphthalenes	18.30	126806	8.6640	11.7048
14)	C3-Naphthalenes	19.87	228730	15.6280	21.1129
15)	C4-Naphthalenes	22.54	586075	40.0436	54.0977
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	18.89	6638	0.4530	0.6120
24)	Acenaphthene	19.59	736	0.0900	0.1216
25)	Dibenzofuran	20.09	57372	4.2290	5.7133
26)	Fluorene	21.26	58045	5.4850	7.4100
28)	C1-Fluorenes	23.16	26886	2.5406	3.4323
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	24.76	8656	0.4314	0.5828
41)	Phenanthrene	24.58	215585	10.3946	14.0427
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.48	110166	5.3117	7.1760
50)	C2-Phenanthrenes/Anthracenes	27.98	126615	6.1048	8.2474
51)	C3-Phenanthrenes/Anthracenes	29.71	81524	3.9307	5.3103
52)	C4-Phenanthrenes/Anthracenes	31.55	79009	3.8095	5.1465
34)	Dibenzothiophene	24.48	27904	1.5852	2.1416
35)+36)+37)	C1-Dibenzothiophenes	26.25	16760	0.9521	1.2863
38)	C2-Dibenzothiophenes	27.74	41709	2.3694	3.2010
39)	C3-Dibenzothiophenes	28.57	67277	3.8219	5.1633
40)	C4-Dibenzothiophenes	30.37	67759	3.8493	5.2003
58)	Fluoranthene	28.67	55138	2.4596	3.3228
59)	Pyrene	29.47	30215	1.0445	1.4110
62)	C1-Fluoranthenes/Pyrenes	30.96	44225	1.9728	2.6652
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	33.53	12645	0.4210	0.5688
68)	Chrysene/Triphenylene	33.65	22371	0.7901	1.0674
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	0.00	0	0.0000	0.0000
78)	Benzo(k,j)fluoranthene	0.00	0	0.0000	0.0000
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	0.00	0	0.0000	0.0000
81)	Benzo(a)pyrene	0.00	0	0.0000	0.0000
89)	Perylene	38.50	1058930	39.1111	52.8379
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	15.82	28429	2.9628	4.0026
10)	1-Methylnaphthalene	16.16	14778	1.6530	2.2332
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	25.90	10338	0.6566	0.8871
36)	2/3-Methyldibenzothiophene	26.28	5256	0.3338	0.4510
37)	1-Methyldibenzothiophene	26.56	1166	0.0741	0.1001
43)	3-Methylphenanthrene	26.25	16165	1.0169	1.3738
44)	2-Methylphenanthrene	26.32	20688	1.3014	1.7582
45)	2-Methylanthracene	26.52	49059	3.0861	4.1693
46)	4/9-Methylphenanthrene	26.59	10809	0.6800	0.9186
47)	1-Methylphenanthrene	26.70	13445	0.8458	1.1426
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	13.54	169309	12.35	74.29
21)	Acenaphthene-d10	19.36	99056	12.71	76.46
32)	Phenanthrene-d10	24.48	203084	12.31	74.02
66)	Chrysene-d12	33.61	259591	9.20	55.36
88)	Perylene-d12	38.42	136063	5.76	34.67
90)	5(b)H-Cholane	34.00	100642	25.39	152.83
	Internal Standards				
1)	Fluorene-d10	21.15	134360	16.68	
31)	Pyrene-d10	29.40	336552	16.65	
73)	Benzo(a)pyrene-d12	38.11	348531	16.63	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1820.D
Acq On : 3 Sep 2013 7:13 pm
Operator : YM
Sample : SED-DA-052 (1.0-1.5)
Misc :
ALS Vial : 22 Sample Multiplier: 0.06645

Quant Time: Sep 11 23:02:53 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.147	176	134360m	251.05		-0.19
31) Pyrene-d10	29.399	212	336552m	250.63		-0.17
73) Benzo(a)pyrene-d12	38.109	264	348531m	250.32		-0.23
System Monitoring Compounds						
2) Naphthalene-d8	13.540	136	169309m	12.35		-0.14
21) Acenaphthene-d10	19.363	164	99056m	12.71		-0.19
32) Phenanthrene-d10	24.480	188	203084m	12.31		-0.21
66) Chrysene-d12	33.607	240	259591m	9.20		-0.16
88) Perylene-d12	38.419	264	136063m	5.76		-0.23
90) 5(b)H-Cholane	33.995	217	100642m	25.39		-0.16
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	13.595	128	44709m	3.05		
9) 2-Methylnaphthalene	15.825	142	28429m	2.96		
10) 1-Methylnaphthalene	16.159	142	14778m	1.65		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.305	156	126806m	8.66		
14) C3-Naphthalenes	19.865	170	228730m	15.63		
15) C4-Naphthalenes	22.540	184	586075m	40.04		
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	18.890	152	6638m	0.45		
24) Acenaphthene	19.586	154	736m	0.09		
25) Dibenzofuran	20.088	168	57372m	4.23		
26) Fluorene	21.258	166	58045m	5.48		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.164	180	26886m	2.54		
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	24.480	184	27904m	1.59		
35) 4-Methyldibenzothiophene	25.900	198	10338m	0.66		
36) 2/3-Methyldibenzothiop...	26.282	198	5256m	0.33		
37) 1-Methyldibenzothiophene	26.559	198	1166m	0.07		
38) C2-Dibenzothiophenes	27.736	212	41709m	2.37		
39) C3-Dibenzothiophenes	28.568	226	67277m	3.82		
40) C4-Dibenzothiophenes	30.369	240	67759m	3.85		
41) Phenanthrene	24.584	178	215585m	10.39		
42) Anthracene	24.757	178	8656m	0.43		
43) 3-Methylphenanthrene	26.247	192	16165m	1.02		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1820.D
Acq On : 3 Sep 2013 7:13 pm
Operator : YM
Sample : SED-DA-052 (1.0-1.5)
Misc :
ALS Vial : 22 Sample Multiplier: 0.06645

Quant Time: Sep 11 23:02:53 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.316	192	20688m	1.30		
45) 2-Methylanthracene	26.524	192	49059m	3.09		
46) 4/9-Methylphenanthrene	26.593	192	10809m	0.68		
47) 1-Methylphenanthrene	26.697	192	13445m	0.85		
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	27.979	206	126615m	6.10		
51) C3-Phenanthrenes/Anthr...	29.711	220	81524m	3.93		
52) C4-Phenanthrenes/Anthr...	31.547	234	79009m	3.81		
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	28.672	202	55138m	2.46		
59) Pyrene	29.468	202	30215m	1.04		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	30.958	216	44225m	1.97		
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	33.529	228	12645m	0.42		
68) Chrysene/Triphenylene	33.646	228	22371m	0.79		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	0.000		0	N.D.	d	
78) Benzo(k,j)fluoranthene	0.000		0	N.D.	d	
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	0.000		0	N.D.	d	
81) Benzo(a)pyrene	0.000		0	N.D.	d	
82) Indeno(1,2,3-c,d)pyrene	0.000		0	N.D.	d	
83) Dibenzo(a,h)anthracene	0.000		0	N.D.	d	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	0.000		0	N.D.	d	
89) Perylene	38.497	252	1058926m	39.11		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1820.D
Acq On : 3 Sep 2013 7:13 pm
Operator : YM
Sample : SED-DA-052 (1.0-1.5)
Misc :
ALS Vial : 22 Sample Multiplier: 0.06645

Quant Time: Sep 11 23:02:53 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

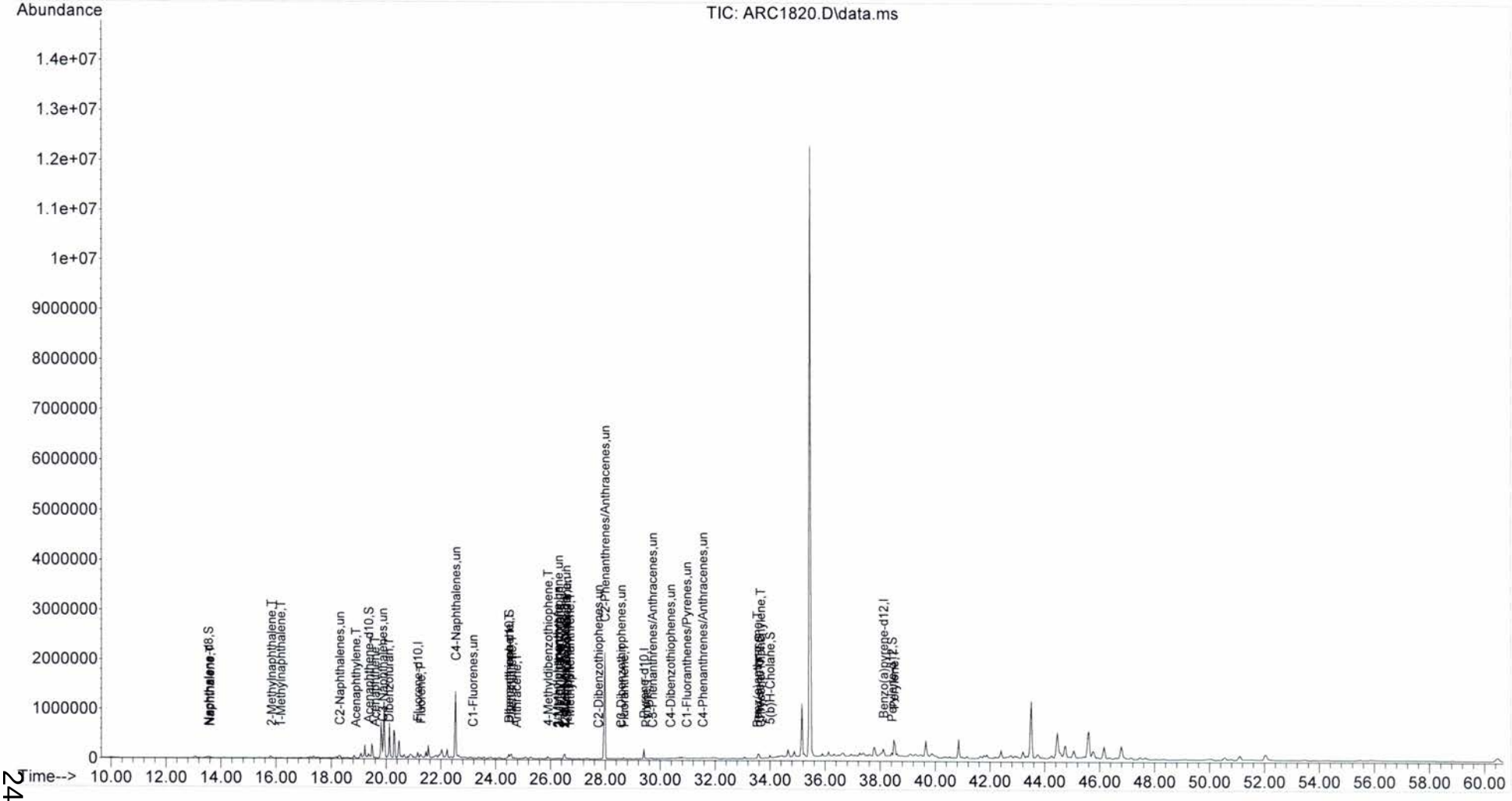
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1820.D
Acq On : 3 Sep 2013 7:13 pm
Operator : YM
Sample : SED-DA-052 (1.0-1.5)
Misc :
ALS Vial : 22 Sample Multiplier: 0.06645

Quant Time: Sep 11 23:02:53 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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

Data File Name	ARC1821.D
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS60146\
Operator	YM
Date Acquired	9/3/2013 20:23
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-DUP-06-081013
Misc Info	0
Instrument Name	GCMS6
Vial Number	23
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

ARC1821.D
SED-DA-DUP-06-081013
9/3/2013
PAH-2012.M
3.016045361

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.15	10871	14.9422	18.8883
4)	C1-Decalins	12.48	46199	63.5004	80.2703
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	13.60	101918	24.9233	31.5053
9)+10)	C1-Naphthalenes	15.99	130497	31.9120	40.3397
13)	C2-Naphthalenes	18.20	256577	62.7441	79.3142
14)	C3-Naphthalenes	20.56	267084	65.3133	82.5620
15)	C4-Naphthalenes	22.54	215563	52.7144	66.6358
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.39	29321	8.2477	10.4258
23)	Acenaphthylene	18.89	34346	8.3885	10.6039
24)	Acenaphthene	19.48	9077	3.9723	5.0214
25)	Dibenzofuran	20.06	61832	16.3128	20.6208
26)	Fluorene	21.26	78107	26.4164	33.3927
28)	C1-Fluorenes	23.16	52102	17.6213	22.2749
29)	C2-Fluorenes	24.76	121313	41.0289	51.8643
30)	C3-Fluorenes	27.36	129302	43.7308	55.2797
33)	Carbazole	25.10	24660	6.0403	7.6355
42)	Anthracene	24.76	60157	11.1386	14.0802
41)	Phenanthrene	24.55	286559	51.3305	64.8864
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.47	216449	38.7719	49.0112
50)	C2-Phenanthrenes/Anthracenes	28.15	354077	63.4248	80.1747
51)	C3-Phenanthrenes/Anthracenes	29.71	451225	80.8264	102.1719
52)	C4-Phenanthrenes/Anthracenes	31.55	472887	84.7066	107.0769
34)	Dibenzothiophene	24.13	64794	13.6749	17.2864
35)+36)+37)	C1-Dibenzothiophenes	25.96	115963	24.4743	30.9377
38)	C2-Dibenzothiophenes	27.39	232149	48.9956	61.9349
39)	C3-Dibenzothiophenes	28.57	422730	89.2182	112.7799
40)	C4-Dibenzothiophenes	29.99	413023	87.1694	110.1901
58)	Fluoranthene	28.67	214455	35.5402	44.9261
59)	Pyrene	29.47	180393	23.1666	29.2846
62)	C1-Fluoranthenes/Pyrenes	30.96	254961	42.2530	53.4117
63)	C2-Fluoranthenes/Pyrenes	32.68	454767	75.3652	95.2685
64)	C3-Fluoranthenes/Pyrenes	33.92	388847	64.4410	81.4593
65)	C4-Fluoranthenes/Pyrenes	35.16	294498	48.8050	61.6939
53)	Naphthobenzothiophene	32.71	142245	17.5415	22.1741
54)	C1-Naphthobenzothiophenes	34.15	624975	77.0711	97.4249
55)	C2-Naphthobenzothiophenes	35.62	1231960	151.9234	192.0451
56)	C3-Naphthobenzothiophenes	36.67	1052530	129.7968	164.0750
57)	C4-Naphthobenzothiophenes	37.95	451054	55.6235	70.3132
67)	Benz(a)anthracene	33.53	79503	9.8345	12.4317
68)	Chrysene/Triphenylene	33.68	199182	26.1356	33.0378
69)	C1-Chrysenes	35.35	662218	86.8926	109.8402
70)	C2-Chrysenes	36.09	656472	86.1386	108.8871
71)	C3-Chrysenes	37.76	515344	67.6207	85.4787
72)	C4-Chrysenes	39.08	371155	48.7009	61.5623
77)	Benzo(b)fluoranthene	37.06	432652	68.8763	87.0659
78)	Benzo(k,j)fluoranthene	37.14	61538	10.9207	13.8048
79)	Benzo(a)fluoranthene	37.41	101916	18.0863	22.8627
80)	Benzo(e)pyrene	38.03	236137	38.6397	48.8441
81)	Benzo(a)pyrene	38.22	86856	14.1213	17.8507
89)	Perylene	38.54	959253	151.5630	191.5895
82)	Indeno(1,2,3-c,d)pyrene	42.88	277667	36.1871	45.7438
83)	Dibenzo(a,h)anthracene	42.96	68666	11.3214	14.3113
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	44.32	388823	57.9401	73.2416

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	15.83	86611	32.3059	40.8376
10)	1-Methylnaphthalene	16.16	43886	17.5698	22.2098
11)	2,6-Dimethylnaphthalene	17.95	65369	26.7114	33.7657
12)	1,6,7-Trimethylnaphthalene	20.79	16493	7.2184	9.1247
27)	1-Methylfluorene	23.27	18112	9.8848	12.4953
35)	4-Methyldibenzothiophene	25.66	48995	11.5616	14.6150
36)	2/3-Methyldibenzothiophene	25.94	41178	9.7170	12.2832
37)	1-Methyldibenzothiophene	26.28	25790	6.0858	7.6930
43)	3-Methylphenanthrene	26.25	48082	11.2370	14.2046
44)	2-Methylphenanthrene	26.32	58900	13.7653	17.4006
45)	2-Methylanthracene	26.49	24460	5.7164	7.2261
46)	4/9-Methylphenanthrene	26.59	45151	10.5520	13.3387
47)	1-Methylphenanthrene	26.70	39856	9.3146	11.7745
48)	3,6-Dimethylphenanthrene	27.77	23468	6.4446	8.1465
49)	Retene	30.47	7687	3.7665	4.7612
60)	2-Methylfluoranthene	30.23	19677	3.7764	4.7737
61)	Benzo(b)fluorene	30.85	28297	6.4901	8.2041
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	13.51	238553	62.27	75.09
21)	Acenaphthene-d10	19.37	157818	72.48	87.38
32)	Phenanthrene-d10	24.48	291499	65.62	79.11
66)	Chrysene-d12	33.61	393088	51.75	62.42
88)	Perylene-d12	38.42	418939	75.86	91.51
90)	5(b)H-Cholane	34.00	138141	149.07	179.85
	Internal Standards				
1)	Fluorene-d10	21.15	187311	83.24	
31)	Pyrene-d10	29.40	452008	83.10	
73)	Benzo(a)pyrene-d12	38.15	406521	83.00	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1821.D
Acq On : 3 Sep 2013 8:23 pm
Operator : YM
Sample : SED-DA-DUP-06-081013
Misc :
ALS Vial : 23 Sample Multiplier: 0.33156

Quant Time: Sep 12 08:13:35 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.150	176	187311m	251.05		-0.19
31) Pyrene-d10	29.399	212	452008m	250.63		-0.17
73) Benzo(a)pyrene-d12	38.147	264	406521m	250.32		-0.20
System Monitoring Compounds						
2) Naphthalene-d8	13.514	136	238553m	62.27		-0.16
21) Acenaphthene-d10	19.366	164	157818m	72.48		-0.19
32) Phenanthrene-d10	24.480	188	291499m	65.62		-0.21
66) Chrysene-d12	33.607	240	393088m	51.75		-0.16
88) Perylene-d12	38.419	264	418939m	75.86		-0.23
90) 5(b)H-Cholane	33.995	217	138141m	149.07		-0.16
Target Compounds						Qvalue
3) cis/trans Decalin	11.146	138	10871m	14.94		
4) C1-Decalins	12.483	152	46199m	63.50		
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	13.598	128	101918m	24.92		
9) 2-Methylnaphthalene	15.827	142	86611m	32.31		
10) 1-Methylnaphthalene	16.162	142	43886m	17.57		
11) 2,6-Dimethylnaphthalene	17.945	156	65369m	26.71		
12) 1,6,7-Trimethylnaphtha...	20.787	170	16493m	7.22		
13) C2-Naphthalenes	18.196	156	256577m	62.74		
14) C3-Naphthalenes	20.565	170	267084m	65.31		
15) C4-Naphthalenes	22.543	184	215563m	52.71		
16) Benzothiophene	0.000		0	N.D.	d	
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.388	154	29321m	8.25		
23) Acenaphthylene	18.893	152	34346m	8.39		
24) Acenaphthene	19.478	154	9077m	3.97		
25) Dibenzofuran	20.063	168	61832m	16.31		
26) Fluorene	21.261	166	78107m	26.42		
27) 1-Methylfluorene	23.268	180	18112m	9.88		
28) C1-Fluorenes	23.164	180	52102m	17.62		
29) C2-Fluorenes	24.757	194	121313m	41.03		
30) C3-Fluorenes	27.355	208	129302m	43.73		
33) Carbazole	25.104	167	24660m	6.04		
34) Dibenzothiophene	24.134	184	64794m	13.67		
35) 4-Methyldibenzothiophene	25.658	198	48995m	11.56		
36) 2/3-Methyldibenzothiop...	25.935	198	41178m	9.72		
37) 1-Methyldibenzothiophene	26.281	198	25790m	6.09		
38) C2-Dibenzothiophenes	27.390	212	232149m	49.00		
39) C3-Dibenzothiophenes	28.568	226	422730m	89.22		
40) C4-Dibenzothiophenes	29.988	240	413023m	87.17		
41) Phenanthrene	24.549	178	286559m	51.33		
42) Anthracene	24.757	178	60157m	11.14		
43) 3-Methylphenanthrene	26.247	192	48082m	11.24		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1821.D
Acq On : 3 Sep 2013 8:23 pm
Operator : YM
Sample : SED-DA-DUP-06-081013
Misc :
ALS Vial : 23 Sample Multiplier: 0.33156

Quant Time: Sep 12 08:13:35 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.316	192	58900m	13.77		
45)	2-Methylanthracene	26.489	192	24460m	5.72		
46)	4/9-Methylphenanthrene	26.593	192	45151m	10.55		
47)	1-Methylphenanthrene	26.697	192	39856m	9.31		
48)	3,6-Dimethylphenanthrene	27.771	206	23468m	6.44		
49)	Retene	30.473	234	7687m	3.77		
50)	C2-Phenanthrenes/Anthr...	28.152	206	354077m	63.42		
51)	C3-Phenanthrenes/Anthr...	29.711	220	451225m	80.83		
52)	C4-Phenanthrenes/Anthr...	31.547	234	472887m	84.71		
53)	Naphthobenzothiophene	32.714	234	142245m	17.54		
54)	C1-Naphthobenzothiophenes	34.150	248	624975m	77.07		
55)	C2-Naphthobenzothiophenes	35.625	262	1231956m	151.92		
56)	C3-Naphthobenzothiophenes	36.673	276	1052530m	129.80		
57)	C4-Naphthobenzothiophenes	37.953	290	451054m	55.62		
58)	Fluoranthene	28.671	202	214455m	35.54		
59)	Pyrene	29.468	202	180393m	23.17		
60)	2-Methylfluoranthene	30.230	216	19677m	3.78		
61)	Benzo(b)fluorene	30.854	216	28297m	6.49		
62)	C1-Fluoranthenes/Pyrenes	30.958	216	254961m	42.25		
63)	C2-Fluoranthenes/Pyrenes	32.676	230	454767m	75.37		
64)	C3-Fluoranthenes/Pyrenes	33.917	244	388847m	64.44		
65)	C4-Fluoranthenes/Pyrenes	35.159	258	294498m	48.81		
67)	Benz(a)anthracene	33.529	228	79503m	9.83		
68)	Chrysene/Triphenylene	33.685	228	199182m	26.14		
69)	C1-Chrysenes	35.353	242	662218m	86.89		
70)	C2-Chrysenes	36.091	256	656472m	86.14		
71)	C3-Chrysenes	37.759	270	515344m	67.62		
72)	C4-Chrysenes	39.079	284	371155m	48.70		
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	37.061	252	432652m	68.88		
78)	Benzo(k,j)fluoranthene	37.138	252	61538m	10.92		
79)	Benzo(a)fluoranthene	37.410	252	101916m	18.09		
80)	Benzo(e)pyrene	38.031	252	236137m	38.64		
81)	Benzo(a)pyrene	38.225	252	86856m	14.12		
82)	Indeno(1,2,3-c,d)pyrene	42.884	276	277667m	36.19		
83)	Dibenzo(a,h)anthracene	42.958	278	68666m	11.32		
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	44.322	276	388823m	57.94		
89)	Perylene	38.535	252	959253m	151.56		
91)	C20-TAS	0.000		0	N.D.	d	
92)	C21-TAS	0.000		0	N.D.	d	
93)	C26(20S)-TAS	0.000		0	N.D.	d	
94)	C26(20R)/C27(20S)-TAS	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\MS60146\
Data File : ARC1821.D
Acq On : 3 Sep 2013 8:23 pm
Operator : YM
Sample : SED-DA-DUP-06-081013
Misc :
ALS Vial : 23 Sample Multiplier: 0.33156

Quant Time: Sep 12 08:13:35 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

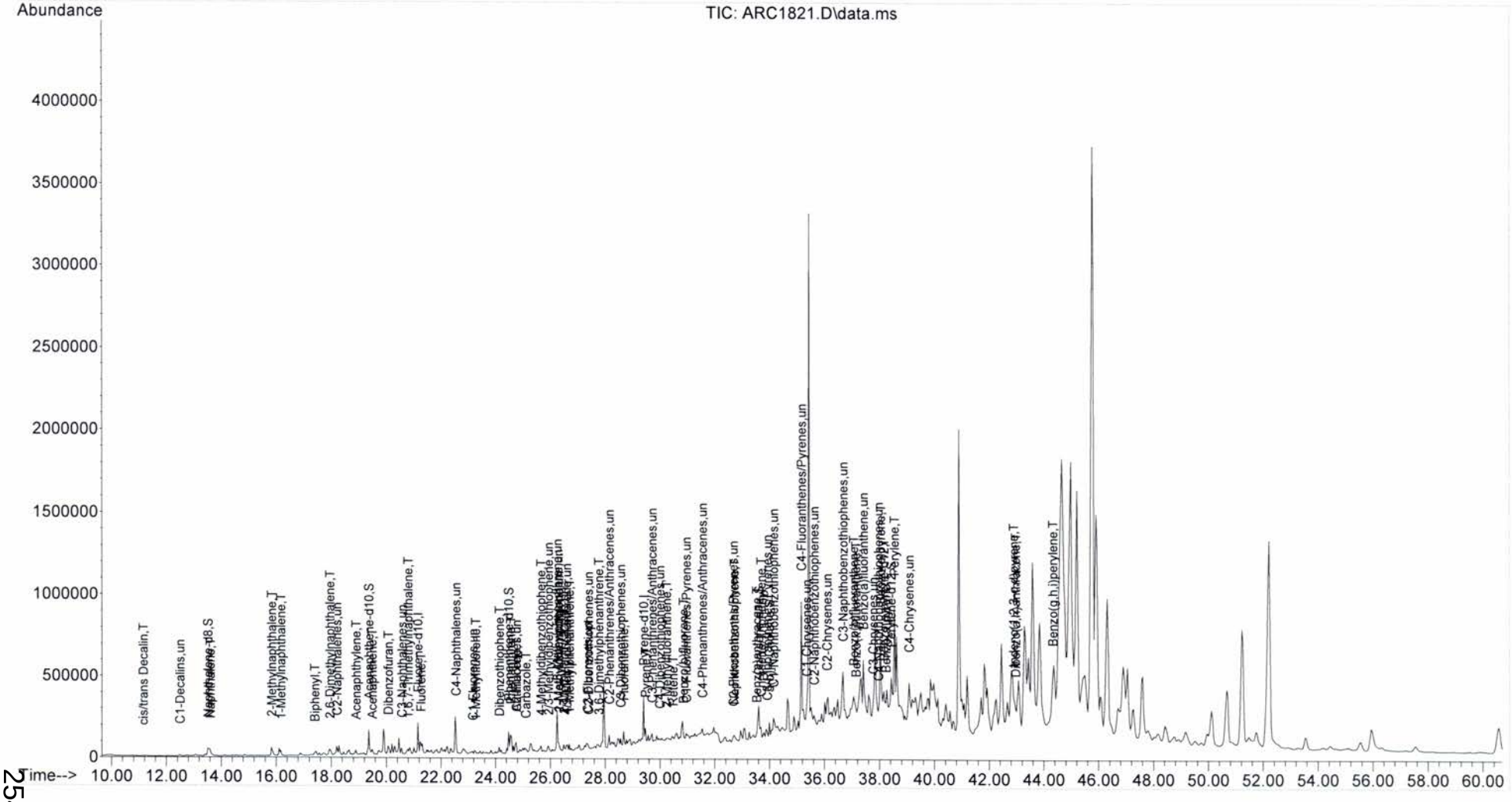
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1821.D
Acq On : 3 Sep 2013 8:23 pm
Operator : YM
Sample : SED-DA-DUP-06-081013
Misc :
ALS Vial : 23 Sample Multiplier: 0.33156

Quant Time: Sep 12 08:13:35 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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

Data File Name	ARC1822.D	**Surrogate/Internal Multiplier Factor:**	1.00		
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS60146\	**AR-WKSU-2500-001:**	**(ng/mL)**		
Operator	YM	Naphthalene-d8	250.125		
Date Acquired	9/3/2013 21:33	Acenaphthene-d10	250.163	***Copy data below***	
Acq. Method File	PAH-2012.M	Phenanthrene-d10	250.194	***to Spread Sheet***	
Sample Name	SED-DA-018 (0-0.5)	Chrysene-d12	250.038		
Misc Info	0	Perylene-d12	250.031	ARC1822.D	
Instrument Name	GCMS6	5(b)H-Cholane	250.000	SED-DA-018 (0-0.5)	
Vial Number	24			9/3/2013	
Sample Multiplier	0.32982			PAH-2012.M	
Sample Amount	0			3.031956825	

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.14	10344	15.6909	19.8645
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	13.60	56955	15.3710	19.4594
9)+10)	C1-Naphthalenes	15.99	102483	27.6580	35.0146
13)	C2-Naphthalenes	18.31	236348	63.7855	80.7515
14)	C3-Naphthalenes	20.56	209443	56.5242	71.5588
15)	C4-Naphthalenes	22.54	495023	133.5966	169.1312
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.41	20197	6.2698	7.9375
23)	Acenaphthylene	18.89	36866	9.9369	12.5800
24)	Acenaphthene	19.48	7005	3.3832	4.2831
25)	Dibenzofuran	20.06	25801	7.5122	9.5103
26)	Fluorene	21.26	36592	13.6579	17.2907
28)	C1-Fluorenes	23.27	44999	16.7959	21.2633
29)	C2-Fluorenes	24.76	139159	51.9410	65.7566
30)	C3-Fluorenes	27.36	136285	50.8681	64.3983
33)	Carbazole	25.31	22426	5.4952	6.9569
42)	Anthracene	24.76	61427	11.3781	14.4045
41)	Phenanthrene	24.58	156960	28.1266	35.6078
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.48	209540	37.5487	47.5361
50)	C2-Phenanthrenes/Anthracenes	28.15	371930	66.6484	84.3758
51)	C3-Phenanthrenes/Anthracenes	29.71	394722	70.7325	89.5463
52)	C4-Phenanthrenes/Anthracenes	31.55	224093	40.1566	50.8376
34)	Dibenzothiophene	24.13	69114	14.5923	18.4736
35)+36)+37)	C1-Dibenzothiophenes	25.96	152682	32.2363	40.8107
38)	C2-Dibenzothiophenes	27.74	287872	60.7796	76.9460
39)	C3-Dibenzothiophenes	28.57	422856	89.2793	113.0262
40)	C4-Dibenzothiophenes	29.99	445235	94.0043	119.0080
58)	Fluoranthene	28.67	207202	34.3514	43.4884
59)	Pyrene	29.47	189667	24.3670	30.8482
62)	C1-Fluoranthenes/Pyrenes	30.61	237204	39.3254	49.7854
63)	C2-Fluoranthenes/Pyrenes	33.06	463636	76.8649	97.3098
64)	C3-Fluoranthenes/Pyrenes	33.92	274508	45.5099	57.6148
65)	C4-Fluoranthenes/Pyrenes	35.16	456864	75.7422	95.8884
53)	Naphthobenzothiophene	32.75	151447	18.6835	23.6530
54)	C1-Naphthobenzothiophenes	34.15	527103	65.0270	82.3232
55)	C2-Naphthobenzothiophenes	35.62	1078970	133.1091	168.5140
56)	C3-Naphthobenzothiophenes	36.67	925350	114.1573	144.5214
57)	C4-Naphthobenzothiophenes	37.95	394121	48.6214	61.5539
67)	Benz(a)anthracene	33.57	77843	9.6329	12.1950
68)	Chrysene/Triphenylene	33.68	213727	28.0550	35.5171
69)	C1-Chrysenes	34.89	576129	75.6257	95.7410
70)	C2-Chrysenes	36.09	519407	68.1801	86.3149
71)	C3-Chrysenes	37.76	417609	54.8177	69.3984
72)	C4-Chrysenes	39.08	255064	33.4810	42.3865
77)	Benzo(b)fluoranthene	37.06	407109	60.9217	77.1259
78)	Benzo(k,j)fluoranthene	37.18	78890	13.1601	16.6605
79)	Benzo(a)fluoranthene	37.45	125891	21.0006	26.5865
80)	Benzo(e)pyrene	38.03	227932	35.0595	44.3848
81)	Benzo(a)pyrene	38.22	71084	10.8637	13.7533
89)	Perylene	38.54	909491	135.0794	171.0085
82)	Indeno(1,2,3-c,d)pyrene	42.88	262527	32.1613	40.7157
83)	Dibenzo(a,h)anthracene	42.96	58848	9.1206	11.5465
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	44.32	374079	52.3988	66.3361

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	15.83	65360	26.9052	34.0616
10)	1-Methylnaphthalene	16.16	37123	16.4021	20.7648
11)	2,6-Dimethylnaphthalene	17.94	55318	24.9464	31.5818
12)	1,6,7-Trimethylnaphthalene	20.79	15222	7.3523	9.3080
27)	1-Methylfluorene	23.27	16146	9.7248	12.3115
35)	4-Methyldibenzothiophene	25.66	63730	15.0445	19.0462
36)	2/3-Methyldibenzothiophene	25.94	52777	12.4589	15.7728
37)	1-Methyldibenzothiophene	26.28	36175	8.5397	10.8112
43)	3-Methylphenanthrene	26.25	43953	10.2760	13.0093
44)	2-Methylphenanthrene	26.32	52696	12.3201	15.5971
45)	2-Methylanthracene	26.49	26204	6.1264	7.7559
46)	4/9-Methylphenanthrene	26.63	47839	11.1846	14.1595
47)	1-Methylphenanthrene	26.70	38848	9.0825	11.4983
48)	3,6-Dimethylphenanthrene	27.77	25208	6.9251	8.7670
49)	Retene	30.47	8890	4.3577	5.5168
60)	2-Methylfluoranthene	30.23	18740	3.5980	4.5550
61)	Benzo(b)fluorene	30.85	26449	6.0686	7.6828
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	13.54	242069	69.73	84.53
21)	Acenaphthene-d10	19.36	141898	71.92	87.16
32)	Phenanthrene-d10	24.48	289423	65.18	78.99
66)	Chrysene-d12	33.61	412341	54.30	65.85
88)	Perylene-d12	38.46	417174	71.01	86.11
90)	5(b)H-Cholane	34.00	134399	136.33	165.34
	Internal Standards				
1)	Fluorene-d10	21.15	168835	82.80	
31)	Pyrene-d10	29.40	449462	82.66	
73)	Benzo(a)pyrene-d12	38.15	430197	82.56	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1822.D
Acq On : 3 Sep 2013 9:33 pm
Operator : YM
Sample : SED-DA-018 (0-0.5)
Misc :
ALS Vial : 24 Sample Multiplier: 0.32982

Quant Time: Sep 12 08:14:21 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.147	176	168835m	251.05		-0.19
31) Pyrene-d10	29.399	212	449462m	250.63		-0.17
73) Benzo(a)pyrene-d12	38.147	264	430197m	250.32		-0.20
System Monitoring Compounds						
2) Naphthalene-d8	13.540	136	242069m	69.73		-0.14
21) Acenaphthene-d10	19.364	164	141898m	71.92		-0.19
32) Phenanthrene-d10	24.480	188	289423m	65.18		-0.21
66) Chrysene-d12	33.607	240	412341m	54.30		-0.16
88) Perylene-d12	38.458	264	417174m	71.01		-0.20
90) 5(b)H-Cholane	33.995	217	134399m	136.33		-0.16
Target Compounds						Qvalue
3) cis/trans Decalin	11.144	138	10344m	15.69		
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	13.596	128	56955m	15.37		
9) 2-Methylnaphthalene	15.825	142	65360m	26.91		
10) 1-Methylnaphthalene	16.159	142	37123m	16.40		
11) 2,6-Dimethylnaphthalene	17.943	156	55318m	24.95		
12) 1,6,7-Trimethylnaphtha...	20.785	170	15222m	7.35		
13) C2-Naphthalenes	18.305	156	236348m	63.79		
14) C3-Naphthalenes	20.562	170	209443m	56.52		
15) C4-Naphthalenes	22.541	184	495023m	133.60		
16) Benzothiophene	0.000		0	N.D.	d	
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.413	154	20197m	6.27		
23) Acenaphthylene	18.890	152	36866m	9.94		
24) Acenaphthene	19.475	154	7005m	3.38		
25) Dibenzofuran	20.061	168	25801m	7.51		
26) Fluorene	21.259	166	36592m	13.66		
27) 1-Methylfluorene	23.268	180	16146m	9.72		
28) C1-Fluorenes	23.268	180	44999m	16.80		
29) C2-Fluorenes	24.758	194	139159m	51.94		
30) C3-Fluorenes	27.355	208	136285m	50.87		
33) Carbazole	25.312	167	22426m	5.50		
34) Dibenzothiophene	24.134	184	69114m	14.59		
35) 4-Methyldibenzothiophene	25.658	198	63730m	15.04		
36) 2/3-Methyldibenzothiop...	25.935	198	52777m	12.46		
37) 1-Methyldibenzothiophene	26.282	198	36175m	8.54		
38) C2-Dibenzothiophenes	27.737	212	287872m	60.78		
39) C3-Dibenzothiophenes	28.568	226	422856m	89.28		
40) C4-Dibenzothiophenes	29.988	240	445235m	94.00		
41) Phenanthrene	24.584	178	156960m	28.13		
42) Anthracene	24.758	178	61427m	11.38		
43) 3-Methylphenanthrene	26.247	192	43953m	10.28		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1822.D
Acq On : 3 Sep 2013 9:33 pm
Operator : YM
Sample : SED-DA-018 (0-0.5)
Misc :
ALS Vial : 24 Sample Multiplier: 0.32982

Quant Time: Sep 12 08:14:21 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.316	192	52696m	12.32		
45)	2-Methylanthracene	26.490	192	26204m	6.13		
46)	4/9-Methylphenanthrene	26.628	192	47839m	11.18		
47)	1-Methylphenanthrene	26.697	192	38848m	9.08		
48)	3,6-Dimethylphenanthrene	27.771	206	25208m	6.93		
49)	Retene	30.473	234	8890m	4.36		
50)	C2-Phenanthrenes/Anthr...	28.152	206	371930m	66.65		
51)	C3-Phenanthrenes/Anthr...	29.711	220	394722m	70.73		
52)	C4-Phenanthrenes/Anthr...	31.547	234	224093m	40.16		
53)	Naphthobenzothiophene	32.753	234	151447m	18.68		
54)	C1-Naphthobenzothiophenes	34.150	248	527103m	65.03		
55)	C2-Naphthobenzothiophenes	35.625	262	1078971m	133.11		
56)	C3-Naphthobenzothiophenes	36.673	276	925350m	114.16		
57)	C4-Naphthobenzothiophenes	37.953	290	394121m	48.62		
58)	Fluoranthene	28.672	202	207202m	34.35		
59)	Pyrene	29.468	202	189667m	24.37		
60)	2-Methylfluoranthene	30.231	216	18740m	3.60		
61)	Benzo(b)fluorene	30.854	216	26449m	6.07		
62)	C1-Fluoranthenes/Pyrenes	30.612	216	237204m	39.33		
63)	C2-Fluoranthenes/Pyrenes	33.064	230	463636m	76.86		
64)	C3-Fluoranthenes/Pyrenes	33.917	244	274508m	45.51		
65)	C4-Fluoranthenes/Pyrenes	35.159	258	456864m	75.74		
67)	Benz(a)anthracene	33.568	228	77843m	9.63		
68)	Chrysene/Triphenylene	33.685	228	213727m	28.05		
69)	C1-Chrysenes	34.888	242	576129m	75.63		
70)	C2-Chrysenes	36.090	256	519407m	68.18		
71)	C3-Chrysenes	37.759	270	417609m	54.82		
72)	C4-Chrysenes	39.079	284	255064m	33.48		
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	37.061	252	407109m	60.92		
78)	Benzo(k,j)fluoranthene	37.177	252	78890m	13.16		
79)	Benzo(a)fluoranthene	37.449	252	125891m	21.00		
80)	Benzo(e)pyrene	38.031	252	227932m	35.06		
81)	Benzo(a)pyrene	38.225	252	71084m	10.86		
82)	Indeno(1,2,3-c,d)pyrene	42.882	276	262527m	32.16		
83)	Dibenzo(a,h)anthracene	42.956	278	58848m	9.12		
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	44.320	276	374079m	52.40		
89)	Perylene	38.535	252	909491m	135.08		
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\MS60146\
Data File : ARC1822.D
Acq On : 3 Sep 2013 9:33 pm
Operator : YM
Sample : SED-DA-018 (0-0.5)
Misc :
ALS Vial : 24 Sample Multiplier: 0.32982

Quant Time: Sep 12 08:14:21 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

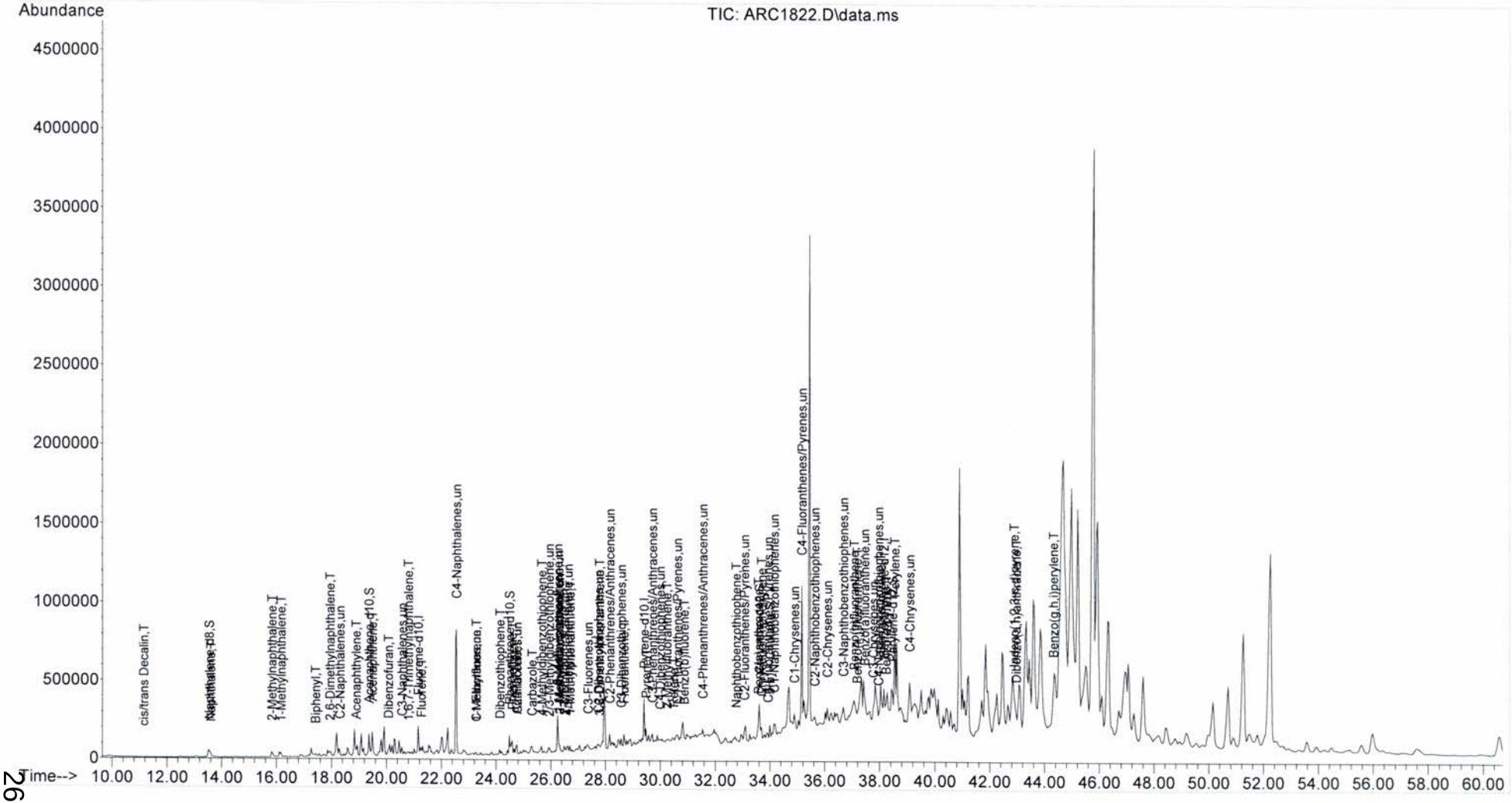
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1822.D
Acq On : 3 Sep 2013 9:33 pm
Operator : YM
Sample : SED-DA-018 (0-0.5)
Misc :
ALS Vial : 24 Sample Multiplier: 0.32982

Quant Time: Sep 12 08:14:21 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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

Data File Name ARC1823.D
Data File Path C:\GCMS6\MS60146\
Operator YM
Date Acquired 9/3/2013 22:42
Acq. Method File PAH-2012.M
Sample Name SED-DA-018 (0.5-1.0)
Misc Info 0
Instrument Name GCMS6
Vial Number 25
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

ARC1823.D
SED-DA-018 (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	13.60	207417	11.8406	13.6563
9)+10)	C1-Naphthalenes	15.99	214701	12.2564	14.1359
13)	C2-Naphthalenes	18.30	442106	25.2380	29.1082
14)	C3-Naphthalenes	20.23	343802	19.6262	22.6359
15)	C4-Naphthalenes	22.54	599190	34.2053	39.4507
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	18.89	83232	4.7454	5.4731
24)	Acenaphthene	19.47	21462	2.1925	2.5288
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.26	133362	10.5291	12.1437
28)	C1-Fluorenes	23.27	115620	9.1283	10.5281
29)	C2-Fluorenes	25.35	538637	42.5259	49.0473
30)	C3-Fluorenes	27.36	540714	42.6899	49.2364
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.76	155952	7.8445	9.0474
41)	Phenanthrene	24.58	642793	31.2795	36.0763
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.50	762134	37.0869	42.7742
50)	C2-Phenanthrenes/Anthracenes	28.15	1475540	71.8028	82.8138
51)	C3-Phenanthrenes/Anthracenes	29.71	2230410	108.5363	125.1804
52)	C4-Phenanthrenes/Anthracenes	31.58	1983850	96.5383	111.3425
34)	Dibenzothiophene	24.13	169836	9.7375	11.2308
35)+36)+37)	C1-Dibenzothiophenes	25.97	421648	24.1751	27.8823
38)	C2-Dibenzothiophenes	27.39	1192110	68.3490	78.8303
39)	C3-Dibenzothiophenes	28.60	2626720	150.6026	173.6976
40)	C4-Dibenzothiophenes	30.65	2754450	157.9260	182.1440
58)	Fluoranthene	28.71	710905	32.0054	36.9134
59)	Pyrene	29.47	542035	18.9103	21.8102
62)	C1-Fluoranthenes/Pyrenes	31.30	1011920	45.5573	52.5435
63)	C2-Fluoranthenes/Pyrenes	32.37	2104910	94.7645	109.2966
64)	C3-Fluoranthenes/Pyrenes	33.92	1871660	84.2634	97.1853
65)	C4-Fluoranthenes/Pyrenes	35.55	2259770	101.7363	117.3376
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	33.57	281963	9.4752	10.9282
68)	Chrysene/Triphenylene	33.68	927728	33.0698	38.1411
69)	C1-Chrysenes	34.93	4640690	165.4219	190.7895
70)	C2-Chrysenes	36.13	2863900	102.0866	117.7416
71)	C3-Chrysenes	37.33	2268570	80.8657	93.2665
72)	C4-Chrysenes	39.16	755926	26.9458	31.0779
77)	Benzo(b)fluoranthene	37.14	1223980	47.5320	54.8210
78)	Benzo(k,j)fluoranthene	37.18	275489	11.9259	13.7548
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.11	801637	31.9985	36.9055
81)	Benzo(a)pyrene	38.30	228009	9.0430	10.4297
89)	Perylene	38.61	7413700	285.7441	329.5631
82)	Indeno(1,2,3-c,d)pyrene	43.07	439040	13.9577	16.0982
83)	Dibenzo(a,h)anthracene	43.77	303171	12.1935	14.0634
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	15.82	149670	13.0322	15.0307
10)	1-Methylnaphthalene	16.16	65031	6.0776	7.0097
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	25.66	172859	11.0812	12.7806
36)	2/3-Methyldibenzothiophene	25.97	186458	11.9530	13.7860
37)	1-Methyldibenzothiophene	26.28	62331	3.9958	4.6085
43)	3-Methylphenanthrene	26.25	164072	10.4168	12.0142
44)	2-Methylphenanthrene	26.35	201895	12.8181	14.7837
45)	2-Methylanthracene	26.52	141043	8.9547	10.3279
46)	4/9-Methylphenanthrene	26.63	138752	8.8092	10.1601
47)	1-Methylphenanthrene	26.73	116372	7.3883	8.5213
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	13.54	208508	12.71	76.86
21)	Acenaphthene-d10	19.36	139348	14.94	90.36
32)	Phenanthrene-d10	24.52	234422	14.34	86.70
66)	Chrysene-d12	33.61	395572	14.15	85.60
88)	Perylene-d12	38.50	233203	10.30	62.34
90)	5(b)H-Cholane	34.03	68863	18.13	109.72
	Internal Standards				
1)	Fluorene-d10	21.17	159942	16.59	
31)	Pyrene-d10	29.43	331658	16.56	
73)	Benzo(a)pyrene-d12	38.19	332181	16.54	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1823.D
Acq On : 3 Sep 2013 10:42 pm
Operator : YM
Sample : SED-DA-018 (0.5-1.0)
Misc :
ALS Vial : 25 Sample Multiplier: 0.06609

Quant Time: Sep 12 07:47:56 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.175	176	159942m	251.05		-0.17
31) Pyrene-d10	29.434	212	331658m	250.63		-0.14
73) Benzo(a)pyrene-d12	38.186	264	332181m	250.32		-0.16
System Monitoring Compounds						
2) Naphthalene-d8	13.539	136	208508m	12.71		-0.14
21) Acenaphthene-d10	19.363	164	139348m	14.94		-0.19
32) Phenanthrene-d10	24.515	188	234422m	14.34		-0.17
66) Chrysene-d12	33.607	240	395572m	14.15		-0.16
88) Perylene-d12	38.497	264	233203m	10.30		-0.16
90) 5(b)H-Cholane	34.034	217	68863m	18.13		-0.12
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	13.595	128	207417m	11.84		
9) 2-Methylnaphthalene	15.824	142	149670m	13.03		
10) 1-Methylnaphthalene	16.159	142	65031m	6.08		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.304	156	442106m	25.24		
14) C3-Naphthalenes	20.227	170	343802m	19.63		
15) C4-Naphthalenes	22.540	184	599190m	34.21		
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	18.890	152	83232m	4.75		
24) Acenaphthene	19.475	154	21462m	2.19		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.258	166	133362m	10.53		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.268	180	115620m	9.13		
29) C2-Fluorenes	25.346	194	538637m	42.53		
30) C3-Fluorenes	27.355	208	540714m	42.69		
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.134	184	169836m	9.74		
35) 4-Methyldibenzothiophene	25.658	198	172859m	11.08		
36) 2/3-Methyldibenzothiop...	25.970	198	186458m	11.95		
37) 1-Methyldibenzothiophene	26.282	198	62331m	4.00		
38) C2-Dibenzothiophenes	27.390	212	1192105m	68.35		
39) C3-Dibenzothiophenes	28.603	226	2626722m	150.60		
40) C4-Dibenzothiophenes	30.646	240	2754450m	157.93		
41) Phenanthrene	24.584	178	642793m	31.28		
42) Anthracene	24.758	178	155952m	7.84		
43) 3-Methylphenanthrene	26.247	192	164072m	10.42		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1823.D
Acq On : 3 Sep 2013 10:42 pm
Operator : YM
Sample : SED-DA-018 (0.5-1.0)
Misc :
ALS Vial : 25 Sample Multiplier: 0.06609

Quant Time: Sep 12 07:47:56 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.351	192	201895m	12.82		
45)	2-Methylanthracene	26.524	192	141043m	8.95		
46)	4/9-Methylphenanthrene	26.628	192	138752m	8.81		
47)	1-Methylphenanthrene	26.732	192	116372m	7.39		
48)	3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49)	Retene	0.000		0	N.D.	d	
50)	C2-Phenanthrenes/Anthr...	28.152	206	1475544m	71.80		
51)	C3-Phenanthrenes/Anthr...	29.711	220	2230410m	108.54		
52)	C4-Phenanthrenes/Anthr...	31.581	234	1983851m	96.54		
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	28.706	202	710905m	32.01		
59)	Pyrene	29.468	202	542035m	18.91		
60)	2-Methylfluoranthene	0.000		0	N.D.	d	
61)	Benzo(b)fluorene	0.000		0	N.D.	d	
62)	C1-Fluoranthenes/Pyrenes	31.304	216	1011920m	45.56		
63)	C2-Fluoranthenes/Pyrenes	32.365	230	2104910m	94.76		
64)	C3-Fluoranthenes/Pyrenes	33.917	244	1871656m	84.26		
65)	C4-Fluoranthenes/Pyrenes	35.547	258	2259770m	101.74		
67)	Benz(a)anthracene	33.568	228	281963m	9.48		
68)	Chrysene/Triphenylene	33.685	228	927728m	33.07		
69)	C1-Chrysenes	34.926	242	4640687m	165.42		
70)	C2-Chrysenes	36.129	256	2863897m	102.09		
71)	C3-Chrysenes	37.332	270	2268566m	80.87		
72)	C4-Chrysenes	39.156	284	755926m	26.95		
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	37.138	252	1223977m	47.53		
78)	Benzo(k,j)fluoranthene	37.177	252	275489m	11.93		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.108	252	801637m	32.00		
81)	Benzo(a)pyrene	38.302	252	228009m	9.04		
82)	Indeno(1,2,3-c,d)pyrene	43.067	276	439040m	13.96		
83)	Dibenzo(a,h)anthracene	43.767	278	303171m	12.19		
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.		
89)	Perylene	38.613	252	7413702m	285.74		
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\MS60146\
Data File : ARC1823.D
Acq On : 3 Sep 2013 10:42 pm
Operator : YM
Sample : SED-DA-018 (0.5-1.0)
Misc :
ALS Vial : 25 Sample Multiplier: 0.06609

Quant Time: Sep 12 07:47:56 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

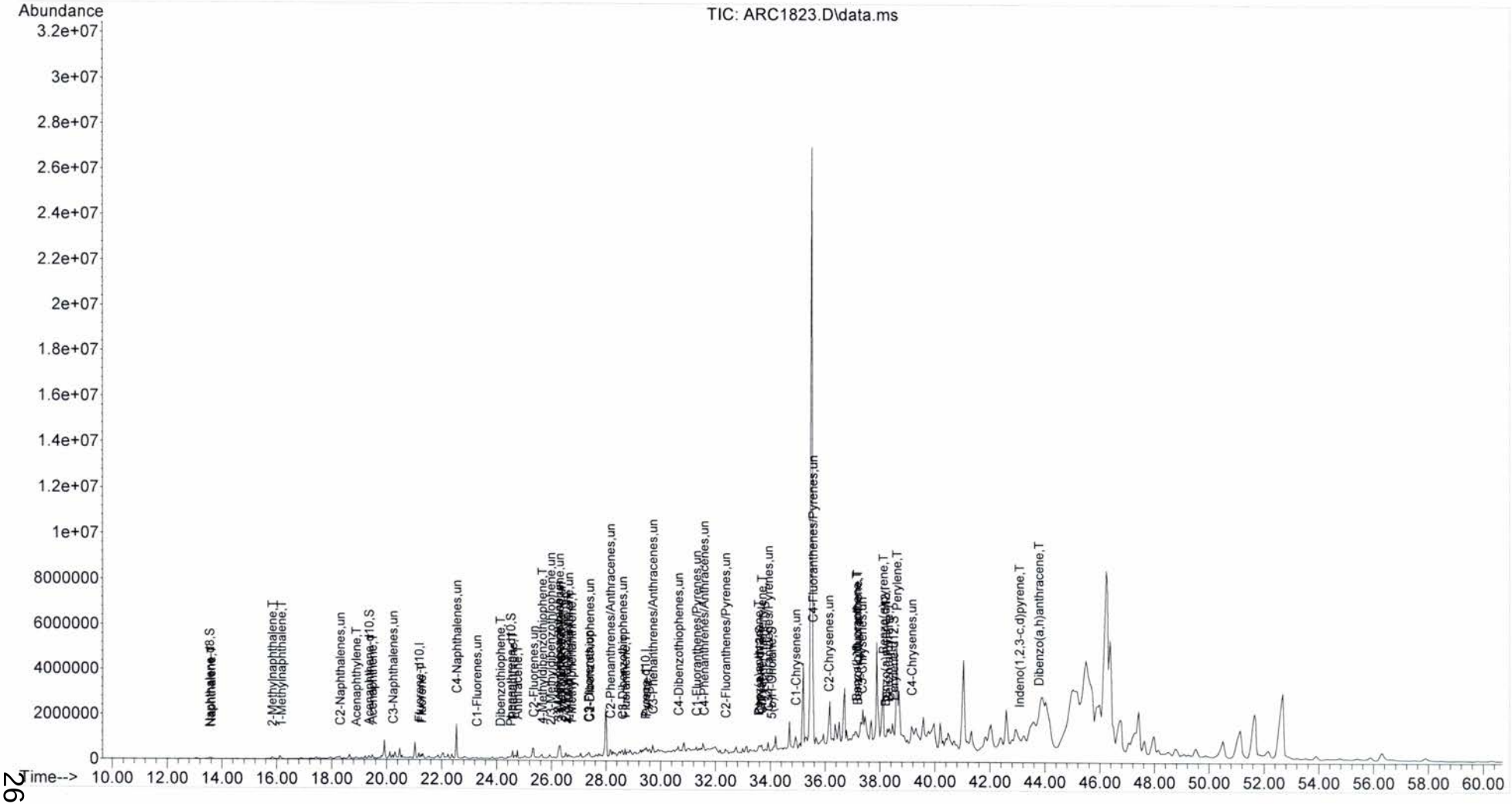
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1823.D
Acq On : 3 Sep 2013 10:42 pm
Operator : YM
Sample : SED-DA-018 (0.5-1.0)
Misc :
ALS Vial : 25 Sample Multiplier: 0.06609

Quant Time: Sep 12 07:47:56 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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

Data File Name	ARC1824.D	**Surrogate/Internal Multiplier Factor:**	1.00		
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS60146\	**AR-WKSU-2500-001:**	**(ng/mL)**		
Operator	YM	Naphthalene-d8	250.125		
Date Acquired	9/3/2013 23:52	Acenaphthene-d10	250.163	***Copy data below***	
Acq. Method File	PAH-2012.M	Phenanthrene-d10	250.194	***to Spread Sheet***	
Sample Name	SED-DA-018 (1.0-1.5)	Chrysene-d12	250.038		
Misc Info	0	Perylene-d12	250.031	ARC1824.D	
Instrument Name	GCMS6	5(b)H-Cholane	250.000	SED-DA-018 (1.0-1.5)	
Vial Number	26			9/3/2013	
Sample Multiplier	0.06631			PAH-2012.M	
Sample Amount	0			15.08068165	

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.59	53855	3.7192	4.3519
9)+10)	C1-Naphthalenes	16.02	41859	2.8908	3.3825
13)	C2-Naphthalenes	18.30	82560	5.7016	6.6715
14)	C3-Naphthalenes	19.86	89427	6.1758	7.2264
15)	C4-Naphthalenes	22.54	136698	9.4403	11.0463
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	18.89	5859	0.4041	0.4729
24)	Acenaphthene	19.47	4250	0.5252	0.6146
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.26	38804	3.7062	4.3367
28)	C1-Fluorenes	23.27	20154	1.9249	2.2524
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	24.76	8967	0.5101	0.5969
41)	Phenanthrene	24.58	173401	9.5424	11.1658
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.49	114849	6.3202	7.3954
50)	C2-Phenanthrenes/Anthracenes	27.98	106848	5.8799	6.8802
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.13	17666	1.1454	1.3403
35)+36)+37)	C1-Dibenzothiophenes	25.97	22673	1.4701	1.7202
38)	C2-Dibenzothiophenes	27.39	20929	1.3570	1.5879
39)	C3-Dibenzothiophenes	29.26	26671	1.7293	2.0235
40)	C4-Dibenzothiophenes	30.82	28217	1.8296	2.1408
58)	Fluoranthene	28.71	52860	2.6913	3.1491
59)	Pyrene	29.47	41245	1.6273	1.9041
62)	C1-Fluoranthenes/Pyrenes	30.61	52782	2.6873	3.1445
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	33.57	17847	0.6782	0.7936
68)	Chrysene/Triphenylene	33.69	72227	2.9116	3.4069
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	0.00	0	0.0000	0.0000
78)	Benzo(k,j)fluoranthene	0.00	0	0.0000	0.0000
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	0.00	0	0.0000	0.0000
81)	Benzo(a)pyrene	0.00	0	0.0000	0.0000
89)	Perylene	38.54	7980240	274.7117	321.4458
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	15.85	29227	3.0787	3.6024
10)	1-Methylnaphthalene	16.19	12632	1.4282	1.6711
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	25.66	10180	0.7380	0.8636
36)	2/3-Methyldibenzothiophene	25.97	9390	0.6807	0.7965
37)	1-Methyldibenzothiophene	26.28	3103	0.2250	0.2632
43)	3-Methylphenanthrene	26.25	19695	1.4141	1.6546
44)	2-Methylphenanthrene	26.35	27944	2.0063	2.3477
45)	2-Methylanthracene	26.52	51805	3.7195	4.3523
46)	4/9-Methylphenanthrene	26.63	6433	0.4619	0.5405
47)	1-Methylphenanthrene	26.70	8972	0.6442	0.7538
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	13.54	165842	12.23	73.71
21)	Acenaphthene-d10	19.39	104540	13.56	81.73
32)	Phenanthrene-d10	24.51	205000	14.18	85.46
66)	Chrysene-d12	33.61	335946	13.59	81.94
88)	Perylene-d12	38.46	231129	9.12	55.00
90)	5(b)H-Cholane	34.00	114006	26.80	161.69
	Internal Standards				
1)	Fluorene-d10	21.17	132651	16.65	
31)	Pyrene-d10	29.40	294250	16.62	
73)	Benzo(a)pyrene-d12	38.15	373163	16.60	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1824.D
Acq On : 3 Sep 2013 11:52 pm
Operator : YM
Sample : SED-DA-018 (1.0-1.5)
Misc :
ALS Vial : 26 Sample Multiplier: 0.06631

Quant Time: Sep 12 06:39:07 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.174	176	132651m	251.05		-0.17
31) Pyrene-d10	29.398	212	294250m	250.63		-0.17
73) Benzo(a)pyrene-d12	38.149	264	373163m	250.32		-0.19
System Monitoring Compounds						
2) Naphthalene-d8	13.539	136	165842m	12.23		-0.14
21) Acenaphthene-d10	19.391	164	104540m	13.56		-0.17
32) Phenanthrene-d10	24.514	188	205000m	14.18		-0.17
66) Chrysene-d12	33.608	240	335946m	13.59		-0.16
88) Perylene-d12	38.459	264	231129m	9.12		-0.19
90) 5(b)H-Cholane	33.996	217	114006m	26.80		-0.16
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	13.595	128	53855m	3.72		
9) 2-Methylnaphthalene	15.852	142	29227m	3.08		
10) 1-Methylnaphthalene	16.186	142	12632m	1.43		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.304	156	82560m	5.70		
14) C3-Naphthalenes	19.865	170	89427m	6.18		
15) C4-Naphthalenes	22.540	184	136698m	9.44		
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	18.889	152	5859m	0.40		
24) Acenaphthene	19.475	154	4250m	0.53		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.258	166	38804m	3.71		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.267	180	20154m	1.92		
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.133	184	17666m	1.15		
35) 4-Methyldibenzothiophene	25.657	198	10180m	0.74		
36) 2/3-Methyldibenzothiop...	25.969	198	9390m	0.68		
37) 1-Methyldibenzothiophene	26.281	198	3103m	0.22		
38) C2-Dibenzothiophenes	27.389	212	20929m	1.36		
39) C3-Dibenzothiophenes	29.260	226	26671m	1.73		
40) C4-Dibenzothiophenes	30.819	240	28217m	1.83		
41) Phenanthrene	24.583	178	173401m	9.54		
42) Anthracene	24.757	178	8967m	0.51		
43) 3-Methylphenanthrene	26.246	192	19695m	1.41		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1824.D
Acq On : 3 Sep 2013 11:52 pm
Operator : YM
Sample : SED-DA-018 (1.0-1.5)
Misc :
ALS Vial : 26 Sample Multiplier: 0.06631

Quant Time: Sep 12 06:39:07 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.350	192	27944m	2.01		
45)	2-Methylanthracene	26.523	192	51805m	3.72		
46)	4/9-Methylphenanthrene	26.627	192	6433m	0.46		
47)	1-Methylphenanthrene	26.696	192	8972m	0.64		
48)	3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49)	Retene	0.000		0	N.D.	d	
50)	C2-Phenanthrenes/Anthr...	27.978	206	106848m	5.88		
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	28.706	202	52860m	2.69		
59)	Pyrene	29.468	202	41245m	1.63		
60)	2-Methylfluoranthene	0.000		0	N.D.	d	
61)	Benzo(b)fluorene	0.000		0	N.D.	d	
62)	C1-Fluoranthenes/Pyrenes	30.611	216	52782m	2.69		
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	33.570	228	17847m	0.68		
68)	Chrysene/Triphenylene	33.686	228	72227m	2.91		
69)	C1-Chrysenes	0.000		0	N.D.	d	
70)	C2-Chrysenes	0.000		0	N.D.	d	
71)	C3-Chrysenes	0.000		0	N.D.	d	
72)	C4-Chrysenes	0.000		0	N.D.	d	
74)	C29-Hopane	0.000		0	N.D.	d	
75)	18a-Oleanane	0.000		0	N.D.	d	
76)	C30-Hopane	0.000		0	N.D.	d	
77)	Benzo(b)fluoranthene	0.000		0	N.D.	d	
78)	Benzo(k,j)fluoranthene	0.000		0	N.D.	d	
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	0.000		0	N.D.	d	
81)	Benzo(a)pyrene	0.000		0	N.D.	d	
82)	Indeno(1,2,3-c,d)pyrene	0.000		0	N.D.	d	
83)	Dibenzo(a,h)anthracene	0.000		0	N.D.	d	
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87)	Benzo(g,h,i)perylene	0.000		0	N.D.	d	
89)	Perylene	38.537	252	7980235m	274.71		
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.		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1824.D
Acq On : 3 Sep 2013 11:52 pm
Operator : YM
Sample : SED-DA-018 (1.0-1.5)
Misc :
ALS Vial : 26 Sample Multiplier: 0.06631

Quant Time: Sep 12 06:39:07 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

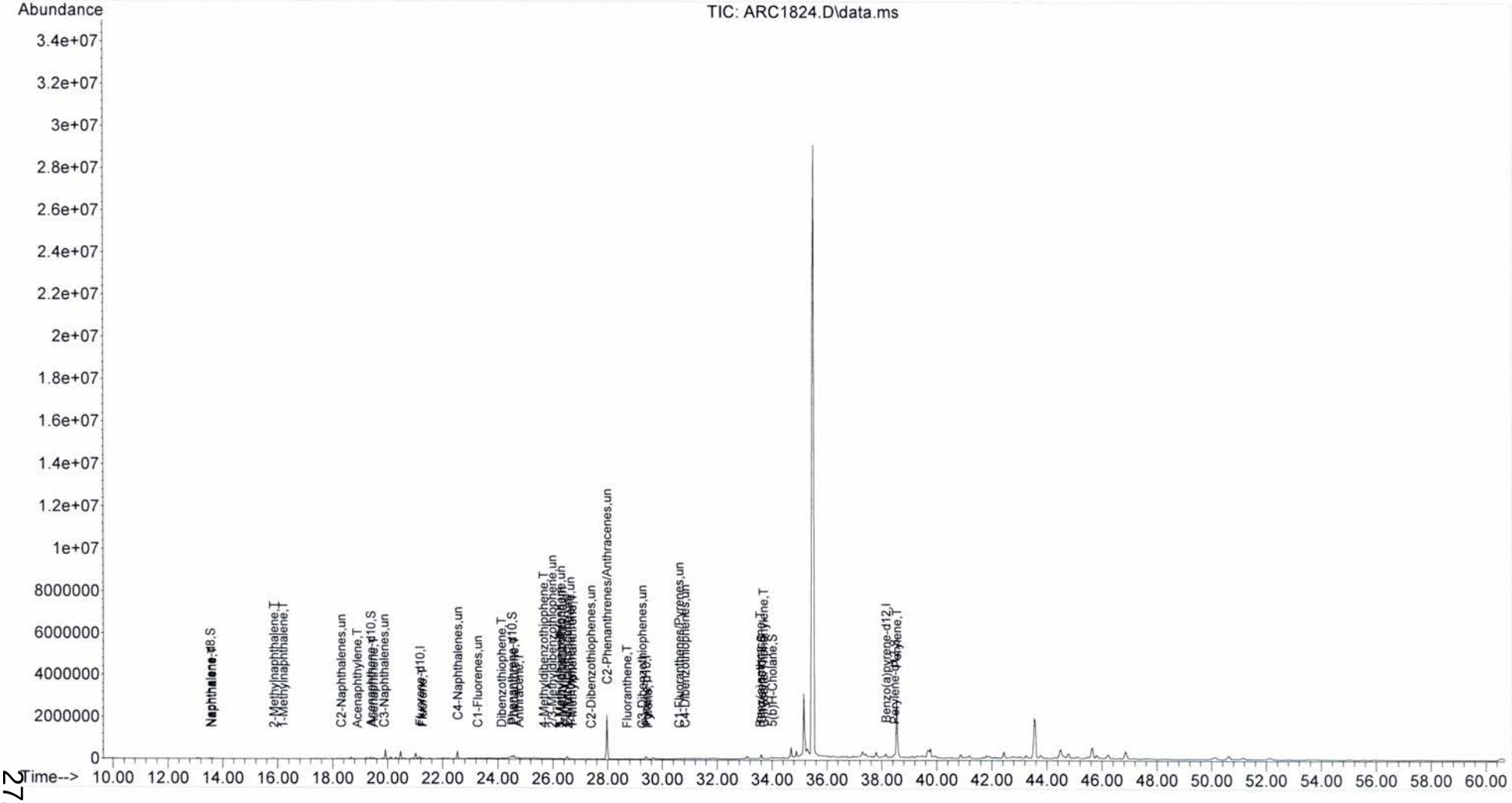
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1824.D
Acq On : 3 Sep 2013 11:52 pm
Operator : YM
Sample : SED-DA-018 (1.0-1.5)
Misc :
ALS Vial : 26 Sample Multiplier: 0.06631

Quant Time: Sep 12 06:39:07 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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

Data File Name	ARC1825.D	**Surrogate/Internal Multiplier Factor:**	1.00		
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS60146\	**AR-WKSU-2500-001:**	**(ng/mL)**		
Operator	YM	Naphthalene-d8	250.125		
Date Acquired	9/4/2013 1:02	Acenaphthene-d10	250.163	***Copy data below***	
Acq. Method File	PAH-2012.M	Phenanthrene-d10	250.194	***to Spread Sheet***	
Sample Name	SED-DA-018 (1.5-2.0)	Chrysene-d12	250.038		
Misc Info	0	Perylene-d12	250.031	ARC1825.D	
Instrument Name	GCMS6	5(b)H-Cholane	250.000	SED-DA-018 (1.5-2.0)	
Vial Number	27			9/4/2013	
Sample Multiplier	0.06618			PAH-2012.M	
Sample Amount	0			15.11030523	

#	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	13.59	27436	1.8222	2.3922
9)+10)	C1-Naphthalenes	15.99	20720	1.3762	1.8066
13)	C2-Naphthalenes	18.30	40277	2.6751	3.5119
14)	C3-Naphthalenes	19.86	72950	4.8452	6.3607
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	18.89	1563	0.1037	0.1361
24)	Acenaphthene	19.45	1608	0.1911	0.2509
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.26	29596	2.7186	3.5690
28)	C1-Fluorenes	23.16	13503	1.2404	1.6283
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	24.76	1989	0.1026	0.1347
41)	Phenanthrene	24.58	112671	5.6218	7.3803
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.49	77608	3.8723	5.0835
50)	C2-Phenanthrenes/Anthracenes	27.98	80544	4.0188	5.2759
51)	C3-Phenanthrenes/Anthracenes	29.71	31680	1.5807	2.0751
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.13	4840	0.2845	0.3735
35)+36)+37)	C1-Dibenzothiophenes	25.96	8259	0.4855	0.6374
38)	C2-Dibenzothiophenes	27.39	15862	0.9325	1.2242
39)	C3-Dibenzothiophenes	29.26	25645	1.5076	1.9792
40)	C4-Dibenzothiophenes	30.65	15706	0.9233	1.2121
58)	Fluoranthene	28.67	19794	0.9137	1.1995
59)	Pyrene	29.47	10705	0.3829	0.5027
62)	C1-Fluoranthenes/Pyrenes	30.61	18797	0.8677	1.1391
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	33.57	4554	0.1569	0.2060
68)	Chrysene/Triphenylene	33.68	10461	0.3823	0.5019
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	37.06	14024	0.5224	0.6858
78)	Benzo(k,j)fluoranthene	37.14	3409	0.1416	0.1858
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.03	7398	0.2832	0.3718
81)	Benzo(a)pyrene	38.22	6164	0.2345	0.3078
89)	Perylene	38.53	286221	10.5815	13.8912
82)	Indeno(1,2,3-c,d)pyrene	42.99	10570	0.3223	0.4231
83)	Dibenzo(a,h)anthracene	42.88	3303	0.1274	0.1673
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	44.43	12936	0.4510	0.5921

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	15.82	14541	1.4731	1.9339
10)	1-Methylnaphthalene	16.16	6179	0.6719	0.8820
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	25.66	3276	0.2153	0.2827
36)	2/3-Methyldibenzothiophene	25.93	2454	0.1613	0.2118
37)	1-Methyldibenzothiophene	26.28	2529	0.1662	0.2182
43)	3-Methylphenanthrene	26.25	7674	0.4996	0.6558
44)	2-Methylphenanthrene	26.35	8504	0.5536	0.7268
45)	2-Methylanthracene	26.52	51048	3.3232	4.3626
46)	4/9-Methylphenanthrene	26.63	3155	0.2054	0.2696
47)	1-Methylphenanthrene	26.70	7227	0.4705	0.6176
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	13.54	149127	10.57	63.87
21)	Acenaphthene-d10	19.36	98479	12.28	74.19
32)	Phenanthrene-d10	24.48	201131	12.61	76.17
66)	Chrysene-d12	33.61	303600	11.13	67.28
88)	Perylene-d12	38.42	190602	8.08	48.81
90)	5(b)H-Cholane	33.99	98446	24.86	150.24
	Internal Standards				
1)	Fluorene-d10	21.15	137656	16.61	
31)	Pyrene-d10	29.40	323896	16.59	
73)	Benzo(a)pyrene-d12	38.15	346788	16.57	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1825.D
Acq On : 4 Sep 2013 1:02 am
Operator : YM
Sample : SED-DA-018 (1.5-2.0)
Misc :
ALS Vial : 27 Sample Multiplier: 0.06618

Quant Time: Sep 12 06:45:22 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.147	176	137656m	251.05		-0.19
31) Pyrene-d10	29.399	212	323896m	250.63		-0.17
73) Benzo(a)pyrene-d12	38.147	264	346788m	250.32		-0.20
System Monitoring Compounds						
2) Naphthalene-d8	13.539	136	149127m	10.57		-0.14
21) Acenaphthene-d10	19.363	164	98479m	12.28		-0.19
32) Phenanthrene-d10	24.480	188	201131m	12.61		-0.21
66) Chrysene-d12	33.606	240	303600m	11.13		-0.16
88) Perylene-d12	38.418	264	190602m	8.08		-0.23
90) 5(b)H-Cholane	33.995	217	98446m	24.86		-0.16
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	13.595	128	27436m	1.82		
9) 2-Methylnaphthalene	15.824	142	14541m	1.47		
10) 1-Methylnaphthalene	16.159	142	6179m	0.67		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.304	156	40277m	2.68		
14) C3-Naphthalenes	19.865	170	72950m	4.85		
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	18.889	152	1563m	0.10		
24) Acenaphthene	19.447	154	1608m	0.19		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.258	166	29596m	2.72		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.164	180	13503m	1.24		
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	24.134	184	4840m	0.28		
35) 4-Methyldibenzothiophene	25.658	198	3276m	0.22		
36) 2/3-Methyldibenzothiop...	25.935	198	2454m	0.16		
37) 1-Methyldibenzothiophene	26.281	198	2529m	0.17		
38) C2-Dibenzothiophenes	27.390	212	15862m	0.93		
39) C3-Dibenzothiophenes	29.260	226	25645m	1.51		
40) C4-Dibenzothiophenes	30.646	240	15706m	0.92		
41) Phenanthrene	24.584	178	112671m	5.62		
42) Anthracene	24.757	178	1989m	0.10		
43) 3-Methylphenanthrene	26.247	192	7674m	0.50		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1825.D
Acq On : 4 Sep 2013 1:02 am
Operator : YM
Sample : SED-DA-018 (1.5-2.0)
Misc :
ALS Vial : 27 Sample Multiplier: 0.06618

Quant Time: Sep 12 06:45:22 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.350	192	8504m	0.55		
45) 2-Methylanthracene	26.524	192	51048m	3.32		
46) 4/9-Methylphenanthrene	26.628	192	3155m	0.21		
47) 1-Methylphenanthrene	26.697	192	7227m	0.47		
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	27.979	206	80544m	4.02		
51) C3-Phenanthrenes/Anthr...	29.710	220	31680m	1.58		
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	28.671	202	19794m	0.91		
59) Pyrene	29.468	202	10705m	0.38		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	30.611	216	18797m	0.87		
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	33.568	228	4554m	0.16		
68) Chrysene/Triphenylene	33.684	228	10461m	0.38		
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	37.060	252	14024m	0.52		
78) Benzo(k,j)fluoranthene	37.138	252	3409m	0.14		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.030	252	7398m	0.28		
81) Benzo(a)pyrene	38.224	252	6164m	0.23		
82) Indeno(1,2,3-c,d)pyrene	42.994	276	10570m	0.32		
83) Dibenzo(a,h)anthracene	42.883	278	3303m	0.13		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.		
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.432	276	12936m	0.45		
89) Perylene	38.535	252	286221m	10.58		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	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\MS60146\
Data File : ARC1825.D
Acq On : 4 Sep 2013 1:02 am
Operator : YM
Sample : SED-DA-018 (1.5-2.0)
Misc :
ALS Vial : 27 Sample Multiplier: 0.06618

Quant Time: Sep 12 06:45:22 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

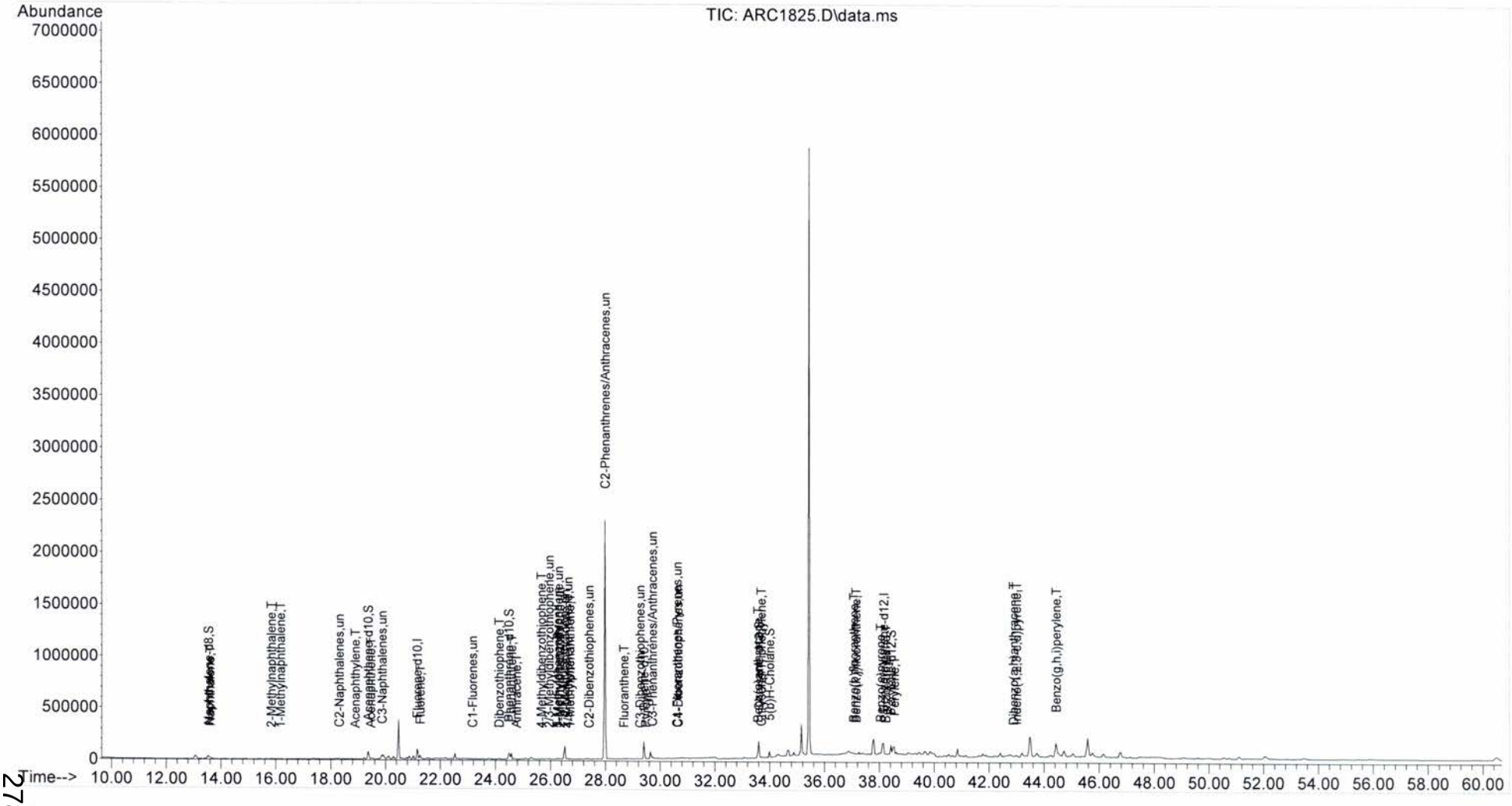
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1825.D
Acq On : 4 Sep 2013 1:02 am
Operator : YM
Sample : SED-DA-018 (1.5-2.0)
Misc :
ALS Vial : 27 Sample Multiplier: 0.06618

Quant Time: Sep 12 06:45:22 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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

Data File Name	ARC1826.D
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS60146\
Operator	YM
Date Acquired	9/4/2013 3:21
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-019 (0-0.5)
Misc Info	0
Instrument Name	GCMS6
Vial Number	29
Sample Multiplier	0.33003
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

ARC1826.D
SED-DA-019 (0-0.5)
9/4/2013
PAH-2012.M
3.030027573

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.14	17892	25.1814	30.8085
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	13.59	67041	16.7869	20.5382
9)+10)	C1-Naphthalenes	15.99	133887	33.5249	41.0166
13)	C2-Naphthalenes	18.30	409225	102.4687	125.3670
14)	C3-Naphthalenes	20.48	581383	145.5769	178.1084
15)	C4-Naphthalenes	22.54	587117	147.0125	179.8649
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.41	27774	7.9996	9.7872
23)	Acenaphthylene	18.89	51051	12.7670	15.6200
24)	Acenaphthene	19.47	11512	5.1586	6.3113
25)	Dibenzofuran	20.09	48182	13.0159	15.9245
26)	Fluorene	21.26	60845	21.0709	25.7796
28)	C1-Fluorenes	23.27	101714	35.2241	43.0955
29)	C2-Fluorenes	25.10	299982	103.8852	127.1001
30)	C3-Fluorenes	27.36	331257	114.7161	140.3513
33)	Carbazole	25.35	34538	9.2046	11.2615
42)	Anthracene	24.76	94136	18.9645	23.2025
41)	Phenanthrene	24.58	295911	57.6718	70.5595
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.49	452093	88.1109	107.8008
50)	C2-Phenanthrenes/Anthracenes	28.15	881571	171.8146	210.2094
51)	C3-Phenanthrenes/Anthracenes	29.71	1093350	213.0898	260.7082
52)	C4-Phenanthrenes/Anthracenes	31.55	700260	136.4780	166.9762
34)	Dibenzothiophene	24.13	114730	26.3457	32.2331
35)+36)+37)	C1-Dibenzothiophenes	25.96	373065	85.6677	104.8116
38)	C2-Dibenzothiophenes	27.74	758041	174.0707	212.9697
39)	C3-Dibenzothiophenes	29.26	900431	206.7678	252.9734
40)	C4-Dibenzothiophenes	29.57	742867	170.5862	208.7065
58)	Fluoranthene	28.71	264543	47.7002	58.3596
59)	Pyrene	29.47	293308	40.9835	50.1419
62)	C1-Fluoranthenes/Pyrenes	30.61	390327	70.3809	86.1086
63)	C2-Fluoranthenes/Pyrenes	32.37	745841	134.4843	164.5370
64)	C3-Fluoranthenes/Pyrenes	33.92	573156	103.3472	126.4419
65)	C4-Fluoranthenes/Pyrenes	35.55	620801	111.9383	136.9527
53)	Naphthobenzothiophene	32.75	226328	30.3676	37.1538
54)	C1-Naphthobenzothiophenes	34.50	571032	76.6184	93.7401
55)	C2-Naphthobenzothiophenes	35.62	1166040	156.4544	191.4167
56)	C3-Naphthobenzothiophenes	36.98	1129530	151.5554	185.4229
57)	C4-Naphthobenzothiophenes	37.95	532435	71.4396	87.4040
67)	Benz(a)anthracene	33.57	78410	10.5531	12.9114
68)	Chrysene/Triphenylene	33.68	313748	44.7927	54.8023
69)	C1-Chrysenes	34.93	577187	82.4029	100.8172
70)	C2-Chrysenes	36.09	542932	77.5122	94.8335
71)	C3-Chrysenes	37.76	596365	85.1408	104.1669
72)	C4-Chrysenes	39.08	487384	69.5819	85.1311
77)	Benzo(b)fluoranthene	37.10	468402	80.5884	98.5972
78)	Benzo(k,j)fluoranthene	37.18	136131	26.1088	31.9433
79)	Benzo(a)fluoranthene	37.45	81925	15.7126	19.2238
80)	Benzo(e)pyrene	38.07	265321	46.9207	57.4059
81)	Benzo(a)pyrene	38.22	112326	19.7369	24.1475
89)	Perylene	38.54	955013	163.0771	199.5193
82)	Indeno(1,2,3-c,d)pyrene	42.92	292234	41.1607	50.3587
83)	Dibenzo(a,h)anthracene	42.96	57666	10.2755	12.5717
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	44.36	502799	80.9739	99.0688

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	15.82	88136	33.6617	41.1840
10)	1-Methylnaphthalene	16.16	45751	18.7550	22.9461
11)	2,6-Dimethylnaphthalene	17.97	106448	44.5389	54.4918
12)	1,6,7-Trimethylnaphthalene	20.78	53253	23.8648	29.1978
27)	1-Methylfluorene	23.27	40968	22.8940	28.0101
35)	4-Methyldibenzothiophene	25.66	169124	43.4227	53.1262
36)	2/3-Methyldibenzothiophene	25.93	109549	28.1267	34.4121
37)	1-Methyldibenzothiophene	26.28	94392	24.2351	29.6509
43)	3-Methylphenanthrene	26.25	99579	25.3210	30.9793
44)	2-Methylphenanthrene	26.35	100992	25.6802	31.4189
45)	2-Methylanthracene	26.52	39715	10.0987	12.3554
46)	4/9-Methylphenanthrene	26.63	119749	30.4498	37.2543
47)	1-Methylphenanthrene	26.70	92058	23.4085	28.6395
48)	3,6-Dimethylphenanthrene	27.91	52085	15.5623	19.0399
49)	Retene	30.47	26896	14.3389	17.5431
60)	2-Methylfluoranthene	30.23	29786	6.2198	7.6097
61)	Benzo(b)fluorene	30.85	46348	11.5661	14.1507
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	13.54	230274	61.55	74.56
21)	Acenaphthene-d10	19.36	146816	69.04	83.62
32)	Phenanthrene-d10	24.51	275532	67.49	81.73
66)	Chrysene-d12	33.61	510082	73.06	88.53
88)	Perylene-d12	38.46	414983	81.22	98.42
90)	5(b)H-Cholane	33.99	124221	144.88	175.59
	Internal Standards				
1)	Fluorene-d10	21.15	182087	82.85	
31)	Pyrene-d10	29.40	413518	82.71	
73)	Benzo(a)pyrene-d12	38.15	374413	82.61	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1826.D
Acq On : 4 Sep 2013 3:21 am
Operator : YM
Sample : SED-DA-019 (0-0.5)
Misc :
ALS Vial : 29 Sample Multiplier: 0.33003

Quant Time: Sep 12 09:06:54 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.147	176	182087m	251.05		-0.19
31) Pyrene-d10	29.399	212	413518m	250.63		-0.17
73) Benzo(a)pyrene-d12	38.147	264	374413m	250.32		-0.20
System Monitoring Compounds						
2) Naphthalene-d8	13.539	136	230274m	61.55		-0.14
21) Acenaphthene-d10	19.363	164	146816m	69.04		-0.19
32) Phenanthrene-d10	24.515	188	275532m	67.49		-0.17
66) Chrysene-d12	33.607	240	510082m	73.06		-0.16
88) Perylene-d12	38.458	264	414983m	81.22		-0.20
90) 5(b)H-Cholane	33.995	217	124221m	144.88		-0.16
Target Compounds						Qvalue
3) cis/trans Decalin	11.143	138	17892m	25.18		
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	13.595	128	67041m	16.79		
9) 2-Methylnaphthalene	15.824	142	88136m	33.66		
10) 1-Methylnaphthalene	16.159	142	45751m	18.75		
11) 2,6-Dimethylnaphthalene	17.970	156	106448m	44.54		
12) 1,6,7-Trimethylnaphtha...	20.784	170	53253m	23.86		
13) C2-Naphthalenes	18.304	156	409225m	102.47		
14) C3-Naphthalenes	20.478	170	581383m	145.58		
15) C4-Naphthalenes	22.540	184	587117m	147.01		
16) Benzothiophene	0.000		0	N.D.	d	
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.413	154	27774m	8.00		
23) Acenaphthylene	18.889	152	51051m	12.77		
24) Acenaphthene	19.475	154	11512m	5.16		
25) Dibenzofuran	20.088	168	48182m	13.02		
26) Fluorene	21.258	166	60845m	21.07		
27) 1-Methylfluorene	23.268	180	40968m	22.89		
28) C1-Fluorenes	23.268	180	101714m	35.22		
29) C2-Fluorenes	25.103	194	299982m	103.89		
30) C3-Fluorenes	27.355	208	331257m	114.72		
33) Carbazole	25.346	167	34538m	9.20		
34) Dibenzothiophene	24.134	184	114730m	26.35		
35) 4-Methyldibenzothiophene	25.658	198	169124m	43.42		
36) 2/3-Methyldibenzothiop...	25.935	198	109549m	28.13		
37) 1-Methyldibenzothiophene	26.281	198	94392m	24.24		
38) C2-Dibenzothiophenes	27.736	212	758041m	174.07		
39) C3-Dibenzothiophenes	29.260	226	900431m	206.77		
40) C4-Dibenzothiophenes	29.572	240	742867m	170.59		
41) Phenanthrene	24.584	178	295911m	57.67		
42) Anthracene	24.757	178	94136m	18.96		
43) 3-Methylphenanthrene	26.247	192	99579m	25.32		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1826.D
Acq On : 4 Sep 2013 3:21 am
Operator : YM
Sample : SED-DA-019 (0-0.5)
Misc :
ALS Vial : 29 Sample Multiplier: 0.33003

Quant Time: Sep 12 09:06:54 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.350	192	100992m	25.68		
45) 2-Methylanthracene	26.524	192	39715m	10.10		
46) 4/9-Methylphenanthrene	26.628	192	119749m	30.45		
47) 1-Methylphenanthrene	26.697	192	92058m	23.41		
48) 3,6-Dimethylphenanthrene	27.909	206	52085m	15.56		
49) Retene	30.473	234	26896m	14.34		
50) C2-Phenanthrenes/Anthr...	28.152	206	881571m	171.81		
51) C3-Phenanthrenes/Anthr...	29.710	220	1093350m	213.09		
52) C4-Phenanthrenes/Anthr...	31.546	234	700260m	136.48		
53) Naphthobenzothiophene	32.753	234	226328m	30.37		
54) C1-Naphthobenzothiophenes	34.499	248	571032m	76.62		
55) C2-Naphthobenzothiophenes	35.625	262	1166043m	156.45		
56) C3-Naphthobenzothiophenes	36.983	276	1129532m	151.56		
57) C4-Naphthobenzothiophenes	37.953	290	532435m	71.44		
58) Fluoranthene	28.706	202	264543m	47.70		
59) Pyrene	29.468	202	293308m	40.98		
60) 2-Methylfluoranthene	30.230	216	29786m	6.22		
61) Benzo(b)fluorene	30.854	216	46348m	11.57		
62) C1-Fluoranthenes/Pyrenes	30.611	216	390327m	70.38		
63) C2-Fluoranthenes/Pyrenes	32.365	230	745841m	134.48		
64) C3-Fluoranthenes/Pyrenes	33.917	244	573156m	103.35		
65) C4-Fluoranthenes/Pyrenes	35.547	258	620801m	111.94		
67) Benz(a)anthracene	33.568	228	78410m	10.55		
68) Chrysene/Triphenylene	33.684	228	313748m	44.79		
69) C1-Chrysenes	34.926	242	577187m	82.40		
70) C2-Chrysenes	36.090	256	542932m	77.51		
71) C3-Chrysenes	37.759	270	596365m	85.14		
72) C4-Chrysenes	39.078	284	487384m	69.58		
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	37.099	252	468402m	80.59		
78) Benzo(k,j)fluoranthene	37.177	252	136131m	26.11		
79) Benzo(a)fluoranthene	37.449	252	81925m	15.71		
80) Benzo(e)pyrene	38.069	252	265321m	46.92		
81) Benzo(a)pyrene	38.225	252	112326m	19.74		
82) Indeno(1,2,3-c,d)pyrene	42.920	276	292234m	41.16		
83) Dibenzo(a,h)anthracene	42.957	278	57666m	10.28		
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	44.358	276	502799m	80.97		
89) Perylene	38.535	252	955013m	163.08		
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\MS60146\
Data File : ARC1826.D
Acq On : 4 Sep 2013 3:21 am
Operator : YM
Sample : SED-DA-019 (0-0.5)
Misc :
ALS Vial : 29 Sample Multiplier: 0.33003

Quant Time: Sep 12 09:06:54 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

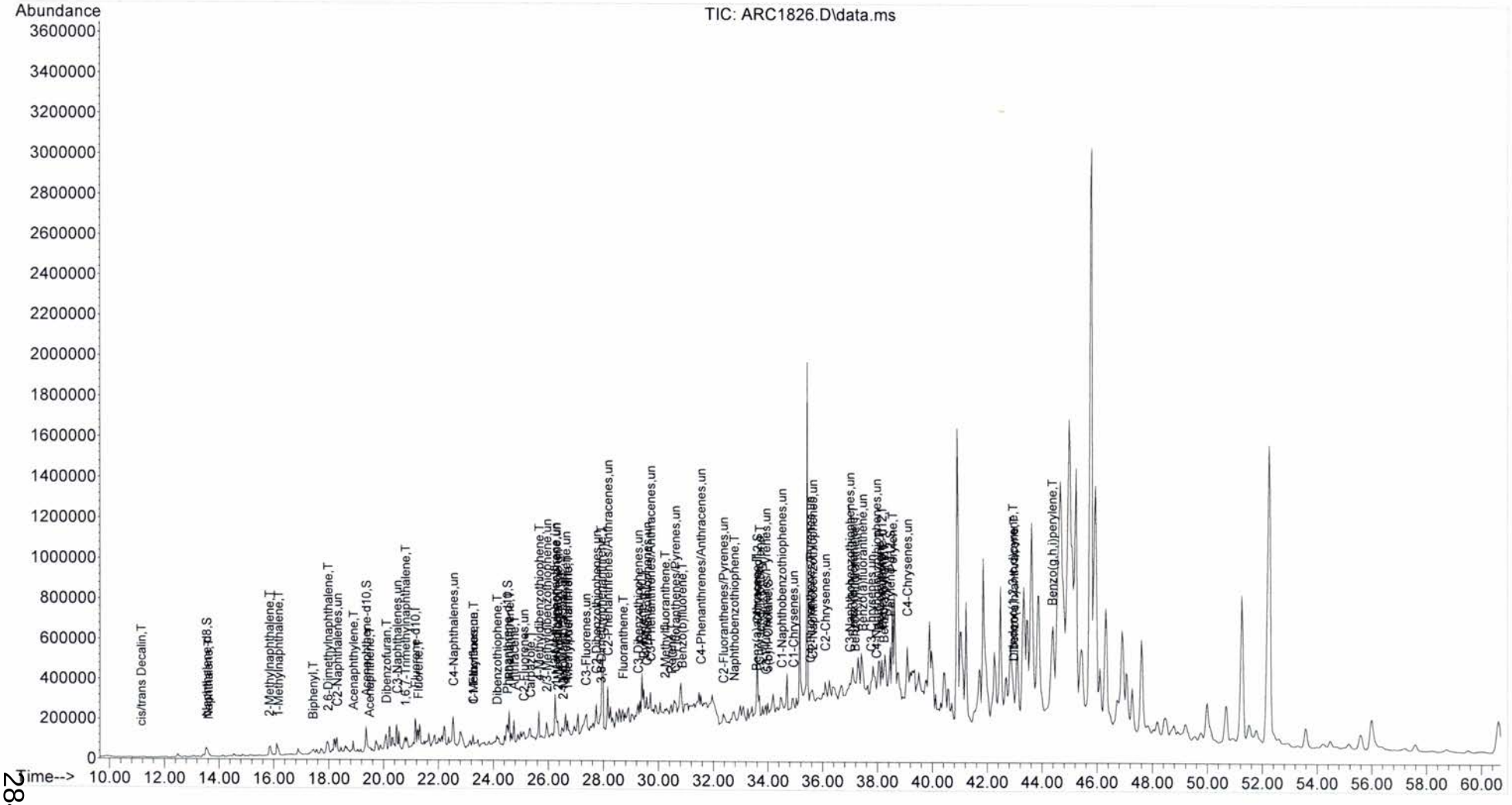
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1826.D
Acq On : 4 Sep 2013 3:21 am
Operator : YM
Sample : SED-DA-019 (0-0.5)
Misc :
ALS Vial : 29 Sample Multiplier: 0.33003

Quant Time: Sep 12 09:06:54 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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

Data File Name	ARC1829.D
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS60146\
Operator	YM
Date Acquired	9/4/2013 4:31
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-019 (0.5-1.0)
Misc Info	0
Instrument Name	GCMS6
Vial Number	30
Sample Multiplier	0.06645
Sample Amount	0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ARC1829.D
SED-DA-019 (0.5-1.0)
9/4/2013
PAH-2012.M
15.04890895

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.59	240825	10.4630	10.9924
9)+10)	C1-Naphthalenes	16.02	195778	8.5058	8.9363
13)	C2-Naphthalenes	18.30	818243	35.5496	37.3486
14)	C3-Naphthalenes	20.23	543587	23.6169	24.8120
15)	C4-Naphthalenes	22.57	2507060	108.9228	114.4348
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	18.92	75203	3.2632	3.4283
24)	Acenaphthene	19.50	33729	2.6224	2.7551
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.29	165660	9.9540	10.4577
28)	C1-Fluorenes	23.16	156416	9.3986	9.8742
29)	C2-Fluorenes	24.76	299448	17.9930	18.9035
30)	C3-Fluorenes	26.31	356748	21.4360	22.5207
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.76	194815	9.6574	10.1461
41)	Phenanthrene	24.58	645217	30.9428	32.5086
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.50	602714	28.9045	30.3671
50)	C2-Phenanthrenes/Anthracenes	28.36	1061300	50.8970	53.4726
51)	C3-Phenanthrenes/Anthracenes	29.71	1183020	56.7341	59.6051
52)	C4-Phenanthrenes/Anthracenes	31.58	1152530	55.2723	58.0693
34)	Dibenzothiophene	24.17	133668	7.5528	7.9350
35)+36)+37)	C1-Dibenzothiophenes	25.98	275149	15.5471	16.3339
38)	C2-Dibenzothiophenes	27.39	668450	37.7704	39.6818
39)	C3-Dibenzothiophenes	28.60	1281720	72.4232	76.0881
40)	C4-Dibenzothiophenes	30.02	1185860	67.0062	70.3970
58)	Fluoranthene	28.71	663495	29.4383	30.9280
59)	Pyrene	29.47	449880	15.4679	16.2506
62)	C1-Fluoranthenes/Pyrenes	31.30	875967	38.8655	40.8322
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	33.57	291959	9.6690	10.1583
68)	Chrysene/Triphenylene	33.72	619332	21.7570	22.8580
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	37.14	1013990	38.8171	40.7814
78)	Benzo(k,j)fluoranthene	37.18	264316	11.2794	11.8502
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.11	564944	22.2297	23.3546
81)	Benzo(a)pyrene	38.30	289162	11.3051	11.8772
89)	Perylene	38.61	8367220	317.9061	333.9934
82)	Indeno(1,2,3-c,d)pyrene	43.10	427952	13.4116	14.0903
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	15.85	136524	9.0472	9.5051
10)	1-Methylnaphthalene	16.19	59254	4.2146	4.4279
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	25.66	105484	6.6642	7.0014
36)	2/3-Methyldibenzothiophene	25.97	128674	8.1293	8.5407
37)	1-Methyldibenzothiophene	26.31	40991	2.5897	2.7207
43)	3-Methylphenanthrene	26.25	109079	6.8250	7.1704
44)	2-Methylphenanthrene	26.35	160713	10.0557	10.5646
45)	2-Methylanthracene	26.52	137549	8.6064	9.0419
46)	4/9-Methylphenanthrene	26.63	139475	8.7269	9.1685
47)	1-Methylphenanthrene	26.73	55898	3.4975	3.6745
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	13.54	188255	8.73	52.53
21)	Acenaphthene-d10	19.39	116508	9.51	57.18
32)	Phenanthrene-d10	24.51	262552	15.82	95.18
66)	Chrysene-d12	33.65	321925	11.35	68.29
88)	Perylene-d12	38.50	309752	13.49	81.18
90)	5(b)H-Cholane	34.03	136497	35.42	213.22
	Internal Standards				
1)	Fluorene-d10	21.17	211299	16.68	
31)	Pyrene-d10	29.43	338365	16.65	
73)	Benzo(a)pyrene-d12	38.19	338812	16.63	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1829.D
Acq On : 4 Sep 2013 4:31 am
Operator : YM
Sample : SED-DA-019 (0.5-1.0)
Misc :
ALS Vial : 30 Sample Multiplier: 0.06645

Quant Time: Sep 12 06:53:04 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.174	176	211299m	251.05		-0.17
31) Pyrene-d10	29.432	212	338365m	250.63		-0.14
73) Benzo(a)pyrene-d12	38.187	264	338812m	250.32		-0.16
System Monitoring Compounds						
2) Naphthalene-d8	13.539	136	188255m	8.73		-0.14
21) Acenaphthene-d10	19.390	164	116508m	9.51		-0.17
32) Phenanthrene-d10	24.514	188	262552m	15.82		-0.17
66) Chrysene-d12	33.647	240	321925m	11.35		-0.12
88) Perylene-d12	38.497	264	309752m	13.49		-0.16
90) 5(b)H-Cholane	34.035	217	136497m	35.42		-0.12
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	13.594	128	240825m	10.46		
9) 2-Methylnaphthalene	15.851	142	136524m	9.05		
10) 1-Methylnaphthalene	16.186	142	59254m	4.21		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.304	156	818243m	35.55		
14) C3-Naphthalenes	20.226	170	543587m	23.62		
15) C4-Naphthalenes	22.567	184	2507063m	108.92		
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	18.917	152	75203m	3.26		
24) Acenaphthene	19.502	154	33729m	2.62		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.285	166	165660m	9.95		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.163	180	156416m	9.40		
29) C2-Fluorenes	24.756	194	299448m	17.99		
30) C3-Fluorenes	26.315	208	356748m	21.44		
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.167	184	133668m	7.55		
35) 4-Methyldibenzothiophene	25.657	198	105484m	6.66		
36) 2/3-Methyldibenzothiop...	25.969	198	128674m	8.13		
37) 1-Methyldibenzothiophene	26.315	198	40991m	2.59		
38) C2-Dibenzothiophenes	27.389	212	668450m	37.77		
39) C3-Dibenzothiophenes	28.601	226	1281724m	72.42		
40) C4-Dibenzothiophenes	30.021	240	1185861m	67.01		
41) Phenanthrene	24.583	178	645217m	30.94		
42) Anthracene	24.756	178	194815m	9.66		
43) 3-Methylphenanthrene	26.246	192	109079m	6.83		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1829.D
Acq On : 4 Sep 2013 4:31 am
Operator : YM
Sample : SED-DA-019 (0.5-1.0)
Misc :
ALS Vial : 30 Sample Multiplier: 0.06645

Quant Time: Sep 12 06:53:04 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.350	192	160713m	10.06		
45) 2-Methylanthracene	26.523	192	137549m	8.61		
46) 4/9-Methylphenanthrene	26.627	192	139475m	8.73		
47) 1-Methylphenanthrene	26.731	192	55898m	3.50		
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	28.359	206	1061300m	50.90		
51) C3-Phenanthrenes/Anthr...	29.710	220	1183015m	56.73		
52) C4-Phenanthrenes/Anthr...	31.580	234	1152534m	55.27		
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.705	202	663495m	29.44		
59) Pyrene	29.467	202	449880m	15.47		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	31.303	216	875967m	38.87		
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	33.569	228	291959m	9.67		
68) Chrysene/Triphenylene	33.724	228	619332m	21.76		
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	37.139	252	1013992m	38.82		
78) Benzo(k,j)fluoranthene	37.178	252	264316m	11.28		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.109	252	564944m	22.23		
81) Benzo(a)pyrene	38.303	252	289162m	11.31		
82) Indeno(1,2,3-c,d)pyrene	43.104	276	427952m	13.41		
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	38.614	252	8367223m	317.91		
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\MS60146\
Data File : ARC1829.D
Acq On : 4 Sep 2013 4:31 am
Operator : YM
Sample : SED-DA-019 (0.5-1.0)
Misc :
ALS Vial : 30 Sample Multiplier: 0.06645

Quant Time: Sep 12 06:53:04 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

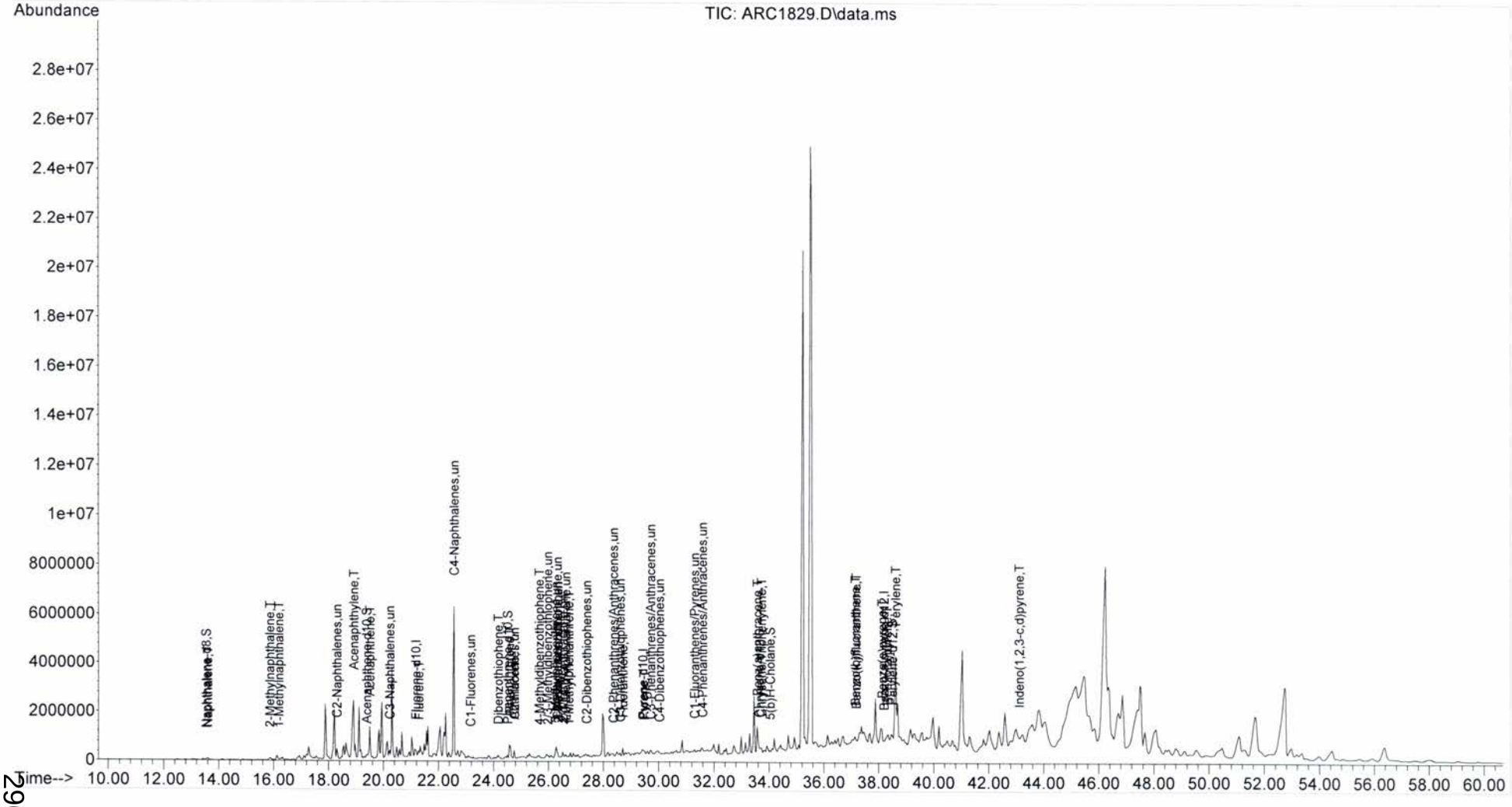
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1829.D
Acq On : 4 Sep 2013 4:31 am
Operator : YM
Sample : SED-DA-019 (0.5-1.0)
Misc :
ALS Vial : 30 Sample Multiplier: 0.06645

Quant Time: Sep 12 06:53:04 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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

Data File Name	ARC1830.D	**Surrogate/Internal Multiplier Factor:**	1.00		
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS60146\	**AR-WKSU-2500-001:**	**(ng/mL)**		
Operator	YM	Naphthalene-d8	250.125		
Date Acquired	9/4/2013 5:40	Acenaphthene-d10	250.163	***Copy data below***	
Acq. Method File	PAH-2012.M	Phenanthrene-d10	250.194	***to Spread Sheet***	
Sample Name	SED-DA-019 (1.0-1.5)	Chrysene-d12	250.038		
Misc Info	0	Perylene-d12	250.031	ARC1830.D	
Instrument Name	GCMS6	5(b)H-Cholane	250.000	SED-DA-019 (1.0-1.5)	
Vial Number	31			9/4/2013	
Sample Multiplier	0.06588			PAH-2012.M	
Sample Amount	0			15.17911354	

#	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	13.60	57428	3.8522	4.2075
9)+10)	C1-Naphthalenes	16.02	35014	2.3487	2.5653
13)	C2-Naphthalenes	18.30	76048	5.1013	5.5717
14)	C3-Naphthalenes	19.87	87473	5.8676	6.4088
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	19.50	2473	0.2969	0.3242
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.26	31562	2.9281	3.1981
28)	C1-Fluorenes	23.16	21137	1.9609	2.1418
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	24.76	8468	0.4704	0.5138
41)	Phenanthrene	24.58	148568	7.9843	8.7206
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.49	116094	6.2391	6.8145
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	24.17	14895	0.9432	1.0301
35)+36)+37)	C1-Dibenzothiophenes	25.97	19588	1.2403	1.3547
38)	C2-Dibenzothiophenes	27.39	21860	1.3842	1.5118
39)	C3-Dibenzothiophenes	29.26	27644	1.7504	1.9119
40)	C4-Dibenzothiophenes	30.82	22525	1.4263	1.5578
58)	Fluoranthene	28.71	67575	3.3598	3.6697
59)	Pyrene	29.47	46070	1.7751	1.9388
62)	C1-Fluoranthenes/Pyrenes	30.61	67471	3.3547	3.6641
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	33.57	43801	1.6256	1.7755
68)	Chrysene/Triphenylene	33.69	103895	4.0900	4.4672
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	37.10	141956	4.7793	5.2201
78)	Benzo(k,j)fluoranthene	37.18	21217	0.7963	0.8697
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.07	64702	2.2391	2.4456
81)	Benzo(a)pyrene	38.23	24754	0.8511	0.9296
89)	Perylene	38.54	4315980	144.2179	157.5185
82)	Indeno(1,2,3-c,d)pyrene	43.03	40761	1.1235	1.2271
83)	Dibenzo(a,h)anthracene	43.25	36813	1.2836	1.4020
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	44.21	31136	0.9812	1.0717

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	15.85	23482	2.4026	2.6242
10)	1-Methylnaphthalene	16.19	11532	1.2664	1.3832
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	25.66	8847	0.6263	0.6841
36)	2/3-Methyldibenzothiophene	25.97	8093	0.5730	0.6258
37)	1-Methyldibenzothiophene	26.28	2648	0.1875	0.2048
43)	3-Methylphenanthrene	26.25	18170	1.2740	1.3915
44)	2-Methylphenanthrene	26.35	23184	1.6256	1.7755
45)	2-Methylanthracene	26.52	56360	3.9518	4.3162
46)	4/9-Methylphenanthrene	26.63	9493	0.6656	0.7270
47)	1-Methylphenanthrene	26.70	8887	0.6231	0.6806
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	13.54	148255	10.62	64.42
21)	Acenaphthene-d10	19.39	98839	12.45	75.55
32)	Phenanthrene-d10	24.51	223431	15.09	91.56
66)	Chrysene-d12	33.61	391225	15.45	93.80
88)	Perylene-d12	38.46	217899	8.35	50.66
90)	5(b)H-Cholane	34.00	92359	21.08	127.98
	Internal Standards				
1)	Fluorene-d10	21.17	135681	16.54	
31)	Pyrene-d10	29.43	299355	16.51	
73)	Benzo(a)pyrene-d12	38.15	381939	16.49	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1830.D
Acq On : 4 Sep 2013 5:40 am
Operator : YM
Sample : SED-DA-019 (1.0-1.5)
Misc :
ALS Vial : 31 Sample Multiplier: 0.06588

Quant Time: Sep 12 06:59:27 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.175	176	135681m	251.05		-0.17
31) Pyrene-d10	29.433	212	299355m	250.63		-0.14
73) Benzo(a)pyrene-d12	38.149	264	381939m	250.32		-0.19
System Monitoring Compounds						
2) Naphthalene-d8	13.540	136	148255m	10.62		-0.14
21) Acenaphthene-d10	19.392	164	98839m	12.45		-0.17
32) Phenanthrene-d10	24.514	188	223431m	15.09		-0.17
66) Chrysene-d12	33.609	240	391225m	15.45		-0.16
88) Perylene-d12	38.459	264	217899m	8.34		-0.19
90) 5(b)H-Cholane	33.997	217	92359m	21.08		-0.16
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	13.595	128	57428m	3.85		
9) 2-Methylnaphthalene	15.853	142	23482m	2.40		
10) 1-Methylnaphthalene	16.187	142	11532m	1.27		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.305	156	76048m	5.10		
14) C3-Naphthalenes	19.865	170	87473m	5.87		
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	19.503	154	2473m	0.30		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.259	166	31562m	2.93		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.163	180	21137m	1.96		
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	24.168	184	14895m	0.94		
35) 4-Methyldibenzothiophene	25.657	198	8847m	0.63		
36) 2/3-Methyldibenzothiop...	25.969	198	8093m	0.57		
37) 1-Methyldibenzothiophene	26.281	198	2648m	0.19		
38) C2-Dibenzothiophenes	27.389	212	21860m	1.38		
39) C3-Dibenzothiophenes	29.260	226	27644m	1.75		
40) C4-Dibenzothiophenes	30.818	240	22525m	1.43		
41) Phenanthrene	24.583	178	148568m	7.98		
42) Anthracene	24.757	178	8468m	0.47		
43) 3-Methylphenanthrene	26.246	192	18170m	1.27		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1830.D
Acq On : 4 Sep 2013 5:40 am
Operator : YM
Sample : SED-DA-019 (1.0-1.5)
Misc :
ALS Vial : 31 Sample Multiplier: 0.06588

Quant Time: Sep 12 06:59:27 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.350	192	23184m	1.63		
45) 2-Methylanthracene	26.523	192	56360m	3.95		
46) 4/9-Methylphenanthrene	26.627	192	9493m	0.67		
47) 1-Methylphenanthrene	26.696	192	8887m	0.62		
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	28.705	202	67575m	3.36		
59) Pyrene	29.468	202	46070m	1.78		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	30.611	216	67471m	3.35		
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	33.570	228	43801m	1.63		
68) Chrysene/Triphenylene	33.686	228	103895m	4.09		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	37.101	252	141956m	4.78		
78) Benzo(k,j)fluoranthene	37.179	252	21217m	0.80		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.071	252	64702m	2.24		
81) Benzo(a)pyrene	38.227	252	24754m	0.85		
82) Indeno(1,2,3-c,d)pyrene	43.031	276	40761m	1.12		
83) Dibenzo(a,h)anthracene	43.252	278	36813m	1.28		
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	44.211	276	31136m	0.98		
89) Perylene	38.537	252	4315977m	144.22		
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	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.		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1830.D
Acq On : 4 Sep 2013 5:40 am
Operator : YM
Sample : SED-DA-019 (1.0-1.5)
Misc :
ALS Vial : 31 Sample Multiplier: 0.06588

Quant Time: Sep 12 06:59:27 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

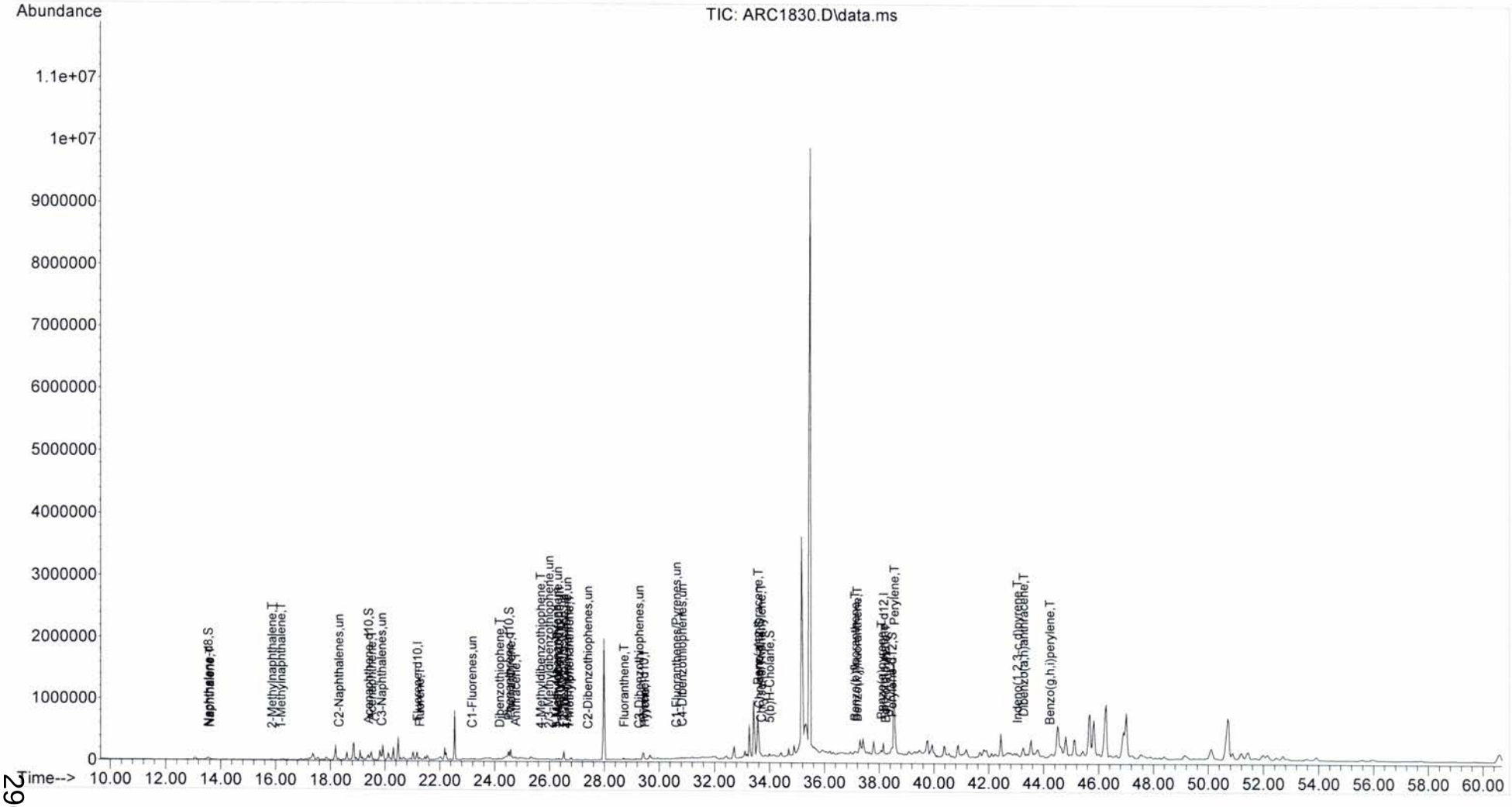
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1830.D
Acq On : 4 Sep 2013 5:40 am
Operator : YM
Sample : SED-DA-019 (1.0-1.5)
Misc :
ALS Vial : 31 Sample Multiplier: 0.06588

Quant Time: Sep 12 06:59:27 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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

Data File Name	ARC1833.D
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS60146\
Operator	YM
Date Acquired	9/4/2013 6:50
Acq. Method File	PAH-2012.M
Sample Name	SO-DA-001 (0-0.5)
Misc Info	0
Instrument Name	GCMS6
Vial Number	32
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

ARC1833.D
SO-DA-001 (0-0.5)
9/4/2013
PAH-2012.M
15.1194436

#	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	13.59	183510	10.5845	11.9547
9)+10)	C1-Naphthalenes	16.02	200994	11.5930	13.0937
13)	C2-Naphthalenes	18.30	385796	22.2520	25.1326
14)	C3-Naphthalenes	20.23	233286	13.4555	15.1974
15)	C4-Naphthalenes	22.54	801160	46.2095	52.1914
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	18.89	18330	1.0559	1.1926
24)	Acenaphthene	19.50	4825	0.4980	0.5625
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.26	165192	13.1774	14.8832
28)	C1-Fluorenes	23.27	72023	5.7453	6.4890
29)	C2-Fluorenes	25.14	121374	9.6820	10.9354
30)	C3-Fluorenes	27.35	149961	11.9624	13.5110
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.76	21211	1.1397	1.2873
41)	Phenanthrene	24.58	736092	38.2636	43.2170
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.49	269992	14.0348	15.8516
50)	C2-Phenanthrenes/Anthracenes	27.98	223884	11.6380	13.1446
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.13	34369	2.1050	2.3775
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	28.71	207713	9.9895	11.2826
59)	Pyrene	29.47	188898	7.0399	7.9512
62)	C1-Fluoranthenes/Pyrenes	31.30	178146	8.5675	9.6766
63)	C2-Fluoranthenes/Pyrenes	32.37	230436	11.0822	12.5168
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	33.57	116226	4.1722	4.7123
68)	Chrysene/Triphenylene	33.72	179140	6.8213	7.7044
69)	C1-Chrysenes	34.93	166876	6.3543	7.1769
70)	C2-Chrysenes	36.36	148581	5.6577	6.3901
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.10	197662	8.7702	9.9056
78)	Benzo(k,j)fluoranthene	37.18	54040	2.6729	3.0189
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.03	111495	5.0849	5.7431
81)	Benzo(a)pyrene	38.23	45144	2.0457	2.3105
89)	Perylene	38.54	22335	0.9836	1.1109
82)	Indeno(1,2,3-c,d)pyrene	42.81	103480	3.7587	4.2453
83)	Dibenzo(a,h)anthracene	42.88	36255	1.6660	1.8817
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	44.17	86279	3.5833	4.0472

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	15.85	139988	12.3157	13.9100
10)	1-Methylnaphthalene	16.19	61006	5.7606	6.5064
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	26.25	59401	4.0286	4.5501
44)	2-Methylphenanthrene	26.35	70835	4.8041	5.4260
45)	2-Methylanthracene	26.52	57146	3.8757	4.3774
46)	4/9-Methylphenanthrene	26.63	40058	2.7168	3.0685
47)	1-Methylphenanthrene	26.70	42552	2.8859	3.2595
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	13.59	253714	15.62	94.42
21)	Acenaphthene-d10	19.39	85974	9.31	56.28
32)	Phenanthrene-d10	24.51	224262	14.65	88.54
66)	Chrysene-d12	33.65	321796	12.29	74.33
88)	Perylene-d12	38.46	4033	0.20	1.23
90)	5(b)H-Cholane	33.96	176232	53.01	320.57
	Internal Standards				
1)	Fluorene-d10	21.17	158419	16.60	
31)	Pyrene-d10	29.40	310709	16.58	
73)	Benzo(a)pyrene-d12	38.15	290957	16.56	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1833.D
Acq On : 4 Sep 2013 6:50 am
Operator : YM
Sample : SO-DA-001 (0-0.5)
Misc :
ALS Vial : 32 Sample Multiplier: 0.06614

Quant Time: Sep 12 07:07:05 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.174	176	158419m	251.05		-0.17
31) Pyrene-d10	29.398	212	310709m	250.63		-0.17
73) Benzo(a)pyrene-d12	38.148	264	290957m	250.32		-0.19
System Monitoring Compounds						
2) Naphthalene-d8	13.594	136	253714m	15.62		-0.08
21) Acenaphthene-d10	19.390	164	85974m	9.31		-0.17
32) Phenanthrene-d10	24.514	188	224262m	14.65		-0.17
66) Chrysene-d12	33.647	240	321796m	12.29		-0.12
88) Perylene-d12	38.459	264	4033m	0.20		-0.19
90) 5(b)H-Cholane	33.957	217	176232m	53.01		-0.19
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	13.594	128	183510m	10.58		
9) 2-Methylnaphthalene	15.851	142	139988m	12.32		
10) 1-Methylnaphthalene	16.186	142	61006m	5.76		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.304	156	385796m	22.25		
14) C3-Naphthalenes	20.226	170	233286m	13.46		
15) C4-Naphthalenes	22.539	184	801160m	46.21		
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	18.889	152	18330m	1.06		
24) Acenaphthene	19.502	154	4825m	0.50		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.257	166	165192m	13.18		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.267	180	72023m	5.75		
29) C2-Fluorenes	25.137	194	121374m	9.68		
30) C3-Fluorenes	27.354	208	149961m	11.96		
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.133	184	34369m	2.10		
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	24.583	178	736092m	38.26		
42) Anthracene	24.756	178	21211m	1.14		
43) 3-Methylphenanthrene	26.246	192	59401m	4.03		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1833.D
Acq On : 4 Sep 2013 6:50 am
Operator : YM
Sample : SO-DA-001 (0-0.5)
Misc :
ALS Vial : 32 Sample Multiplier: 0.06614

Quant Time: Sep 12 07:07:05 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.350	192	70835m	4.80		
45) 2-Methylanthracene	26.523	192	57146m	3.88		
46) 4/9-Methylphenanthrene	26.627	192	40058m	2.72		
47) 1-Methylphenanthrene	26.696	192	42552m	2.89		
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	27.978	206	223884m	11.64		
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	28.705	202	207713m	9.99		
59) Pyrene	29.467	202	188898m	7.04		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	31.303	216	178146m	8.57		
63) C2-Fluoranthenes/Pyrenes	32.366	230	230436m	11.08		
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.569	228	116226m	4.17		
68) Chrysene/Triphenylene	33.725	228	179140m	6.82		
69) C1-Chrysenes	34.928	242	166876m	6.35		
70) C2-Chrysenes	36.363	256	148581m	5.66		
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	37.101	252	197662m	8.77		
78) Benzo(k,j)fluoranthene	37.178	252	54040m	2.67		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.032	252	111495m	5.08		
81) Benzo(a)pyrene	38.226	252	45144m	2.05		
82) Indeno(1,2,3-c,d)pyrene	42.809	276	103480m	3.76		
83) Dibenzo(a,h)anthracene	42.883	278	36255m	1.67		
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	44.174	276	86279m	3.58		
89) Perylene	38.536	252	22335m	0.98		
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\MS60146\
Data File : ARC1833.D
Acq On : 4 Sep 2013 6:50 am
Operator : YM
Sample : SO-DA-001 (0-0.5)
Misc :
ALS Vial : 32 Sample Multiplier: 0.06614

Quant Time: Sep 12 07:07:05 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

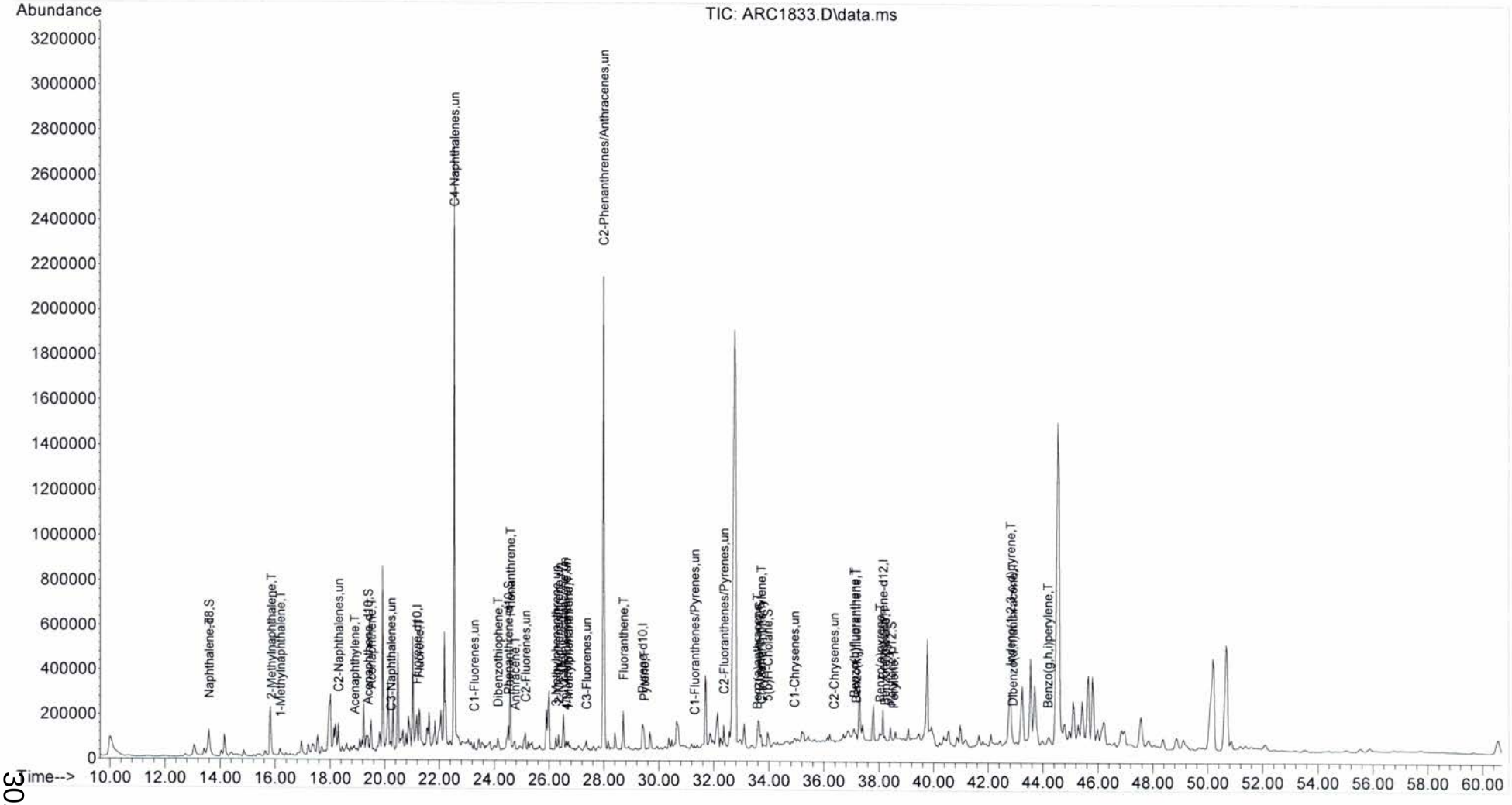
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1833.D
Acq On : 4 Sep 2013 6:50 am
Operator : YM
Sample : SO-DA-001 (0-0.5)
Misc :
ALS Vial : 32 Sample Multiplier: 0.06614

Quant Time: Sep 12 07:07:05 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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

Data File Name	ARC1834.D	**Surrogate/Internal Multiplier Factor:**	1.00		
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS60146\	**AR-WKSU-2500-001:**	**(ng/mL)**		
Operator	YM	Naphthalene-d8	250.125		
Date Acquired	9/4/2013 8:00	Acenaphthene-d10	250.163	***Copy data below***	
Acq. Method File	PAH-2012.M	Phenanthrene-d10	250.194	***to Spread Sheet***	
Sample Name	SO-DA-001 (0.5-1.0)	Chrysene-d12	250.038		
Misc Info	0	Perylene-d12	250.031	ARC1834.D	
Instrument Name	GCMS6	5(b)H-Cholane	250.000	SO-DA-001 (0.5-1.0)	
Vial Number	33			9/4/2013	
Sample Multiplier	0.0664			PAH-2012.M	
Sample Amount	0			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	13.59	186678	11.5229	13.3898
9)+10)	C1-Naphthalenes	16.02	150010	9.2595	10.7597
13)	C2-Naphthalenes	18.30	229781	14.1834	16.4815
14)	C3-Naphthalenes	21.17	132249	8.1631	9.4858
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	18.89	8666	0.5342	0.6208
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.26	82241	7.0207	8.1583
28)	C1-Fluorenes	23.27	31755	2.7109	3.1501
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	24.76	6891	0.3810	0.4427
41)	Phenanthrene	24.58	363214	19.4274	22.5751
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.49	162810	8.7083	10.1192
50)	C2-Phenanthrenes/Anthracenes	27.98	164264	8.7860	10.2096
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.13	19522	1.2303	1.4296
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	28.71	87384	4.3242	5.0248
59)	Pyrene	29.47	65709	2.5198	2.9280
62)	C1-Fluoranthenes/Pyrenes	30.61	69972	3.4626	4.0236
63)	C2-Fluoranthenes/Pyrenes	32.37	111118	5.4987	6.3896
64)	C3-Fluoranthenes/Pyrenes	34.58	56966	2.8190	3.2757
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	33.57	41270	1.5244	1.7714
68)	Chrysene/Triphenylene	33.69	69994	2.7424	3.1868
69)	C1-Chrysenes	34.93	77141	3.0224	3.5122
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	37.10	106101	4.8139	5.5939
78)	Benzo(k,j)fluoranthene	37.18	23795	1.2035	1.3985
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.03	60310	2.8126	3.2683
81)	Benzo(a)pyrene	38.23	19307	0.8946	1.0396
89)	Perylene	0.00	0	0.0000	0.0000
82)	Indeno(1,2,3-c,d)pyrene	42.81	66250	2.4607	2.8594
83)	Dibenzo(a,h)anthracene	43.21	9288	0.4364	0.5072
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	44.17	51022	2.1669	2.5179

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	15.85	104789	9.8659	11.4644
10)	1-Methylnaphthalene	16.19	45221	4.5698	5.3102
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	26.25	32317	2.2552	2.6206
44)	2-Methylphenanthrene	26.35	38676	2.6990	3.1363
45)	2-Methylanthracene	26.52	52039	3.6315	4.2199
46)	4/9-Methylphenanthrene	26.63	18458	1.2881	1.4968
47)	1-Methylphenanthrene	26.70	21320	1.4878	1.7289
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	13.54	185858	12.25	73.73
21)	Acenaphthene-d10	19.39	66517	7.71	46.42
32)	Phenanthrene-d10	24.51	212674	14.30	86.06
66)	Chrysene-d12	33.61	314961	12.38	74.57
88)	Perylene-d12	38.42	2571	0.13	0.80
90)	5(b)H-Cholane	34.00	55446	17.05	102.73
	Internal Standards				
1)	Fluorene-d10	21.17	148613	16.67	
31)	Pyrene-d10	29.40	303152	16.64	
73)	Benzo(a)pyrene-d12	38.15	285656	16.62	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1834.D
Acq On : 4 Sep 2013 8:00 am
Operator : YM
Sample : SO-DA-001 (0.5-1.0)
Misc :
ALS Vial : 33 Sample Multiplier: 0.0664

Quant Time: Sep 12 07:13:08 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.174	176	148613m	251.05		-0.17
31) Pyrene-d10	29.398	212	303152m	250.63		-0.17
73) Benzo(a)pyrene-d12	38.148	264	285656m	250.32		-0.19
System Monitoring Compounds						
2) Naphthalene-d8	13.539	136	185858m	12.25		-0.14
21) Acenaphthene-d10	19.390	164	66517m	7.71		-0.17
32) Phenanthrene-d10	24.514	188	212674m	14.30		-0.17
66) Chrysene-d12	33.608	240	314961m	12.38		-0.16
88) Perylene-d12	38.420	264	2571m	0.13		-0.23
90) 5(b)H-Cholane	33.996	217	55446m	17.05		-0.16
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	13.594	128	186678m	11.52		
9) 2-Methylnaphthalene	15.851	142	104789m	9.87		
10) 1-Methylnaphthalene	16.186	142	45221m	4.57		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.304	156	229781m	14.18		
14) C3-Naphthalenes	21.174	170	132249m	8.16		
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	18.889	152	8666m	0.53		
24) Acenaphthene	0.000		0	N.D.	d	
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.257	166	82241m	7.02		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.267	180	31755m	2.71		
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	24.133	184	19522m	1.23		
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	24.583	178	363214m	19.43		
42) Anthracene	24.756	178	6891m	0.38		
43) 3-Methylphenanthrene	26.246	192	32317m	2.26		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1834.D
Acq On : 4 Sep 2013 8:00 am
Operator : YM
Sample : SO-DA-001 (0.5-1.0)
Misc :
ALS Vial : 33 Sample Multiplier: 0.0664

Quant Time: Sep 12 07:13:08 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.350	192	38676m	2.70		
45) 2-Methylanthracene	26.523	192	52039m	3.63		
46) 4/9-Methylphenanthrene	26.627	192	18458m	1.29		
47) 1-Methylphenanthrene	26.696	192	21320m	1.49		
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	27.978	206	164264m	8.79		
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	28.705	202	87384m	4.32		
59) Pyrene	29.467	202	65709m	2.52		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	30.610	216	69972m	3.46		
63) C2-Fluoranthenes/Pyrenes	32.366	230	111118m	5.50		
64) C3-Fluoranthenes/Pyrenes	34.578	244	56966m	2.82		
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.569	228	41270m	1.52		
68) Chrysene/Triphenylene	33.685	228	69994m	2.74		
69) C1-Chrysenes	34.927	242	77141m	3.02		
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	37.100	252	106101m	4.81		
78) Benzo(k,j)fluoranthene	37.178	252	23795m	1.20		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.032	252	60310m	2.81		
81) Benzo(a)pyrene	38.226	252	19307m	0.89		
82) Indeno(1,2,3-c,d)pyrene	42.809	276	66250m	2.46		
83) Dibenzo(a,h)anthracene	43.214	278	9288m	0.44		
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	44.173	276	51022m	2.17		
89) Perylene	0.000		0	N.D.	d	
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1834.D
Acq On : 4 Sep 2013 8:00 am
Operator : YM
Sample : SO-DA-001 (0.5-1.0)
Misc :
ALS Vial : 33 Sample Multiplier: 0.0664

Quant Time: Sep 12 07:13:08 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

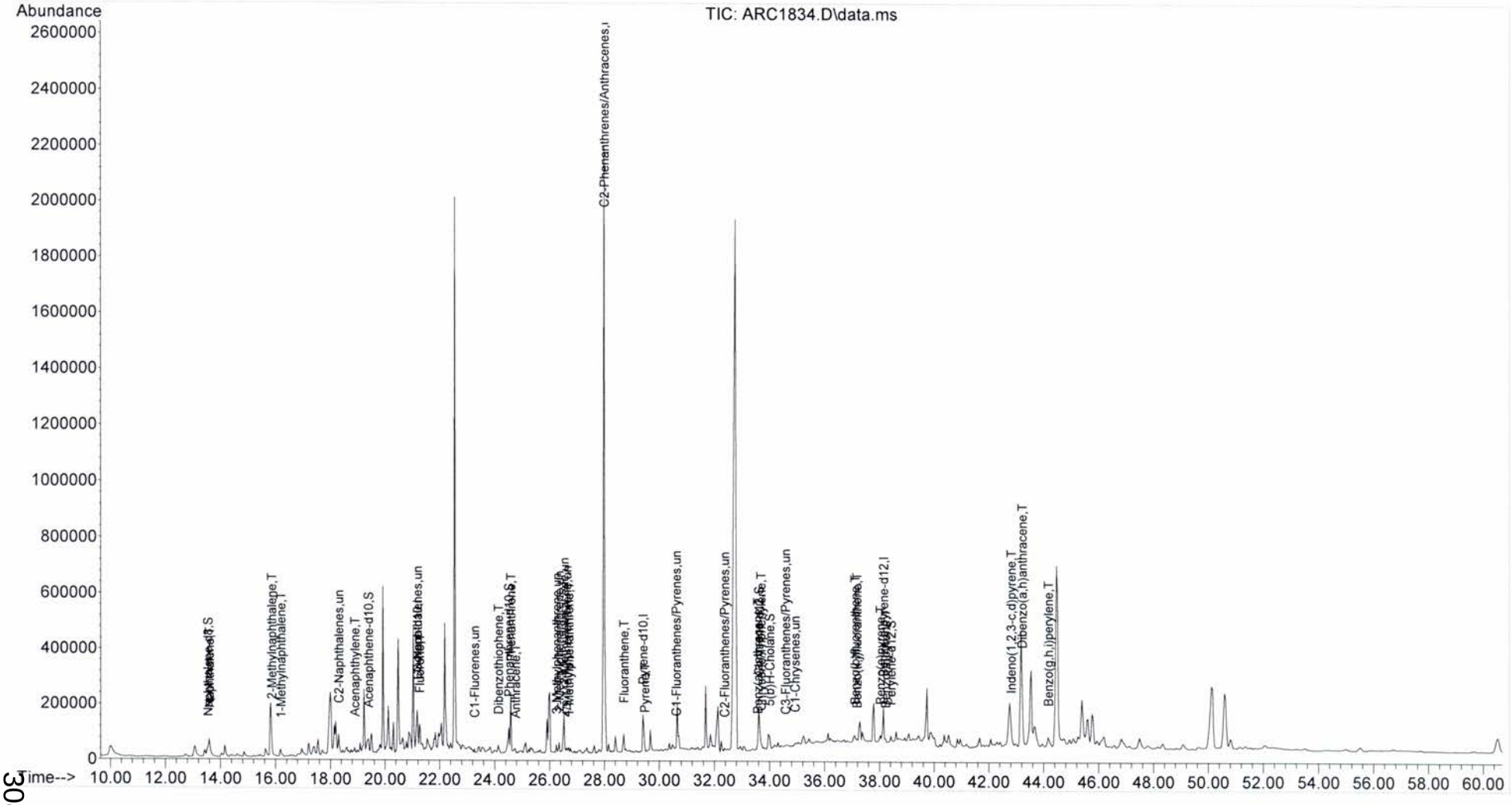
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1834.D
Acq On : 4 Sep 2013 8:00 am
Operator : YM
Sample : SO-DA-001 (0.5-1.0)
Misc :
ALS Vial : 33 Sample Multiplier: 0.0664

Quant Time: Sep 12 07:13:08 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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

Data File Name	ARC1835.D	**Surrogate/Internal Multiplier Factor:**	1.00		
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS60146\	**AR-WKSU-2500-001:**	**(ng/mL)**		
Operator	YM	Naphthalene-d8	250.125		
Date Acquired	9/4/2013 9:10	Acenaphthene-d10	250.163	***Copy data below***	
Acq. Method File	PAH-2012.M	Phenanthrene-d10	250.194	***to Spread Sheet***	
Sample Name	SO-DA-001 (1.0-1.5)	Chrysene-d12	250.038		
Misc Info	0	Perylene-d12	250.031	ARC1835.D	
Instrument Name	GCMS6	5(b)H-Cholane	250.000	SO-DA-001 (1.0-1.5)	
Vial Number	34			9/4/2013	
Sample Multiplier	0.06605			PAH-2012.M	
Sample Amount	0			15.14004542	

#	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	13.60	57833	3.6708	4.4603
9)+10)	C1-Naphthalenes	16.01	40905	2.5964	3.1548
13)	C2-Naphthalenes	18.30	74979	4.7592	5.7827
14)	C3-Naphthalenes	20.14	73075	4.6383	5.6359
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	24.76	3382	0.1796	0.2183
41)	Phenanthrene	24.58	79827	4.1016	4.9838
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.49	92682	4.7621	5.7863
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	24.13	6058	0.3667	0.4456
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	28.71	21197	1.0076	1.2243
59)	Pyrene	29.47	12038	0.4434	0.5388
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	33.57	7681	0.2725	0.3312
68)	Chrysene/Triphenylene	33.69	25901	0.9749	1.1845
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	37.06	25272	0.9496	1.1539
78)	Benzo(k,j)fluoranthene	37.14	3281	0.1374	0.1670
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.03	13199	0.5098	0.6194
81)	Benzo(a)pyrene	38.23	2274	0.0873	0.1060
89)	Perylene	0.00	0	0.0000	0.0000
82)	Indeno(1,2,3-c,d)pyrene	42.81	12117	0.3727	0.4529
83)	Dibenzo(a,h)anthracene	42.85	3111	0.1211	0.1471
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	44.14	6331	0.2227	0.2706

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	15.85	27437	2.6563	3.2276
10)	1-Methylnaphthalene	16.16	13468	1.3995	1.7005
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	26.25	10588	0.7098	0.8624
44)	2-Methylphenanthrene	26.35	15369	1.0303	1.2519
45)	2-Methylanthracene	26.52	52746	3.5359	4.2964
46)	4/9-Methylphenanthrene	26.63	5718	0.3833	0.4658
47)	1-Methylphenanthrene	26.70	8261	0.5538	0.6729
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	13.54	161040	10.91	66.04
21)	Acenaphthene-d10	19.39	79273	9.45	57.19
32)	Phenanthrene-d10	24.51	210609	13.60	82.30
66)	Chrysene-d12	33.61	366436	13.84	83.78
88)	Perylene-d12	38.42	508	0.02	0.13
90)	5(b)H-Cholane	34.00	88783	22.62	136.96
	Internal Standards				
1)	Fluorene-d10	21.17	143760	16.58	
31)	Pyrene-d10	29.40	313914	16.55	
73)	Benzo(a)pyrene-d12	38.15	343085	16.53	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1835.D
Acq On : 4 Sep 2013 9:10 am
Operator : YM
Sample : SO-DA-001 (1.0-1.5)
Misc :
ALS Vial : 34 Sample Multiplier: 0.06605

Quant Time: Sep 12 07:19:07 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.175	176	143760m	251.05		-0.17
31) Pyrene-d10	29.398	212	313914m	250.63		-0.17
73) Benzo(a)pyrene-d12	38.148	264	343085m	250.32		-0.19
System Monitoring Compounds						
2) Naphthalene-d8	13.539	136	161040m	10.91		-0.14
21) Acenaphthene-d10	19.391	164	79273m	9.45		-0.17
32) Phenanthrene-d10	24.514	188	210609m	13.60		-0.17
66) Chrysene-d12	33.608	240	366436m	13.84		-0.16
88) Perylene-d12	38.420	264	508m	0.02		-0.23
90) 5(b)H-Cholane	33.996	217	88783m	22.62		-0.16
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	13.595	128	57833m	3.67		
9) 2-Methylnaphthalene	15.852	142	27437m	2.66		
10) 1-Methylnaphthalene	16.159	142	13468m	1.40		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.304	156	74979m	4.76		
14) C3-Naphthalenes	20.144	170	73075m	4.64		
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	24.133	184	6058m	0.37		
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	24.583	178	79827m	4.10		
42) Anthracene	24.756	178	3382m	0.18		
43) 3-Methylphenanthrene	26.246	192	10588m	0.71		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1835.D
Acq On : 4 Sep 2013 9:10 am
Operator : YM
Sample : SO-DA-001 (1.0-1.5)
Misc :
ALS Vial : 34 Sample Multiplier: 0.06605

Quant Time: Sep 12 07:19:07 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.350	192	15369m	1.03		
45)	2-Methylanthracene	26.523	192	52746m	3.54		
46)	4/9-Methylphenanthrene	26.627	192	5718m	0.38		
47)	1-Methylphenanthrene	26.696	192	8261m	0.55		
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	28.705	202	21197m	1.01		
59)	Pyrene	29.467	202	12038m	0.44		
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	33.569	228	7681m	0.27		
68)	Chrysene/Triphenylene	33.685	228	25901m	0.97		
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	0.000		0	N.D.	d	
77)	Benzo(b)fluoranthene	37.062	252	25272m	0.95		
78)	Benzo(k,j)fluoranthene	37.139	252	3281m	0.14		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.032	252	13199m	0.51		
81)	Benzo(a)pyrene	38.226	252	2274m	0.09		
82)	Indeno(1,2,3-c,d)pyrene	42.809	276	12117m	0.37		
83)	Dibenzo(a,h)anthracene	42.846	278	3111m	0.12		
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	44.137	276	6331m	0.22		
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\MS60146\
Data File : ARC1835.D
Acq On : 4 Sep 2013 9:10 am
Operator : YM
Sample : SO-DA-001 (1.0-1.5)
Misc :
ALS Vial : 34 Sample Multiplier: 0.06605

Quant Time: Sep 12 07:19:07 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

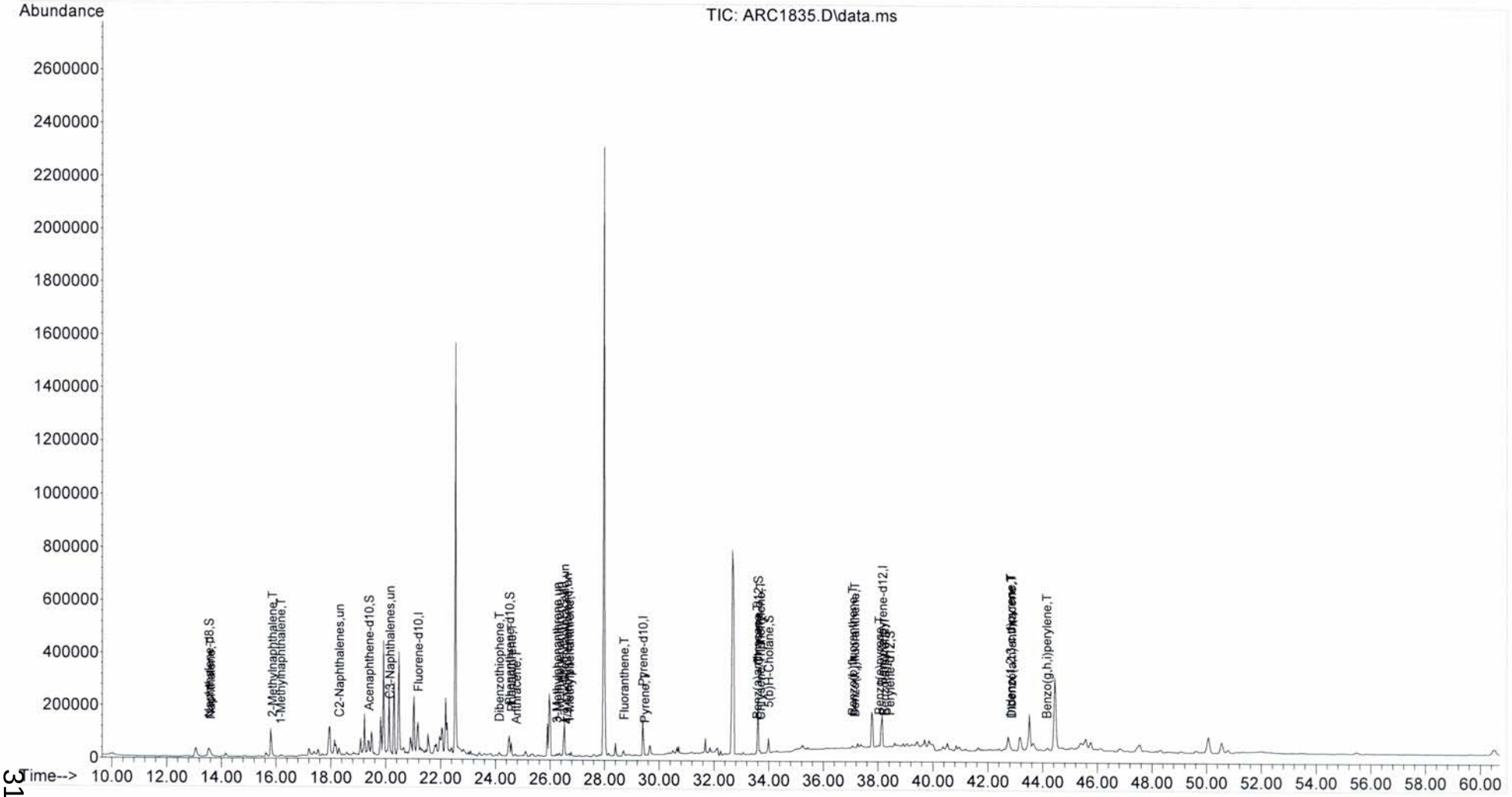
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1835.D
Acq On : 4 Sep 2013 9:10 am
Operator : YM
Sample : SO-DA-001 (1.0-1.5)
Misc :
ALS Vial : 34 Sample Multiplier: 0.06605

Quant Time: Sep 12 07:19:07 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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

Data File Name	ARC1839.D
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS60146\
Operator	YM
Date Acquired	9/4/2013 10:20
Acq. Method File	PAH-2012.M
Sample Name	SO-DA-002 (0.5-1.0)
Misc Info	0
Instrument Name	GCMS6
Vial Number	35
Sample Multiplier	0.06631
Sample Amount	0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ARC1839.D
SO-DA-002 (0.5-1.0)
9/4/2013
PAH-2012.M
15.08068165

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.60	208689	14.3459	18.5299
9)+10)	C1-Naphthalenes	16.01	184675	12.6951	16.3976
13)	C2-Naphthalenes	17.97	317591	21.8321	28.1994
14)	C3-Naphthalenes	20.56	302171	20.7721	26.8303
15)	C4-Naphthalenes	22.54	126695	8.7094	11.2494
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	18.89	13247	0.9095	1.1747
24)	Acenaphthene	19.48	11288	1.3887	1.7937
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.26	162634	15.4621	19.9716
28)	C1-Fluorenes	23.16	78318	7.4459	9.6176
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	24.76	10089	0.5269	0.6806
41)	Phenanthrene	24.58	722335	36.4985	47.1433
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.49	251444	12.7051	16.4105
50)	C2-Phenanthrenes/Anthracenes	27.98	196527	9.9302	12.8263
51)	C3-Phenanthrenes/Anthracenes	29.71	79703	4.0273	5.2018
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.13	49375	2.9395	3.7968
35)+36)+37)	C1-Dibenzothiophenes	25.96	36820	2.1920	2.8314
38)	C2-Dibenzothiophenes	27.39	45162	2.6887	3.4728
39)	C3-Dibenzothiophenes	29.26	27002	1.6075	2.0764
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.71	131655	6.1545	7.9495
59)	Pyrene	29.47	80983	2.9337	3.7893
62)	C1-Fluoranthenes/Pyrenes	30.61	53408	2.4967	3.2249
63)	C2-Fluoranthenes/Pyrenes	33.06	65770	3.0746	3.9713
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	33.57	18096	0.6314	0.8156
68)	Chrysene/Triphenylene	33.68	57449	2.1264	2.7465
69)	C1-Chrysenes	35.04	44416	1.6440	2.1235
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	37.06	71103	3.7567	4.8523
78)	Benzo(k,j)fluoranthene	37.18	9219	0.5430	0.7013
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.03	35437	1.9245	2.4857
81)	Benzo(a)pyrene	38.22	8582	0.4631	0.5981
89)	Perylene	38.54	2717	0.1425	0.1840
82)	Indeno(1,2,3-c,d)pyrene	42.81	25490	1.1025	1.4241
83)	Dibenzo(a,h)anthracene	42.85	7695	0.4211	0.5439
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	44.14	29432	1.4556	1.8801

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	15.85	130908	13.7262	17.7294
10)	1-Methylnaphthalene	16.16	53767	6.0510	7.8158
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	25.66	18007	1.1986	1.5482
36)	2/3-Methyldibenzothiophene	25.94	13375	0.8903	1.1500
37)	1-Methyldibenzothiophene	26.28	5438	0.3620	0.4675
43)	3-Methylphenanthrene	26.25	60974	4.0197	5.1920
44)	2-Methylphenanthrene	26.35	68202	4.4962	5.8075
45)	2-Methylanthracene	26.52	49331	3.2521	4.2006
46)	4/9-Methylphenanthrene	26.63	36678	2.4180	3.1232
47)	1-Methylphenanthrene	26.70	36259	2.3903	3.0875
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	13.54	158158	11.61	69.97
21)	Acenaphthene-d10	19.36	107456	13.87	83.63
32)	Phenanthrene-d10	24.51	202261	12.84	77.42
66)	Chrysene-d12	33.61	277388	10.30	62.12
88)	Perylene-d12	38.42	34841	2.09	12.63
90)	5(b)H-Cholane	33.99	94896	33.99	205.02
	Internal Standards				
1)	Fluorene-d10	21.15	133262	16.65	
31)	Pyrene-d10	29.40	320470	16.62	
73)	Benzo(a)pyrene-d12	38.15	244971	16.60	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1839.D
Acq On : 4 Sep 2013 10:20 am
Operator : YM
Sample : SO-DA-002 (0.5-1.0)
Misc :
ALS Vial : 35 Sample Multiplier: 0.06631

Quant Time: Sep 12 07:25:05 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.147	176	133262m	251.05		-0.19
31) Pyrene-d10	29.399	212	320470m	250.63		-0.17
73) Benzo(a)pyrene-d12	38.147	264	244971m	250.32		-0.20
System Monitoring Compounds						
2) Naphthalene-d8	13.540	136	158158m	11.61		-0.14
21) Acenaphthene-d10	19.364	164	107456m	13.87		-0.19
32) Phenanthrene-d10	24.515	188	202261m	12.84		-0.17
66) Chrysene-d12	33.607	240	277388m	10.30		-0.16
88) Perylene-d12	38.419	264	34841m	2.09		-0.23
90) 5(b)H-Cholane	33.995	217	94896m	33.99		-0.16
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	13.595	128	208689m	14.35		
9) 2-Methylnaphthalene	15.853	142	130908m	13.73		
10) 1-Methylnaphthalene	16.159	142	53767m	6.05		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	17.970	156	317591m	21.83		
14) C3-Naphthalenes	20.562	170	302171m	20.77		
15) C4-Naphthalenes	22.540	184	126695m	8.71		
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	18.890	152	13247m	0.91		
24) Acenaphthene	19.475	154	11288m	1.39		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.259	166	162634m	15.46		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.164	180	78318m	7.45		
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	24.134	184	49375m	2.94		
35) 4-Methyldibenzothiophene	25.658	198	18007m	1.20		
36) 2/3-Methyldibenzothiop...	25.935	198	13375m	0.89		
37) 1-Methyldibenzothiophene	26.281	198	5438m	0.36		
38) C2-Dibenzothiophenes	27.390	212	45162m	2.69		
39) C3-Dibenzothiophenes	29.260	226	27002m	1.61		
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.584	178	722335m	36.50		
42) Anthracene	24.757	178	10089m	0.53		
43) 3-Methylphenanthrene	26.247	192	60974m	4.02		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1839.D
Acq On : 4 Sep 2013 10:20 am
Operator : YM
Sample : SO-DA-002 (0.5-1.0)
Misc :
ALS Vial : 35 Sample Multiplier: 0.06631

Quant Time: Sep 12 07:25:05 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.351	192	68202m	4.50		
45)	2-Methylanthracene	26.524	192	49331m	3.25		
46)	4/9-Methylphenanthrene	26.628	192	36678m	2.42		
47)	1-Methylphenanthrene	26.697	192	36259m	2.39		
48)	3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49)	Retene	0.000		0	N.D.	d	
50)	C2-Phenanthrenes/Anthr...	27.979	206	196527m	9.93		
51)	C3-Phenanthrenes/Anthr...	29.711	220	79703m	4.03		
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	28.706	202	131655m	6.15		
59)	Pyrene	29.468	202	80983m	2.93		
60)	2-Methylfluoranthene	0.000		0	N.D.	d	
61)	Benzo(b)fluorene	0.000		0	N.D.	d	
62)	C1-Fluoranthenes/Pyrenes	30.611	216	53408m	2.50		
63)	C2-Fluoranthenes/Pyrenes	33.063	230	65770m	3.07		
64)	C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65)	C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67)	Benz(a)anthracene	33.568	228	18096m	0.63		
68)	Chrysene/Triphenylene	33.684	228	57449m	2.13		
69)	C1-Chrysenes	35.042	242	44416m	1.64		
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	37.060	252	71103m	3.76		
78)	Benzo(k,j)fluoranthene	37.177	252	9219m	0.54		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.030	252	35437m	1.92		
81)	Benzo(a)pyrene	38.225	252	8582m	0.46		
82)	Indeno(1,2,3-c,d)pyrene	42.810	276	25490m	1.10		
83)	Dibenzo(a,h)anthracene	42.847	278	7695m	0.42		
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87)	Benzo(g,h,i)perylene	44.138	276	29432m	1.46		
89)	Perylene	38.535	252	2717m	0.14		
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\MS60146\
Data File : ARC1839.D
Acq On : 4 Sep 2013 10:20 am
Operator : YM
Sample : SO-DA-002 (0.5-1.0)
Misc :
ALS Vial : 35 Sample Multiplier: 0.06631

Quant Time: Sep 12 07:25:05 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

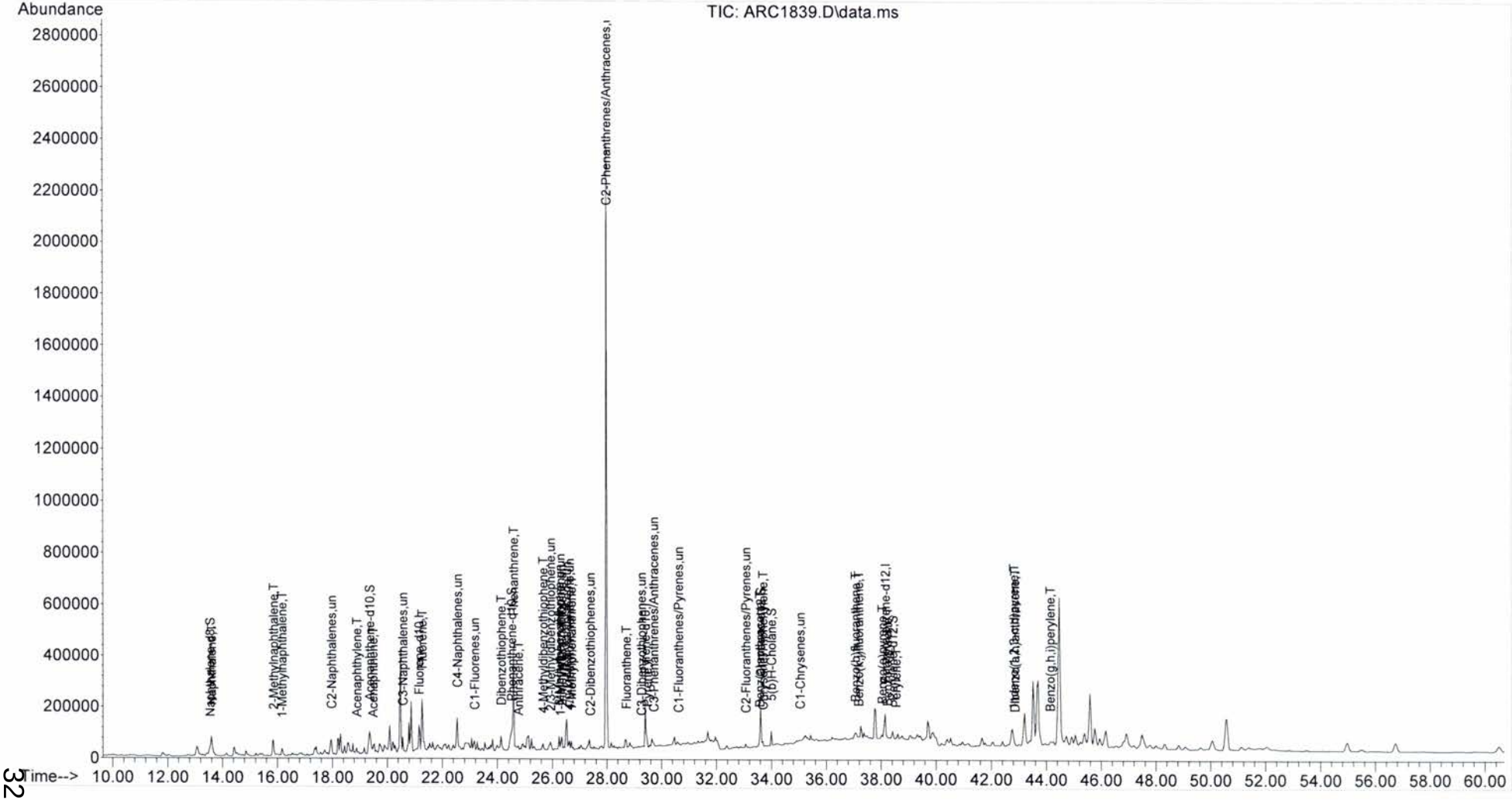
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1839.D
Acq On : 4 Sep 2013 10:20 am
Operator : YM
Sample : SO-DA-002 (0.5-1.0)
Misc :
ALS Vial : 35 Sample Multiplier: 0.06631

Quant Time: Sep 12 07:25:05 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



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

Data File Name	ARC1840.D
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS60146\
Operator	YM
Date Acquired	9/4/2013 11:30
Acq. Method File	PAH-2012.M
Sample Name	SO-DA-002 (1.0-1.5)
Misc Info	0
Instrument Name	GCMS6
Vial Number	36
Sample Multiplier	0.06605
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

ARC1840.D
SO-DA-002 (1.0-1.5)
9/4/2013
PAH-2012.M
15.14004542

#	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	13.59	98858	7.4300	9.2064
9)+10)	C1-Naphthalenes	16.01	91420	6.8709	8.5137
13)	C2-Naphthalenes	18.30	161978	12.1739	15.0845
14)	C3-Naphthalenes	19.86	204461	15.3668	19.0408
15)	C4-Naphthalenes	21.29	162975	12.2488	15.1774
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	18.89	13704	1.0287	1.2746
24)	Acenaphthene	19.47	5938	0.7987	0.9896
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.26	76858	7.9890	9.8991
28)	C1-Fluorenes	23.27	37765	3.9255	4.8640
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	24.76	21774	1.2471	1.5453
41)	Phenanthrene	24.58	386971	21.4417	26.5681
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.49	201805	11.1818	13.8552
50)	C2-Phenanthrenes/Anthracenes	27.98	193029	10.6955	13.2527
51)	C3-Phenanthrenes/Anthracenes	30.47	83649	4.6349	5.7431
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.13	22298	1.4557	1.8038
35)+36)+37)	C1-Dibenzothiophenes	25.96	28290	1.8469	2.2885
38)	C2-Dibenzothiophenes	27.39	26262	1.7145	2.1244
39)	C3-Dibenzothiophenes	28.57	27260	1.7797	2.2052
40)	C4-Dibenzothiophenes	30.44	16666	1.0880	1.3482
58)	Fluoranthene	28.71	130517	6.6907	8.2903
59)	Pyrene	29.47	110043	4.3714	5.4166
62)	C1-Fluoranthenes/Pyrenes	30.61	85371	4.3764	5.4227
63)	C2-Fluoranthenes/Pyrenes	33.06	115768	5.9346	7.3535
64)	C3-Fluoranthenes/Pyrenes	33.76	69165	3.5456	4.3933
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	33.57	47160	1.8045	2.2360
68)	Chrysene/Triphenylene	33.69	112205	4.5542	5.6431
69)	C1-Chrysenes	34.93	87285	3.5428	4.3898
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	37.06	183265	7.8666	9.7473
78)	Benzo(k,j)fluoranthene	37.14	25043	1.1983	1.4848
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.03	82835	3.6548	4.5286
81)	Benzo(a)pyrene	38.23	48937	2.1453	2.6582
89)	Perylene	38.54	16529	0.7042	0.8725
82)	Indeno(1,2,3-c,d)pyrene	43.03	38649	1.3581	1.6828
83)	Dibenzo(a,h)anthracene	42.88	20935	0.9307	1.1532
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	44.17	67864	2.7267	3.3786

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	15.85	59416	6.8113	8.4398
10)	1-Methylnaphthalene	16.16	32004	3.9379	4.8794
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	25.66	10691	0.7804	0.9670
36)	2/3-Methyldibenzothiophene	25.93	11107	0.8107	1.0046
37)	1-Methyldibenzothiophene	26.28	6492	0.4739	0.5872
43)	3-Methylphenanthrene	26.25	43215	3.1241	3.8710
44)	2-Methylphenanthrene	26.35	47434	3.4291	4.2490
45)	2-Methylanthracene	26.52	53750	3.8857	4.8147
46)	4/9-Methylphenanthrene	26.63	28517	2.0615	2.5544
47)	1-Methylphenanthrene	26.70	28889	2.0884	2.5878
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	13.54	152886	12.27	74.24
21)	Acenaphthene-d10	19.36	98932	13.96	84.51
32)	Phenanthrene-d10	24.51	191515	13.34	80.70
66)	Chrysene-d12	33.61	274851	11.19	67.77
88)	Perylene-d12	38.42	267523	13.06	79.10
90)	5(b)H-Cholane	34.00	89107	25.93	157.02
	Internal Standards				
1)	Fluorene-d10	21.15	121410	16.58	
31)	Pyrene-d10	29.40	291096	16.55	
73)	Benzo(a)pyrene-d12	38.15	300344	16.53	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1840.D
Acq On : 4 Sep 2013 11:30 am
Operator : YM
Sample : SO-DA-002 (1.0-1.5)
Misc :
ALS Vial : 36 Sample Multiplier: 0.06605

Quant Time: Sep 12 07:31:26 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.146	176	121410m	251.05		-0.19
31) Pyrene-d10	29.398	212	291096m	250.63		-0.17
73) Benzo(a)pyrene-d12	38.148	264	300344m	250.32		-0.19
System Monitoring Compounds						
2) Naphthalene-d8	13.539	136	152886m	12.27		-0.14
21) Acenaphthene-d10	19.363	164	98932m	13.96		-0.20
32) Phenanthrene-d10	24.514	188	191515m	13.34		-0.17
66) Chrysene-d12	33.608	240	274851m	11.19		-0.16
88) Perylene-d12	38.420	264	267523m	13.06		-0.23
90) 5(b)H-Cholane	33.996	217	89107m	25.93		-0.16
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	13.595	128	98858m	7.43		
9) 2-Methylnaphthalene	15.852	142	59416m	6.81		
10) 1-Methylnaphthalene	16.158	142	32004m	3.94		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.304	156	161978m	12.17		
14) C3-Naphthalenes	19.864	170	204461m	15.37		
15) C4-Naphthalenes	21.286	184	162975m	12.25		
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	18.889	152	13704m	1.03		
24) Acenaphthene	19.474	154	5938m	0.80		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.258	166	76858m	7.99		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.267	180	37765m	3.93		
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	24.133	184	22298m	1.46		
35) 4-Methyldibenzothiophene	25.657	198	10691m	0.78		
36) 2/3-Methyldibenzothiop...	25.934	198	11107m	0.81		
37) 1-Methyldibenzothiophene	26.280	198	6492m	0.47		
38) C2-Dibenzothiophenes	27.389	212	26262m	1.71		
39) C3-Dibenzothiophenes	28.566	226	27260m	1.78		
40) C4-Dibenzothiophenes	30.437	240	16666m	1.09		
41) Phenanthrene	24.583	178	386971m	21.44		
42) Anthracene	24.756	178	21774m	1.25		
43) 3-Methylphenanthrene	26.246	192	43215m	3.12		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1840.D
Acq On : 4 Sep 2013 11:30 am
Operator : YM
Sample : SO-DA-002 (1.0-1.5)
Misc :
ALS Vial : 36 Sample Multiplier: 0.06605

Quant Time: Sep 12 07:31:26 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.349	192	47434m	3.43		
45)	2-Methylanthracene	26.523	192	53750m	3.89		
46)	4/9-Methylphenanthrene	26.627	192	28517m	2.06		
47)	1-Methylphenanthrene	26.696	192	28889m	2.09		
48)	3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49)	Retene	0.000		0	N.D.	d	
50)	C2-Phenanthrenes/Anthr...	27.978	206	193029m	10.70		
51)	C3-Phenanthrenes/Anthr...	30.472	220	83649m	4.63		
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	28.705	202	130517m	6.69		
59)	Pyrene	29.467	202	110043m	4.37		
60)	2-Methylfluoranthene	0.000		0	N.D.	d	
61)	Benzo(b)fluorene	0.000		0	N.D.	d	
62)	C1-Fluoranthenes/Pyrenes	30.610	216	85371m	4.38		
63)	C2-Fluoranthenes/Pyrenes	33.065	230	115768m	5.93		
64)	C3-Fluoranthenes/Pyrenes	33.763	244	69165m	3.55		
65)	C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67)	Benz(a)anthracene	33.569	228	47160m	1.80		
68)	Chrysene/Triphenylene	33.686	228	112205m	4.55		
69)	C1-Chrysenes	34.928	242	87285m	3.54		
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	37.062	252	183265m	7.87		
78)	Benzo(k,j)fluoranthene	37.139	252	25043m	1.20		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.032	252	82835m	3.65		
81)	Benzo(a)pyrene	38.226	252	48937m	2.15		
82)	Indeno(1,2,3-c,d)pyrene	43.031	276	38649m	1.36		
83)	Dibenzo(a,h)anthracene	42.883	278	20935m	0.93		
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87)	Benzo(g,h,i)perylene	44.174	276	67864m	2.73		
89)	Perylene	38.536	252	16529m	0.70		
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\MS60146\
Data File : ARC1840.D
Acq On : 4 Sep 2013 11:30 am
Operator : YM
Sample : SO-DA-002 (1.0-1.5)
Misc :
ALS Vial : 36 Sample Multiplier: 0.06605

Quant Time: Sep 12 07:31:26 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

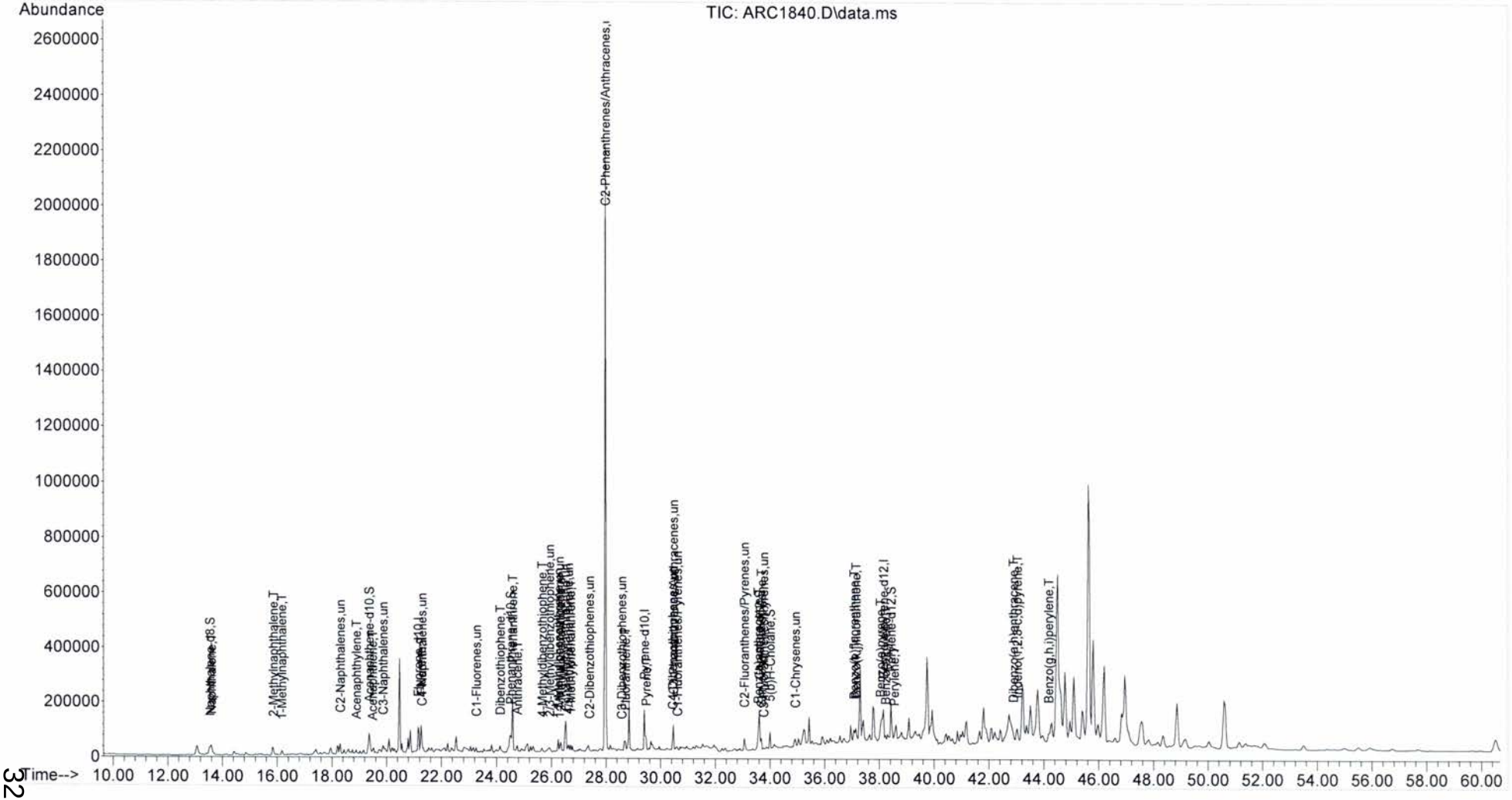
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS60146\
Data File : ARC1840.D
Acq On : 4 Sep 2013 11:30 am
Operator : YM
Sample : SO-DA-002 (1.0-1.5)
Misc :
ALS Vial : 36 Sample Multiplier: 0.06605

Quant Time: Sep 12 07:31:26 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 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

FID3C08FRONT082713.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

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

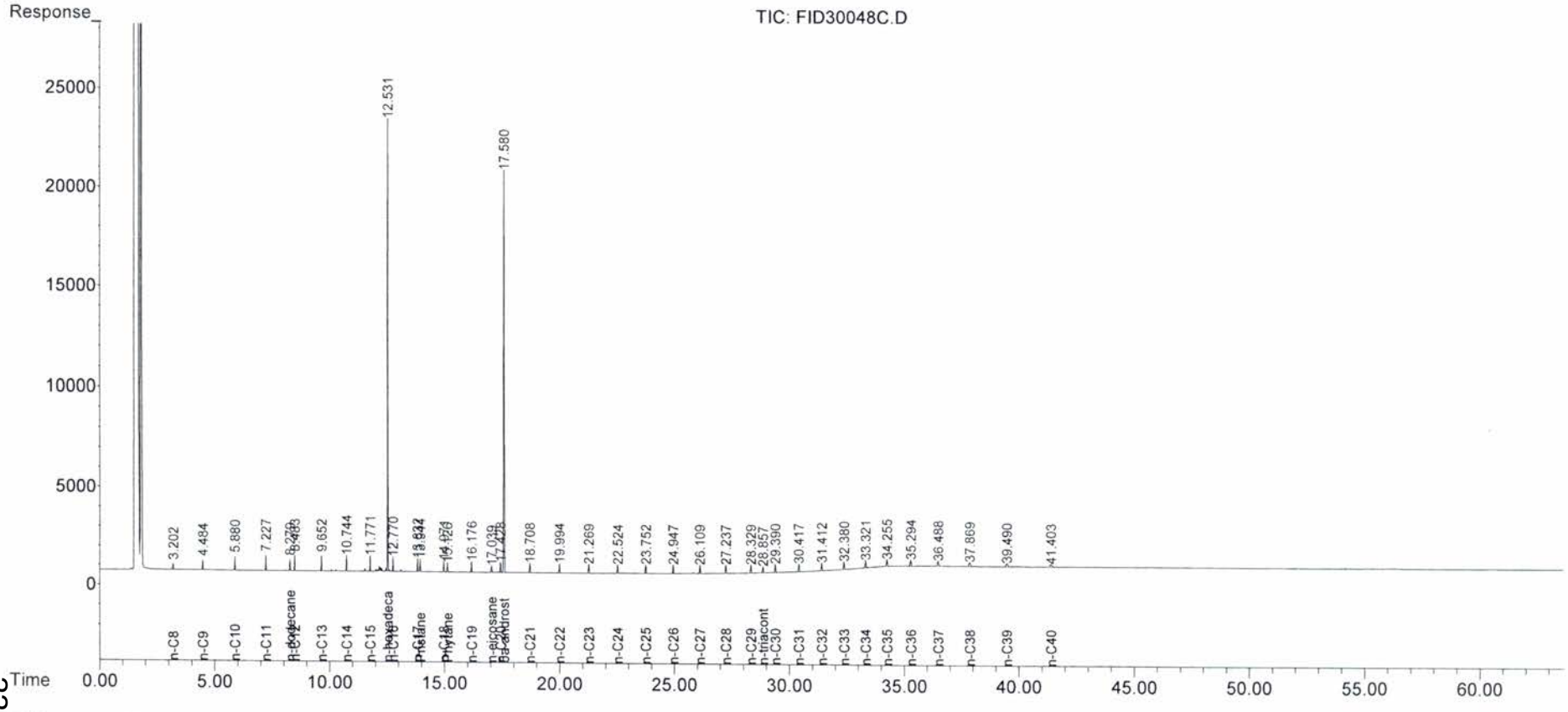
SemiQuant Compounds - Not Calibrated on this Instrument

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

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

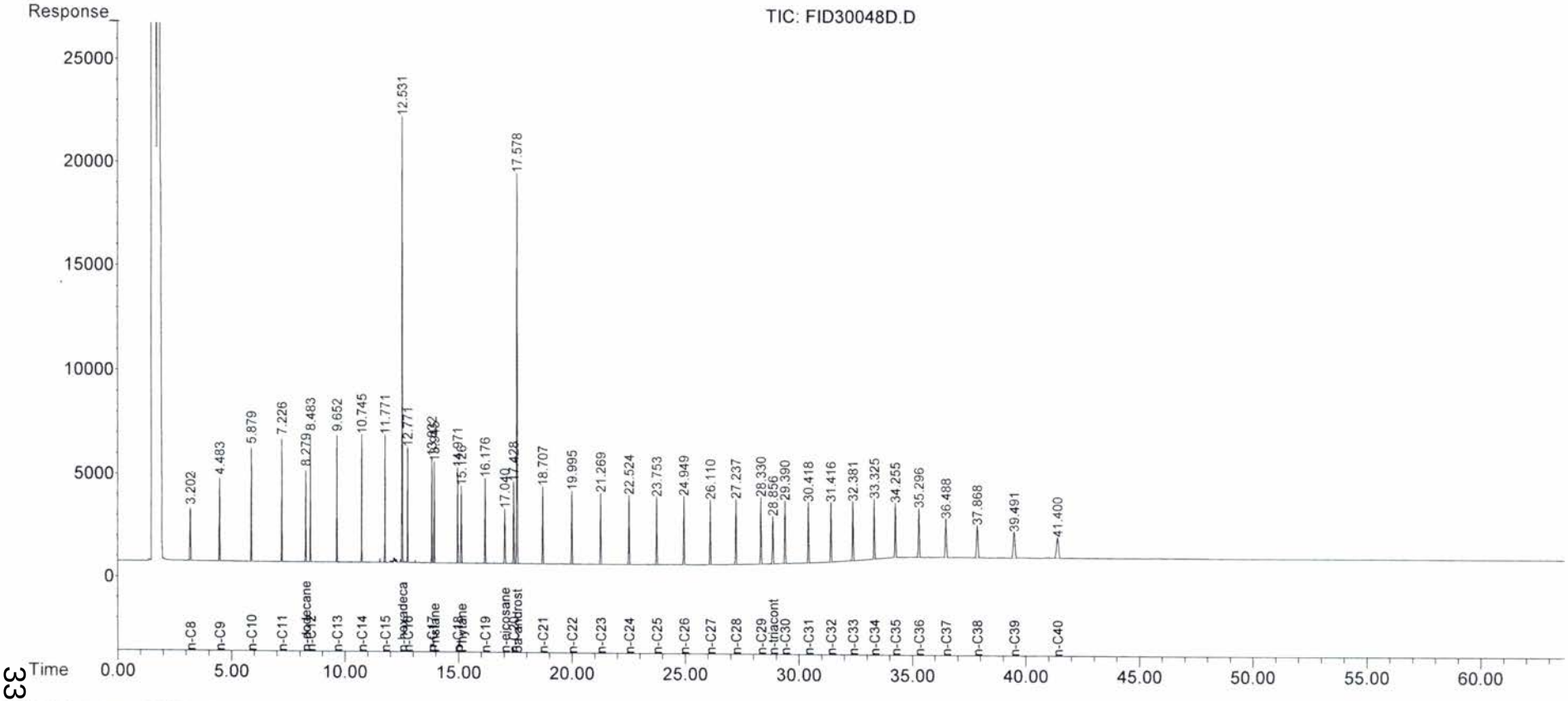
(f)=RT Delta > 1/2 Window (m)=manual int.

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

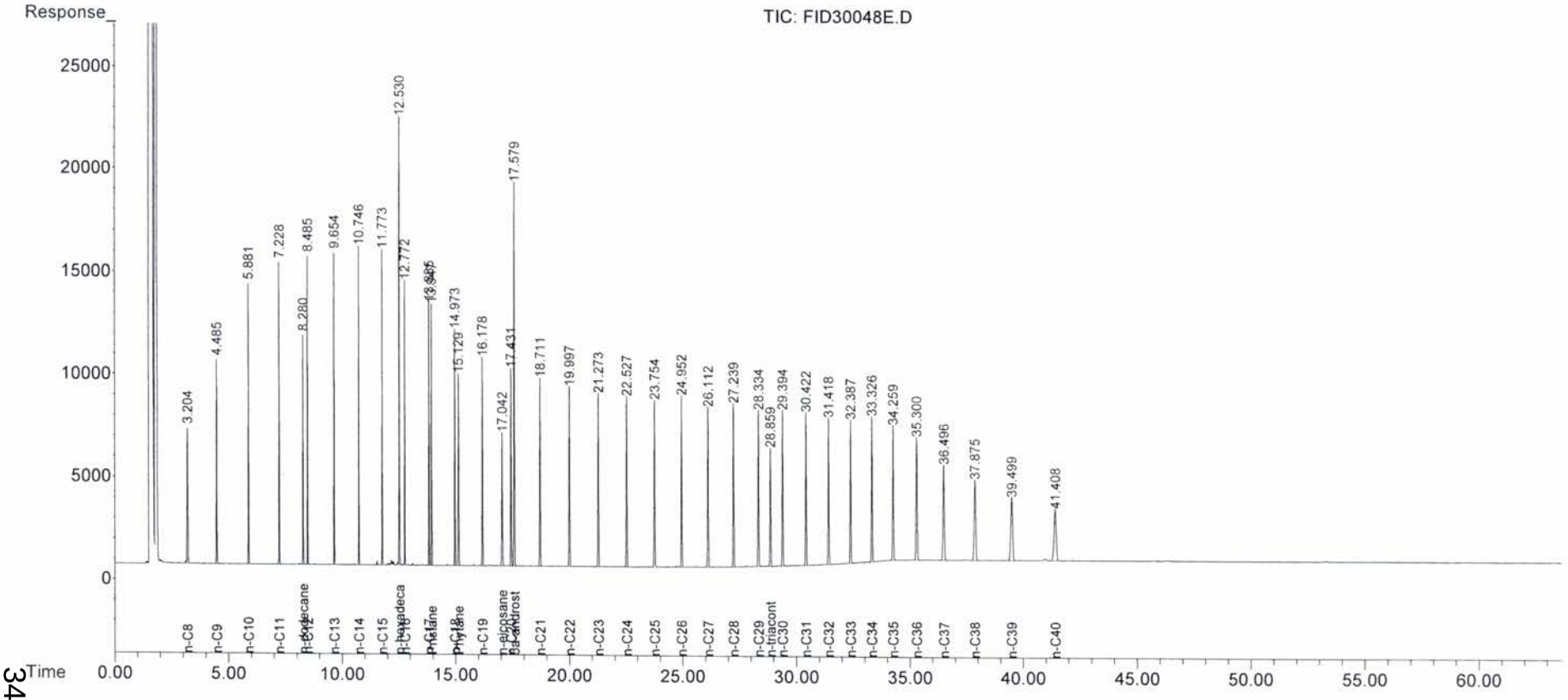
(f)=RT Delta > 1/2 Window (m)=manual int.

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 :



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

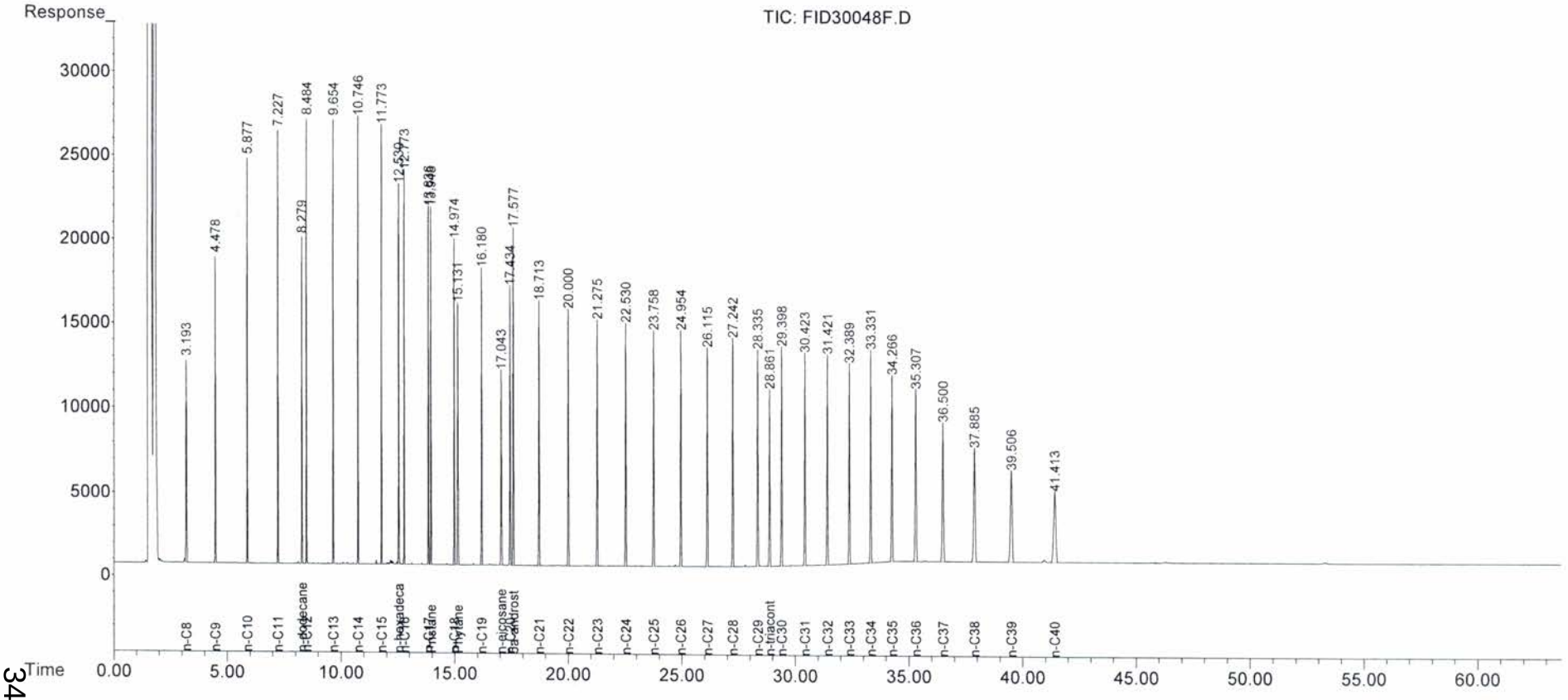
SemiQuant Compounds - Not Calibrated on this Instrument

(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

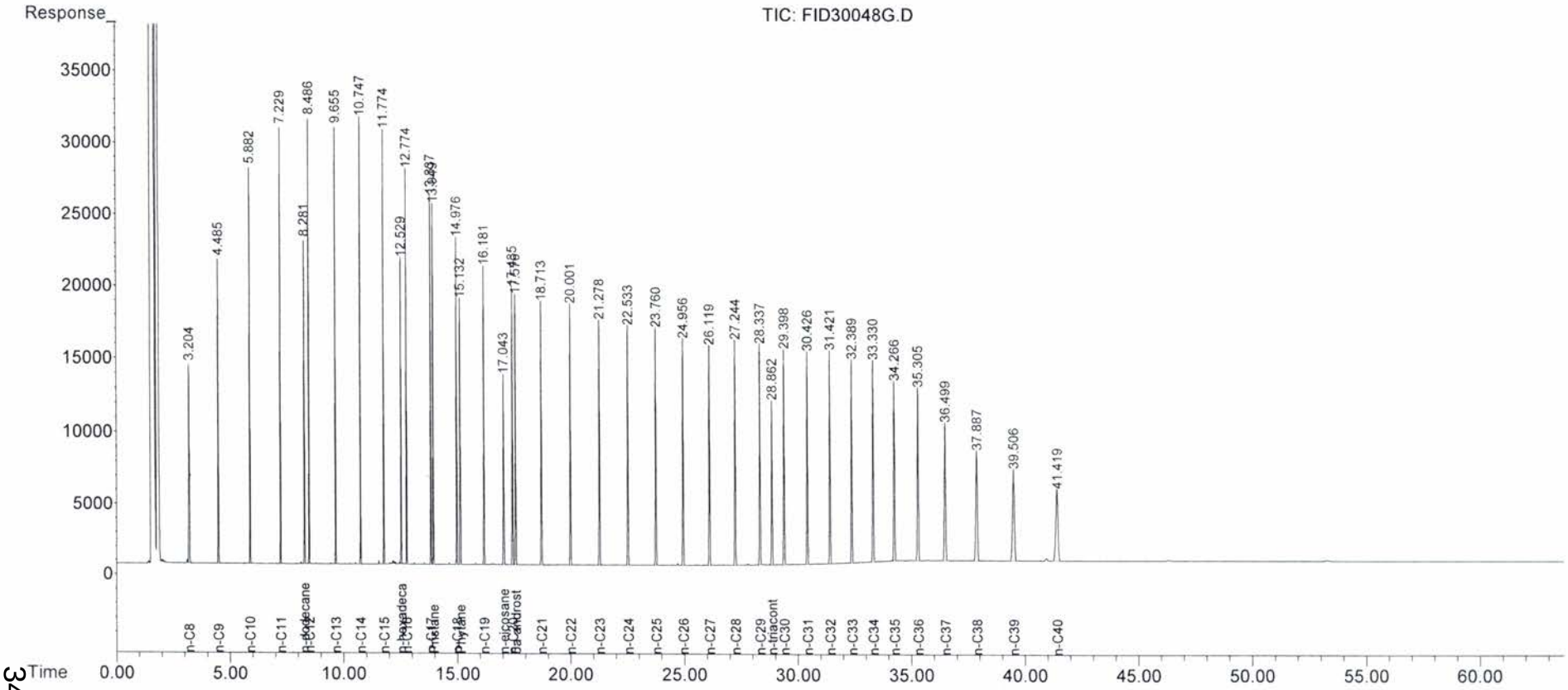
SemiQuant Compounds - Not Calibrated on this Instrument

(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

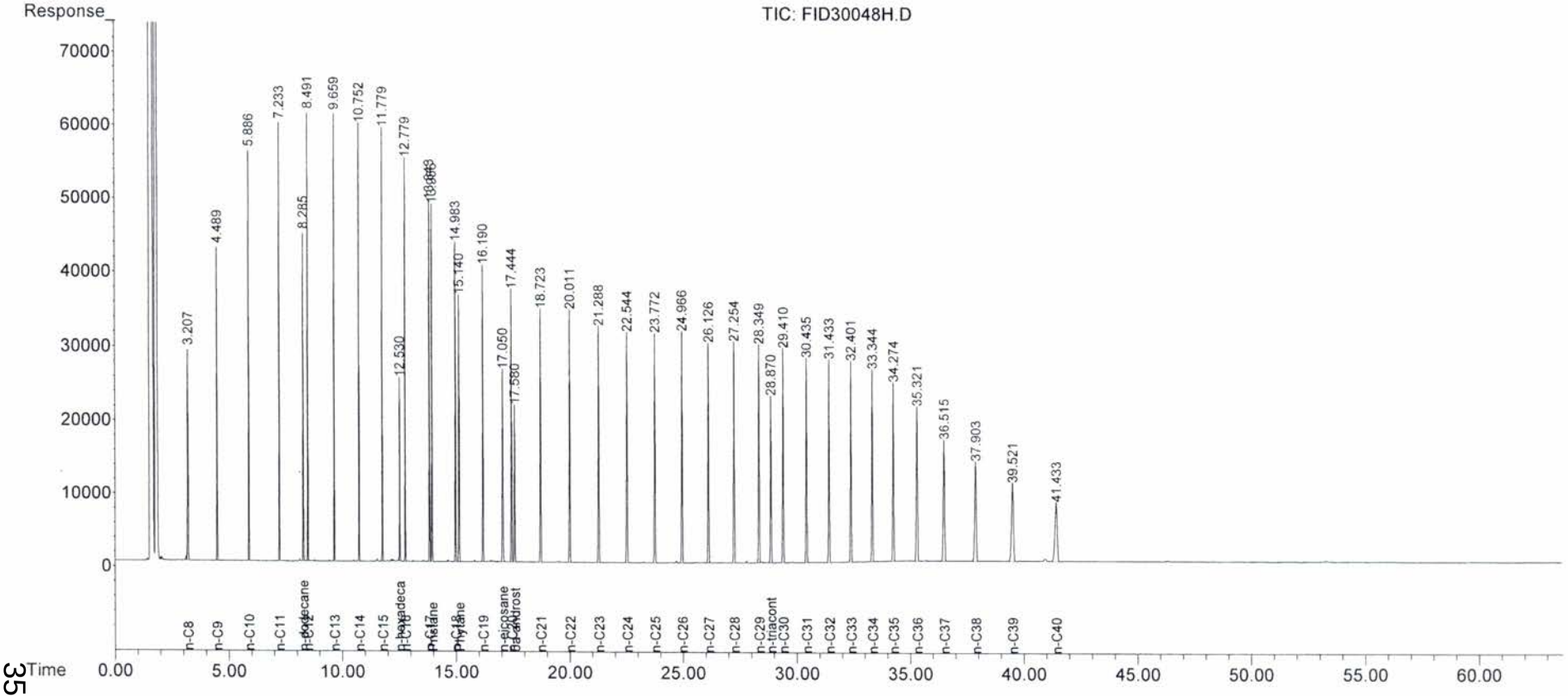
(f)=RT Delta > 1/2 Window (m)=manual int.

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

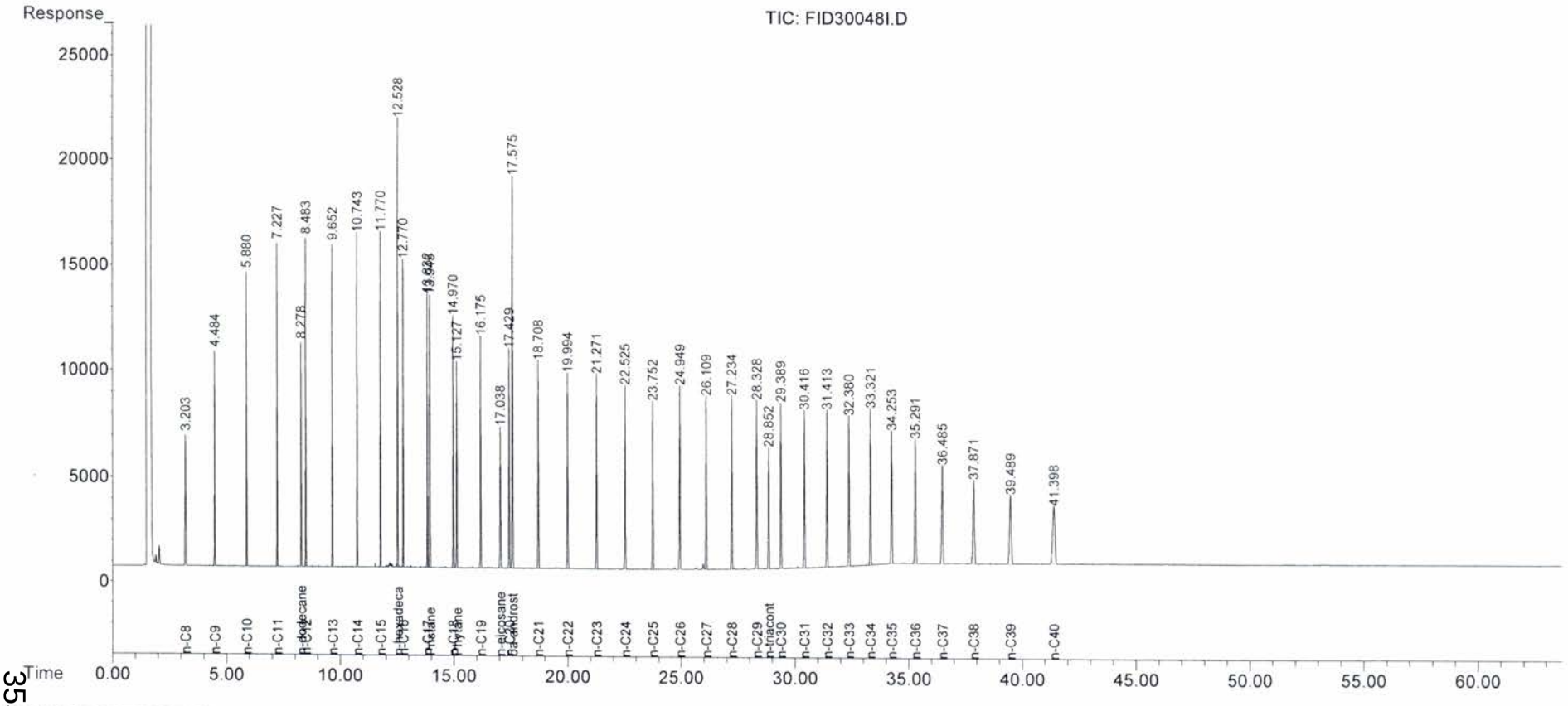
SemiQuant Compounds - Not Calibrated on this Instrument

(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#

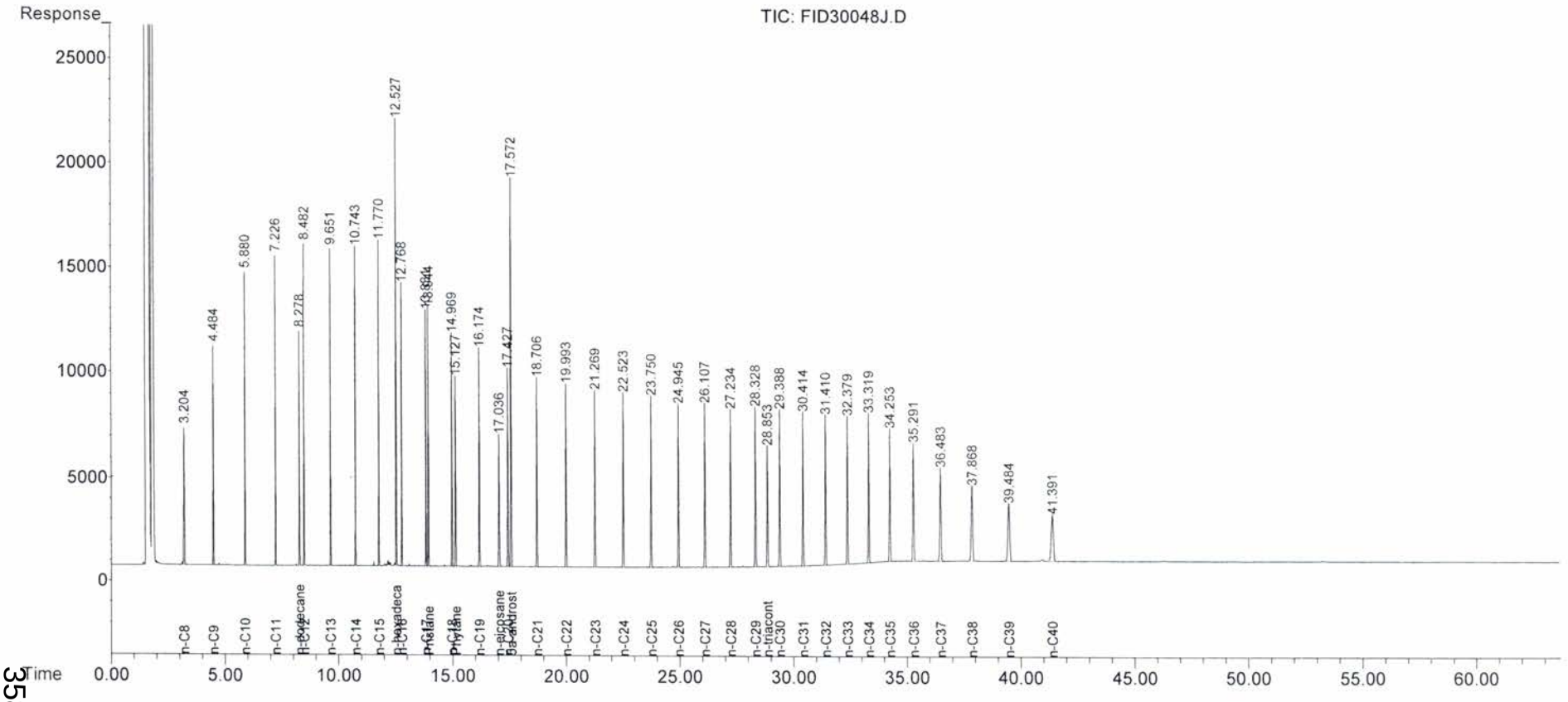
(#) = Out of Range SPCC's out = 0 CCC's out = 0

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

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 :



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.

Aliphatic Mass Discrimination Ratio

B&B Laboratories
Project J13034
Report 13-3114

Arcadis-Mayflower AR
Aliphatic Hydrocarbon and Total Petroleum Hydrocarbon Data
Mass Discrimination

Client Project # B0086003.1302

File Name	Sample Name	n-C20 (Area)	n-C36 (Area)	n-C36/n-C20 ratio	Q
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	
FID30052B.D	AL-WKCC-25-024	191226	193338	1.01	
FID30052G.D	AL-WKCC-25-024	195400	196105	1.00	
FID30052H.D	AL-WKCC-25-024	188651	189810	1.01	

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**
FID30052B.D	**AL-WKCC-25-024**	**314385**	**157193**	**628770**	**388052**	**194026**	**776104**
FID30052C.D	AL-SRM2779-20-01	315839			478141		
FID30052F.D	AL-WKPem-001	348279			435880		
ENV3093A.D	Procedural Blank	285296			352000		
ENV3093C.D	MS (SED-DA-019 (0-0.5))	256394			353774		
ENV3093D.D	MSD (SED-DA-019 (0-0.5))	277793			373453		
ENV3093E.D	Dupl (SED-DA-045 (0-0.5))	301841			451531		
FID30052G.D	**AL-WKCC-25-024**	**323132**	**161566**	**646264**	**397289**	**198645**	**794578**
ARC1816.D	SED-DA-045 (0-0.5)	297459			436032		
ARC1818.D	SED-DA-052 (0-0.5)	276762			357002		
ARC1821.D	SED-DA-DUP-06-081013	248443			319981		
ARC1822.D	SED-DA-018 (0-0.5)	273282			331221		
ARC1826.D	SED-DA-019 (0-0.5)	244560			330269		
FID30052H.D	**AL-WKCC-25-024**	**309705**	**154853**	**619410**	**382610**	**191305**	**765220**

Polycyclic Aromatic Hydrocarbon
Initial Calibration Data
and
Initial Calibration Verification Data

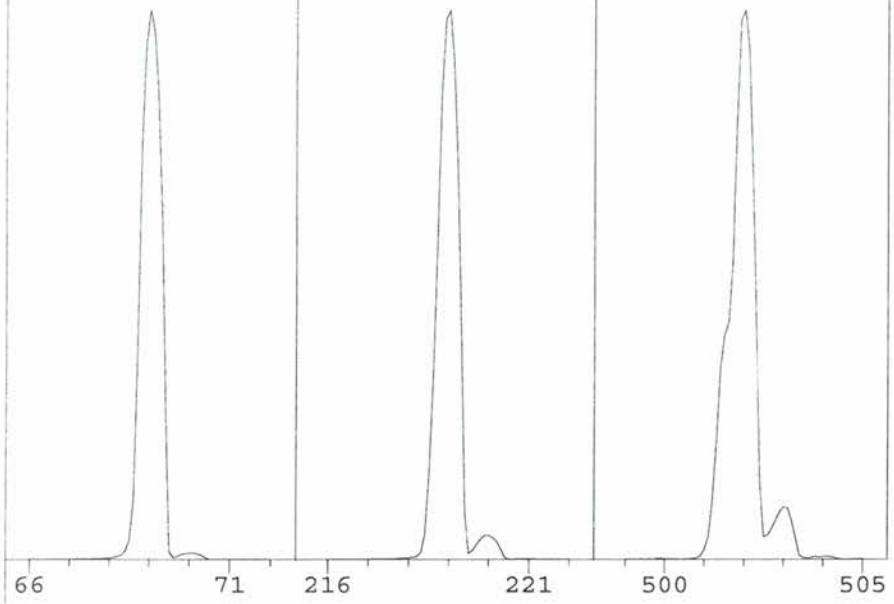
PAH ICAL
AR 60146.M

GC/MS 6
(PAH-2012)

5973 Autotune

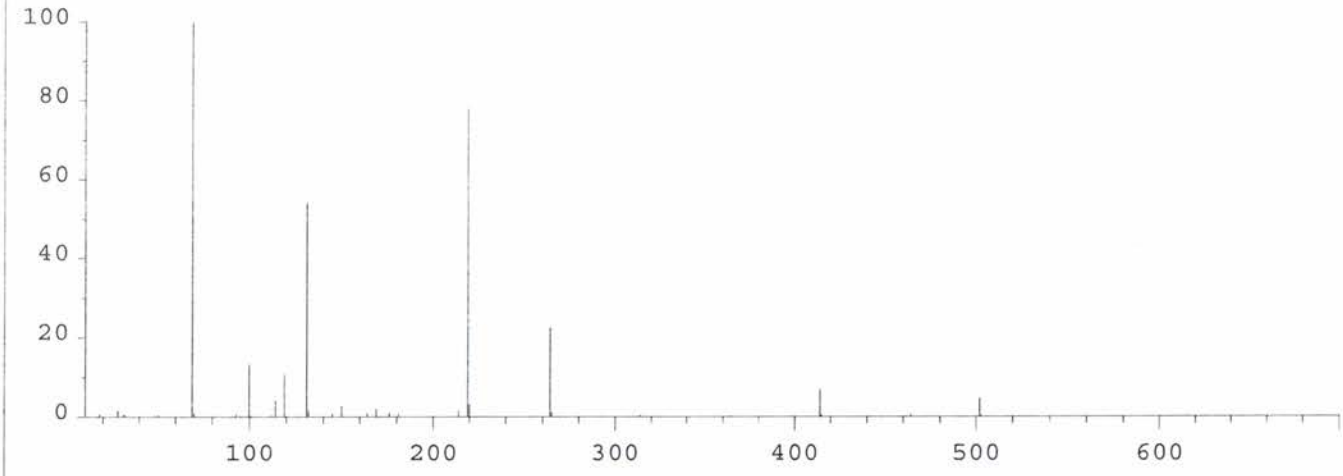
Mon Sep 02 14:29:32 2013 Instrument: GCMS6
C:\MSDCHEM\1\5973\atune.u

Mass	69.00	Mass	219.00	Mass	502.00
Ab	445750	Ab	355236	Ab	22238
Pw50	0.61	Pw50	0.60	Pw50	0.61



Ion Pol	POS	MassGain	218
		MassOffs	-10
Emission	34.6	AmuGain	2309
EIEnrgy	69.9	AmuOffs	124
Filament	1	Wid219	-0.031
		DC Pol	POS
Repeller	28.11		
IonFcus	80.7	HEDEnab	ON
EntLens	14.5	EMVolts	1576
EntOffs	20.08		
		Samples	8
PFTBA	OPEN	Averages	3
		Stepsize	0.10
Zones:			
MS Source	290	TurboSpd	100
MS Quad	180		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
92 peaks Base: 69.00 Abundance: 402112



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	402112	100.00	70.00	4257	1.06
219.00	314304	78.16	220.00	13445	4.28
502.00	19400	4.82	502.90	2146	11.06

Air/Water Check: H20~0.86% N2~1.77% O2~0.56% CO2~0.10% N2/H2O~206.54%

Column Flow: Front: 1.218 Back: 0 ml/min. Interface Temp: GCCF 4,0

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502; EM Gain 68963
Repeller Maximum 35 volts using ion 219;

MassGain Values @Samples: 218@3 218@2 218@1 218@0 218@FS

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	124.0	124.0	124.0	124.0	124.0	124.0	124.0
Entrance Lens Offset:	20.1	20.1	20.1	20.1	20.1	20.1	20.1

MS60146
YM

Method Path : C:\GCMS6\MS60146\
Method File : AR60146.M
Title : PAH Calibration Table-2013A
Last Update : Wed Sep 11 16:32:59 2013
Response Via : Initial Calibration

Calibration Files
1 =MS60146B.D 2 =MS60146C.D 3 =MS60146D.D 4 =MS60146E.D 5 =MS60146F.D
6 =MS60146G.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	Fluorene-d10	ISTD							
2)	S	Naphthalene-d8	1.977	1.679	1.598	1.649	1.682	1.630	1.702	8.11
3)	T	cis/trans Decalin	0.363	0.326	0.310	0.327	0.317	0.298	0.323	6.83
4)	un	C1-Decalins	0.363	0.326	0.310	0.327	0.317	0.298	0.323	6.83
5)	un	C2-Decalins	0.363	0.326	0.310	0.327	0.317	0.298	0.323	6.83
6)	un	C3-Decalins	0.363	0.326	0.310	0.327	0.317	0.298	0.323	6.83
7)	un	C4-Decalins	0.363	0.326	0.310	0.327	0.317	0.298	0.323	6.83
8)	T	Naphthalene	2.170	1.826	1.688	1.739	1.762	1.718	1.817	9.85
9)	T	2-Methylnaphth...	1.405	1.175	1.108	1.140	1.170	1.150	1.191	9.03
10)	T	1-Methylnaphth...	1.310	1.083	1.037	1.070	1.088	1.072	1.110	8.98
11)	T	2,6-Dimethylna...	1.297	1.064	1.019	1.034	1.044	1.068	1.088	9.58
12)	T	1,6,7-Trimethy...	1.162	1.005	0.947	0.969	1.016	0.993	1.015	7.48
13)	un	C2-Naphthalenes	2.170	1.826	1.688	1.739	1.762	1.718	1.817	9.85
14)	un	C3-Naphthalenes	2.170	1.826	1.688	1.739	1.762	1.718	1.817	9.85
15)	un	C4-Naphthalenes	2.170	1.826	1.688	1.739	1.762	1.718	1.817	9.85
16)	T	Benzothiophene	1.707	1.456	1.370	1.399	1.393	1.396	1.453	8.79
17)	un	C1-Benzothioph...	1.707	1.456	1.370	1.399	1.393	1.396	1.453	8.79
18)	un	C2-Benzothioph...	1.707	1.456	1.370	1.399	1.393	1.396	1.453	8.79
19)	un	C3-Benzothioph...	1.707	1.456	1.370	1.399	1.393	1.396	1.453	8.79
20)	un	C4-Benzothioph...	1.707	1.456	1.370	1.399	1.393	1.396	1.453	8.79
21)	S	Acenaphthene-d10	1.141	0.954	0.903	0.921	0.941	0.946	0.968	8.97
22)	T	Biphenyl	1.912	1.549	1.481	1.512	1.508	1.517	1.580	10.39
23)	T	Acenaphthylene	2.116	1.772	1.697	1.746	1.779	1.806	1.819	8.25
24)	T	Acenaphthene	1.197	0.998	0.942	0.971	0.993	0.992	1.015	8.98
25)	T	Dibenzofuran	1.960	1.671	1.572	1.615	1.624	1.664	1.684	8.28
26)	T	Fluorene	1.596	1.293	1.211	1.244	1.258	1.281	1.314	10.76
27)	T	1-Methylfluorene	0.994	0.786	0.734	0.757	0.775	0.839	0.814	11.66
28)	un	C1-Fluorenes	1.596	1.293	1.211	1.244	1.258	1.281	1.314	10.76
29)	un	C2-Fluorenes	1.596	1.293	1.211	1.244	1.258	1.281	1.314	10.76
30)	un	C3-Fluorenes	1.596	1.293	1.211	1.244	1.258	1.281	1.314	10.76
31)	I	Pyrene-d10	ISTD							
32)	S	Phenanthrene-d10	0.951	0.789	0.744	0.765	0.791	0.860	0.817	9.37
33)	T	Carbazole	0.851	0.731	0.692	0.725	0.747	0.757	0.751	7.22
34)	T	Dibenzothiophene	0.988	0.843	0.811	0.846	0.877	0.862	0.871	7.03
35)	T	4-Methyldibenz...	0.903	0.757	0.706	0.732	0.766	0.811	0.779	9.02
36)	un	2/3-Methyldibe...	0.903	0.757	0.706	0.732	0.766	0.811	0.779	9.02
37)	un	1-Methyldibenz...	0.903	0.757	0.706	0.732	0.766	0.811	0.779	9.02
38)	un	C2-Dibenzothio...	0.988	0.843	0.811	0.846	0.877	0.862	0.871	7.03
39)	un	C3-Dibenzothio...	0.988	0.843	0.811	0.846	0.877	0.862	0.871	7.03
40)	un	C4-Dibenzothio...	0.988	0.843	0.811	0.846	0.877	0.862	0.871	7.03
41)	T	Phenanthrene	1.206	0.996	0.915	0.936	0.983	1.122	1.026	11.09
42)	T	Anthracene	1.153	0.958	0.878	0.914	0.961	1.093	0.993	10.79
43)	un	3-Methylphenan...	0.892	0.776	0.726	0.776	0.805	0.745	0.787	7.42
44)	un	2-Methylphenan...	0.892	0.776	0.726	0.776	0.805	0.745	0.787	7.42
45)	un	2-Methylanthra...	0.892	0.776	0.726	0.776	0.805	0.745	0.787	7.42
46)	un	4/9-Methylphen...	0.892	0.776	0.726	0.776	0.805	0.745	0.787	7.42
47)	T	1-Methylphenan...	0.892	0.776	0.726	0.776	0.805	0.745	0.787	7.42
48)	T	3,6-Dimethylph...	0.795	0.654	0.599	0.638	0.656	0.675	0.669	9.96
49)	T	Retene	0.444	0.370	0.333	0.346	0.368	0.390	0.375	10.50
50)	un	C2-Phenanthren...	1.206	0.996	0.915	0.936	0.983	1.122	1.026	11.09
51)	un	C3-Phenanthren...	1.206	0.996	0.915	0.936	0.983	1.122	1.026	11.09
52)	un	C4-Phenanthren...	1.206	0.996	0.915	0.936	0.983	1.122	1.026	11.09
53)	T	Naphthobenzoth...	1.799	1.494	1.338	1.392	1.447	1.476	1.491	10.83

Method Path : C:\GCMS6\MS60146\
Method File : AR60146.M
Title : PAH Calibration Table-2013A

54)	un	C1-Naphthobenz...	1.799	1.494	1.338	1.392	1.447	1.476	1.491	10.83
55)	un	C2-Naphthobenz...	1.799	1.494	1.338	1.392	1.447	1.476	1.491	10.83
56)	un	C3-Naphthobenz...	1.799	1.494	1.338	1.392	1.447	1.476	1.491	10.83
57)	un	C4-Naphthobenz...	1.799	1.494	1.338	1.392	1.447	1.476	1.491	10.83
58)	T	Fluoranthene	1.320	1.084	1.008	1.042	1.077	1.125	1.109	9.99
59)	T	Pyrene	1.728	1.424	1.309	1.345	1.385	1.398	1.432	10.52
60)	T	2-Methylfluora...	1.205	0.927	0.850	0.862	0.910	0.993	0.958	13.72
61)	T	Benzo(b)fluorene	1.000	0.743	0.686	0.706	0.743	0.931	0.802	16.33
62)	un	C1-Fluoranthen...	1.320	1.084	1.008	1.042	1.077	1.125	1.109	9.99
63)	un	C2-Fluoranthen...	1.320	1.084	1.008	1.042	1.077	1.125	1.109	9.99
64)	un	C3-Fluoranthen...	1.320	1.084	1.008	1.042	1.077	1.125	1.109	9.99
65)	un	C4-Fluoranthen...	1.320	1.084	1.008	1.042	1.077	1.125	1.109	9.99
66)	S	Chrysene-d12	1.679	1.402	1.343	1.400	1.431	1.124	1.397	12.73
67)	T	Benz(a)anthracene	1.876	1.546	1.368	1.354	1.404	1.368	1.486	13.72
68)	T	Chrysene/Triph...	1.606	1.405	1.352	1.466	1.430	1.147	1.401	10.79
69)	un	C1-Chrysenes	1.606	1.405	1.352	1.466	1.430	1.147	1.401	10.79
70)	un	C2-Chrysenes	1.606	1.405	1.352	1.466	1.430	1.147	1.401	10.79
71)	un	C3-Chrysenes	1.606	1.405	1.352	1.466	1.430	1.147	1.401	10.79
72)	un	C4-Chrysenes	1.606	1.405	1.352	1.466	1.430	1.147	1.401	10.79
73)	I	Benzo(a)pyrene-d12	----------ISTD----------							
74)	un	C29-Hopane	0.568	0.455	0.414	0.431	0.418	0.410	0.449	13.41
75)	un	18a-Oleanane	0.568	0.455	0.414	0.431	0.418	0.410	0.449	13.41
76)	T	C30-Hopane	0.568	0.455	0.414	0.431	0.418	0.410	0.449	13.41
77)	T	Benzo(b)fluora...	1.457	1.218	1.173	1.265	1.231	1.350	1.282	8.10
78)	T	Benzo(k,j)fluo...	1.362	1.128	1.105	1.158	1.144	1.005	1.150	10.18
79)	un	Benzo(a)fluora...	1.362	1.128	1.105	1.158	1.144	1.005	1.150	10.18
80)	T	Benzo(e)pyrene	1.440	1.237	1.162	1.221	1.174	1.252	1.248	8.04
81)	T	Benzo(a)pyrene	1.412	1.252	1.181	1.262	1.278	1.150	1.256	7.27
82)	T	Indeno(1,2,3-c...	1.676	1.575	1.451	1.557	1.558	1.583	1.567	4.60
83)	T	Dibenzo(a,h)an...	1.234	1.242	1.166	1.249	1.253	1.285	1.238	3.17
84)	un	C1-Dibenzo(a,h...	1.234	1.242	1.166	1.249	1.253	1.285	1.238	3.17
85)	un	C2-Dibenzo(a,h...	1.234	1.242	1.166	1.249	1.253	1.285	1.238	3.17
86)	un	C3-Dibenzo(a,h...	1.234	1.242	1.166	1.249	1.253	1.285	1.238	3.17
87)	T	Benzo(g,h,i)pe...	1.457	1.394	1.280	1.377	1.355	1.358	1.370	4.20
88)	S	Perylene-d12	1.345	1.098	1.013	1.078	1.093	1.139	1.127	10.13
89)	T	Perylene	1.512	1.280	1.201	1.269	1.296	1.196	1.292	8.92
90)	S	5(b)H-Cholane	0.224	0.185	0.176	0.191	0.186	0.173	0.189	9.76
91)	un	C20-TAS	2.115	1.711	1.506	1.555	1.580	1.634	1.683	13.23
92)	un	C21-TAS	2.115	1.711	1.506	1.555	1.580	1.634	1.683	13.23
93)	un	C26(20S)-TAS	2.115	1.711	1.506	1.555	1.580	1.634	1.683	13.23
94)	T	C26(20R)/C27(2...	2.115	1.711	1.506	1.555	1.580	1.634	1.683	13.23
95)	un	C28(20S)-TAS	2.115	1.711	1.506	1.555	1.580	1.634	1.683	13.23
96)	un	C27(20R)-TAS	2.115	1.711	1.506	1.555	1.580	1.634	1.683	13.23
97)	un	C28(20R)-TAS	2.115	1.711	1.506	1.555	1.580	1.634	1.683	13.23

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146B.D
Acq On : 2 Sep 2013 7:51 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 11 16:27:55 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 13:33:52 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.342	176	169121	251.05		0.11
31) Pyrene-d10	29.572	212	341592m	250.63		0.10
73) Benzo(a)pyrene-d12	38.341	264	507850m	250.32		0.11
System Monitoring Compounds						
2) Naphthalene-d8	13.707	136	26648m	24.45		0.11
21) Acenaphthene-d10	19.558	164	15379m	23.88		0.11
32) Phenanthrene-d10	24.688	188	25943m	21.39		0.10
66) Chrysene-d12	33.762	240	45770m	37.23		0.08
88) Perylene-d12	38.651	264	54585m	22.56		0.15
90) 5(b)H-Cholane	34.189	217	9101m	10.67		0.11
Target Compounds						Qvalue
3) cis/trans Decalin	11.059	138	4834m	25.57		
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	13.762	128	29235m	25.06		
9) 2-Methylnaphthalene	16.019	142	18954m	24.92		
10) 1-Methylnaphthalene	16.354	142	17635m	24.98		
11) 2,6-Dimethylnaphthalene	18.109	156	17471m	25.22		
12) 1,6,7-Trimethylnaphtha...	20.979	170	15653m	23.46		
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.	d	
16) Benzothiophene	13.929	134	22865m	24.84		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.580	154	25528m	25.59		
23) Acenaphthylene	19.057	152	28287m	24.60		
24) Acenaphthene	19.670	154	16155m	23.81		
25) Dibenzofuran	20.255	168	26269m	24.11		
26) Fluorene	21.425	166	21552m	25.72		
27) 1-Methylfluorene	23.441	180	13496m	24.63		
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	25.484	167	23002m	22.56		
34) Dibenzothiophene	24.307	184	26550m	21.14		
35) 4-Methyldibenzothiophene	25.831	198	24823m	21.42		
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.757	178	32577m	20.78		
42) Anthracene	24.930	178	31531m	21.03		

Data Path : C:\GCMS6\MS60146\
Data File : MS60146B.D
Acq On : 2 Sep 2013 7:51 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 11 16:27:55 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 13:33:52 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	26.870	192	24048m	21.94		
48) 3,6-Dimethylphenanthrene	27.944	206	21703m	22.85		
49) Retene	30.645	234	10821m	18.60		
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	32.908	234	49342m	38.73		
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.		
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.879	202	36030m	23.69		
59) Pyrene	29.641	202	47093m	23.45		
60) 2-Methylfluoranthene	30.403	216	33077m	25.58		
61) Benzo(b)fluorene	31.027	216	27512m	25.33		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.723	228	51044m	40.20		
68) Chrysene/Triphenylene	33.839	228	43526m	31.21		
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	42.662	191	23037m	21.20		
77) Benzo(b)fluoranthene	37.254	252	59242m	21.34		
78) Benzo(k,j)fluoranthene	37.332	252	55047m	22.17		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.224	252	58178m	19.92		
81) Benzo(a)pyrene	38.419	252	57161m	21.73		
82) Indeno(1,2,3-c,d)pyrene	43.068	276	66858m	27.19		
83) Dibenzo(a,h)anthracene	43.142	278	49634m	26.83		
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	44.469	276	58571m	27.35		
89) Perylene	38.729	252	61398m	22.22		
91) C20-TAS	0.000		0	N.D.		
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.350	231	85805m	20.80		
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	

Data Path : C:\GCMS6\MS60146\
Data File : MS60146B.D
Acq On : 2 Sep 2013 7:51 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 11 16:27:55 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 13:33:52 2013
Response via : Initial Calibration

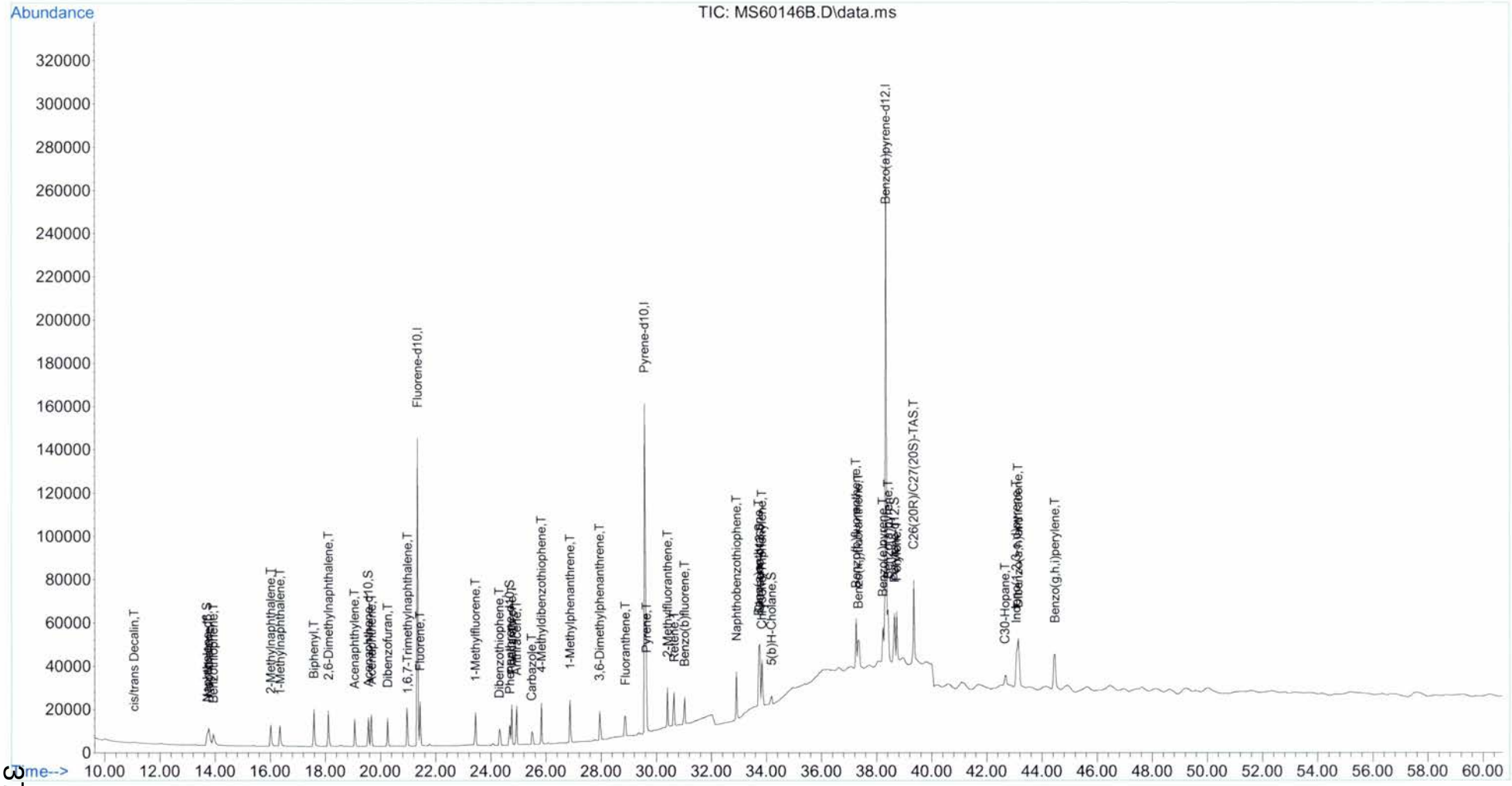
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146B.D
Acq On : 2 Sep 2013 7:51 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 11 16:27:55 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Aug 31 13:33:52 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146C.D
Acq On : 2 Sep 2013 9:02 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 11 16:28:48 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 10:50:54 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.342	176	161686m	251.05		0.00
31) Pyrene-d10	29.572	212	328045m	250.63		0.00
73) Benzo(a)pyrene-d12	38.341	264	474062m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.706	136	108158m	104.25		0.00
21) Acenaphthene-d10	19.558	164	61493m	98.78		0.00
32) Phenanthrene-d10	24.688	188	103357m	99.84		0.00
66) Chrysene-d12	33.762	240	183598m	101.32		0.00
88) Perylene-d12	38.651	264	207887m	97.16		0.00
90) 5(b)H-Cholane	34.150	217	35100m	97.71		-0.04
Target Compounds						Qvalue
3) cis/trans Decalin	11.059	138	20741m	137.70		
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	13.762	128	117598m	98.42		
9) 2-Methylnaphthalene	16.019	142	75745m	99.23		
10) 1-Methylnaphthalene	16.354	142	69685m	98.19		
11) 2,6-Dimethylnaphthalene	18.109	156	68514m	97.66		
12) 1,6,7-Trimethylnaphtha...	20.979	170	64708m	99.34		
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	13.929	134	93199m	99.37		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.580	154	98879m	96.64		
23) Acenaphthylene	19.057	152	113208m	96.12		
24) Acenaphthene	19.670	154	64405m	98.49		
25) Dibenzofuran	20.255	168	107097m	98.77		
26) Fluorene	21.425	166	83468m	98.78		
27) 1-Methylfluorene	23.441	180	51011m	97.40		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.485	167	94835m	99.06		
34) Dibenzothiophene	24.307	184	108793m	97.95		
35) 4-Methyldibenzothiophene	25.831	198	99961m	100.73		
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.757	178	129137m	99.40		
42) Anthracene	24.930	178	125731m	100.17		

Data Path : C:\GCMS6\MS60146\
Data File : MS60146C.D
Acq On : 2 Sep 2013 9:02 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 11 16:28:48 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 10:50:54 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D.	d	
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	26.870	192	100446m	99.76		
48) 3,6-Dimethylphenanthrene	27.944	206	85634m	100.36		
49) Retene	30.646	234	43255m	84.74		
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	32.908	234	196705m	100.83		
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	28.845	202	142004m	100.02		
59) Pyrene	29.641	202	186427m	102.00		
60) 2-Methylfluoranthene	30.403	216	122126m	100.31		
61) Benzo(b)fluorene	31.027	216	98135m	96.02		
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	33.723	228	202003m	103.99		
68) Chrysene/Triphenylene	33.839	228	182734m	102.96		
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	42.663	191	86156m	100.47		
77) Benzo(b)fluoranthene	37.254	252	231166m	61.65		
78) Benzo(k,j)fluoranthene	37.332	252	212713m	56.89		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.224	252	233362m	99.46		
81) Benzo(a)pyrene	38.419	252	236566m	100.14		
82) Indeno(1,2,3-c,d)pyrene	43.068	276	293189m	98.26		
83) Dibenzo(a,h)anthracene	43.142	278	233059m	98.05		
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	44.433	276	261659m	100.44		
89) Perylene	38.729	252	242707m	99.08		
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	39.350	231	323960m	101.44		
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146C.D
Acq On : 2 Sep 2013 9:02 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 11 16:28:48 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 10:50:54 2013
Response via : Initial Calibration

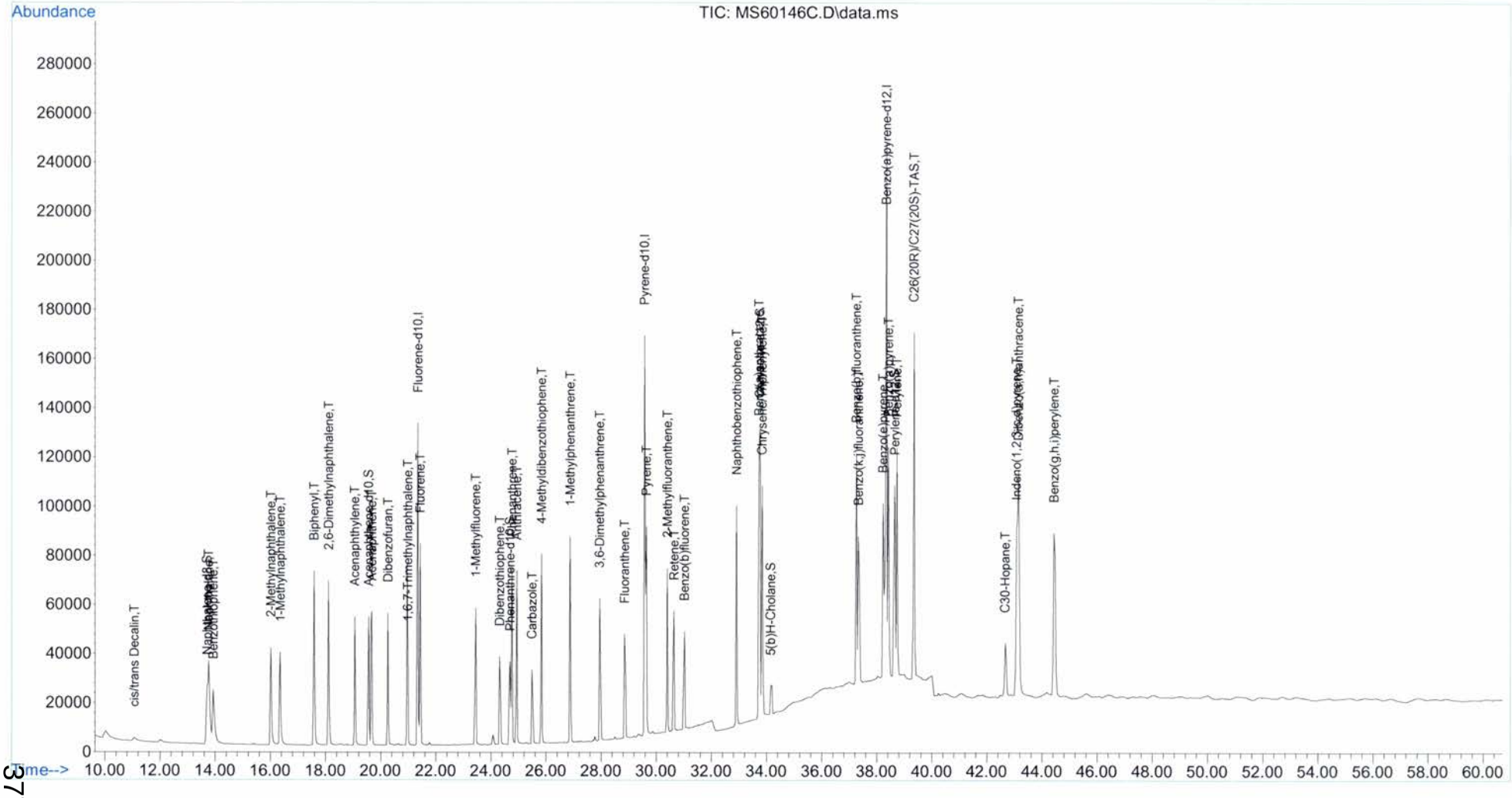
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146C.D
Acq On : 2 Sep 2013 9:02 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 11 16:28:48 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 10:50:54 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146D.D
Acq On : 2 Sep 2013 10:12 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 11 16:29:54 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 15:06:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.340	176	159923m	251.05		0.00
31) Pyrene-d10	29.571	212	326537m	250.63		0.00
73) Benzo(a)pyrene-d12	38.342	264	456605m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.705	136	254692m	249.18		0.00
21) Acenaphthene-d10	19.557	164	143839m	234.23		0.00
32) Phenanthrene-d10	24.687	188	242478m	234.95		0.00
66) Chrysene-d12	33.763	240	437606m	242.47		0.00
88) Perylene-d12	38.652	264	461920m	225.32		0.00
90) 5(b)H-Cholane	34.151	217	80304m	232.33		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.058	138	48863m	326.68		
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	13.761	128	268843m	227.24		
9) 2-Methylnaphthalene	16.018	142	176674m	234.33		
10) 1-Methylnaphthalene	16.352	142	165015m	236.41		
11) 2,6-Dimethylnaphthalene	18.108	156	162250m	235.47		
12) 1,6,7-Trimethylnaphtha...	20.978	170	150833m	234.08		
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	13.928	134	216795m	233.63		
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	17.578	154	233660m	232.59		
23) Acenaphthylene	19.055	152	268155m	230.46		
24) Acenaphthene	19.668	154	150350m	232.57		
25) Dibenzofuran	20.253	168	249083m	232.39		
26) Fluorene	21.424	166	193231m	231.51		
27) 1-Methylfluorene	23.440	180	117789m	227.36		
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	25.483	167	223511m	234.73		
34) Dibenzothiophene	24.306	184	260621m	235.46		
35) 4-Methyldibenzothiophene	25.830	198	231757m	234.81		
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.756	178	295384m	229.08		
42) Anthracene	24.929	178	286843m	230.23		

Data Path : C:\GCMS6\MS60146\
Data File : MS60146D.D
Acq On : 2 Sep 2013 10:12 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 11 16:29:54 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 15:06:55 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	26.869	192	233974m	231.78		
48) 3,6-Dimethylphenanthrene	27.943	206	195385m	229.45		
49) Retene	30.645	234	96804m	191.32		
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	32.909	234	438516m	226.28		
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	28.843	202	328588m	232.28		
59) Pyrene	29.640	202	426503m	233.39		
60) 2-Methylfluoranthene	30.402	216	278845m	230.63		
61) Benzo(b)fluorene	31.026	216	225436m	222.42		
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	33.724	228	444679m	229.80		
68) Chrysene/Triphenylene	33.840	228	437762m	247.61		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.661	191	188697m	224.36		
77) Benzo(b)fluoranthene	37.255	252	536122m	146.46		
78) Benzo(k,j)fluoranthene	37.333	252	502078m	137.45		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.225	252	527889m	233.88		
81) Benzo(a)pyrene	38.419	252	537318m	234.53		
82) Indeno(1,2,3-c,d)pyrene	43.067	276	650288m	222.20		
83) Dibenzo(a,h)anthracene	43.140	278	527144m	224.51		
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	44.431	276	578544m	225.17		
89) Perylene	38.730	252	548117m	231.97		
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	39.351	231	686897m	223.25		
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146D.D
Acq On : 2 Sep 2013 10:12 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 11 16:29:54 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 15:06:55 2013
Response via : Initial Calibration

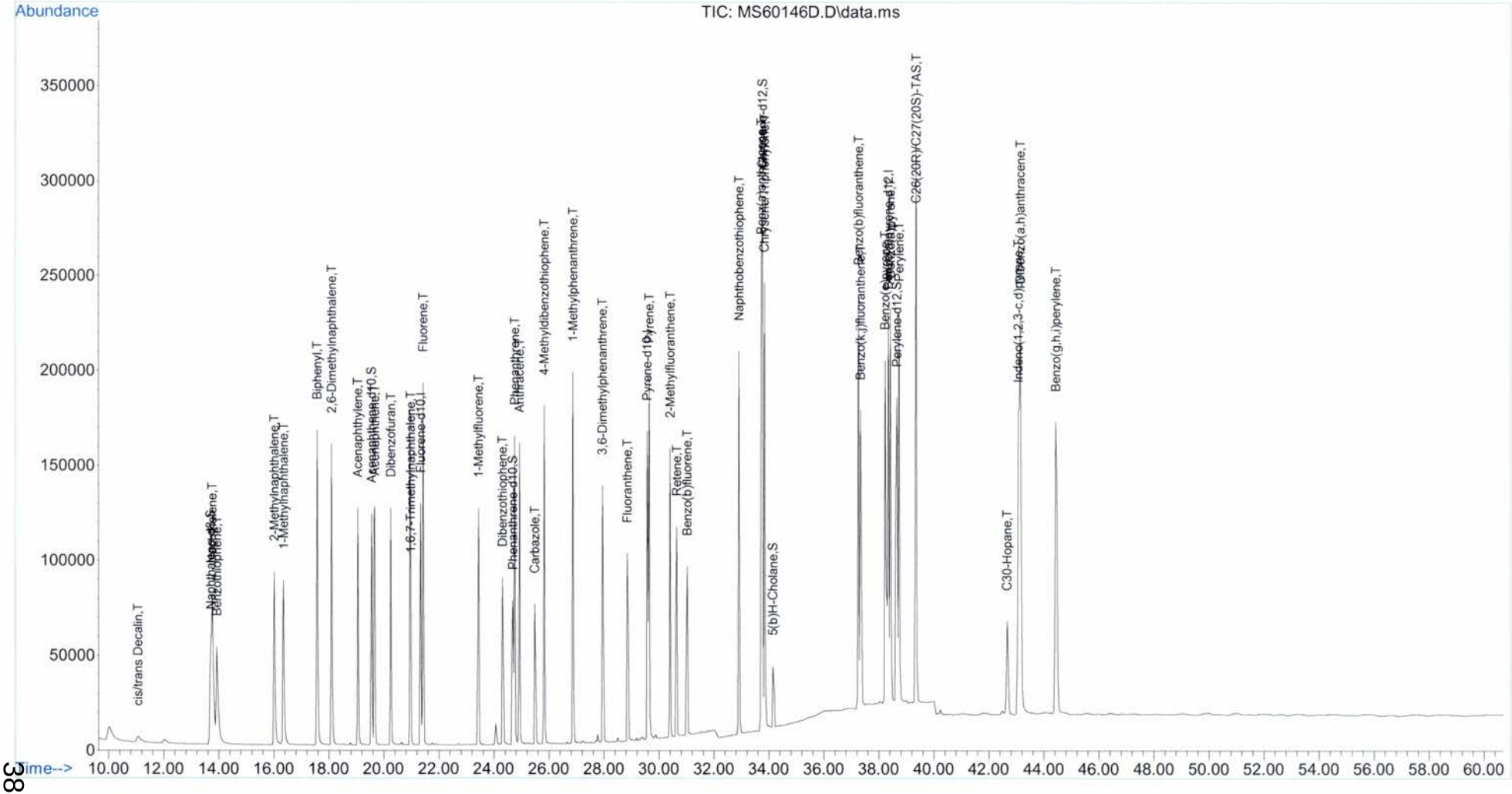
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146D.D
Acq On : 2 Sep 2013 10:12 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 11 16:29:54 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 15:06:55 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146E.D
Acq On : 2 Sep 2013 11:22 pm
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 11 16:30:50 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 15:11:15 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.341	176	163456m	251.05		0.00
31) Pyrene-d10	29.571	212	331256m	250.63		0.00
73) Benzo(a)pyrene-d12	38.342	264	458086m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.706	136	536934m	508.04		0.00
21) Acenaphthene-d10	19.558	164	300124m	478.00		0.00
32) Phenanthrene-d10	24.687	188	505694m	481.68		0.00
66) Chrysene-d12	33.763	240	925438m	505.55		0.00
88) Perylene-d12	38.653	264	986157m	479.91		0.00
90) 5(b)H-Cholane	34.151	217	174511m	504.09		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.059	138	105138m	640.77		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.762	128	566266m	470.82		
9) 2-Methylnaphthalene	16.019	142	371406m	481.34		
10) 1-Methylnaphthalene	16.353	142	347921m	487.03		
11) 2,6-Dimethylnaphthalene	18.109	156	336577m	477.85		
12) 1,6,7-Trimethylnaphtha...	20.951	170	315501m	478.57		
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	13.929	134	452619m	476.98		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.579	154	487721m	474.94		
23) Acenaphthylene	19.056	152	563954m	474.65		
24) Acenaphthene	19.642	154	316605m	479.25		
25) Dibenzofuran	20.255	168	523221m	477.39		
26) Fluorene	21.425	166	405796m	475.35		
27) 1-Methylfluorene	23.440	180	248163m	468.51		
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	25.484	167	474620m	490.65		
34) Dibenzothiophene	24.306	184	550996m	489.91		
35) 4-Methyldibenzothiophene	25.830	198	487523m	486.17		
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	24.756	178	613224m	467.57		
42) Anthracene	24.930	178	606120m	478.07		

Data Path : C:\GCMS6\MS60146\
Data File : MS60146E.D
Acq On : 2 Sep 2013 11:22 pm
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 11 16:30:50 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 15:11:15 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	26.869	192	507208m	494.47		
48) 3,6-Dimethylphenanthrene	27.943	206	422080m	487.88		
49) Retene	30.645	234	204215m	397.18		
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.		
53) Naphthobenzothiophene	32.910	234	925443m	470.41		
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	28.844	202	689217m	479.74		
59) Pyrene	29.641	202	888722m	478.85		
60) 2-Methylfluoranthene	30.403	216	573711m	466.85		
61) Benzo(b)fluorene	31.026	216	470755m	457.24		
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	33.725	228	893246m	452.97		
68) Chrysene/Triphenylene	33.841	228	963257m	533.93		
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	42.662	191	394794m	468.88		
77) Benzo(b)fluoranthene	37.256	252	1159706m	347.90		
78) Benzo(k,j)fluoranthene	37.334	252	1055605m	319.80		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.226	252	1113085m	491.22		
81) Benzo(a)pyrene	38.420	252	1152530m	500.64		
82) Indeno(1,2,3-c,d)pyrene	43.067	276	1400237m	477.88		
83) Dibenzo(a,h)anthracene	43.141	278	1132715m	481.83		
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	44.432	276	1248345m	485.24		
89) Perylene	38.731	252	1161860m	489.51		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.351	231	1422645m	461.53		
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146E.D
Acq On : 2 Sep 2013 11:22 pm
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 11 16:30:50 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 15:11:15 2013
Response via : Initial Calibration

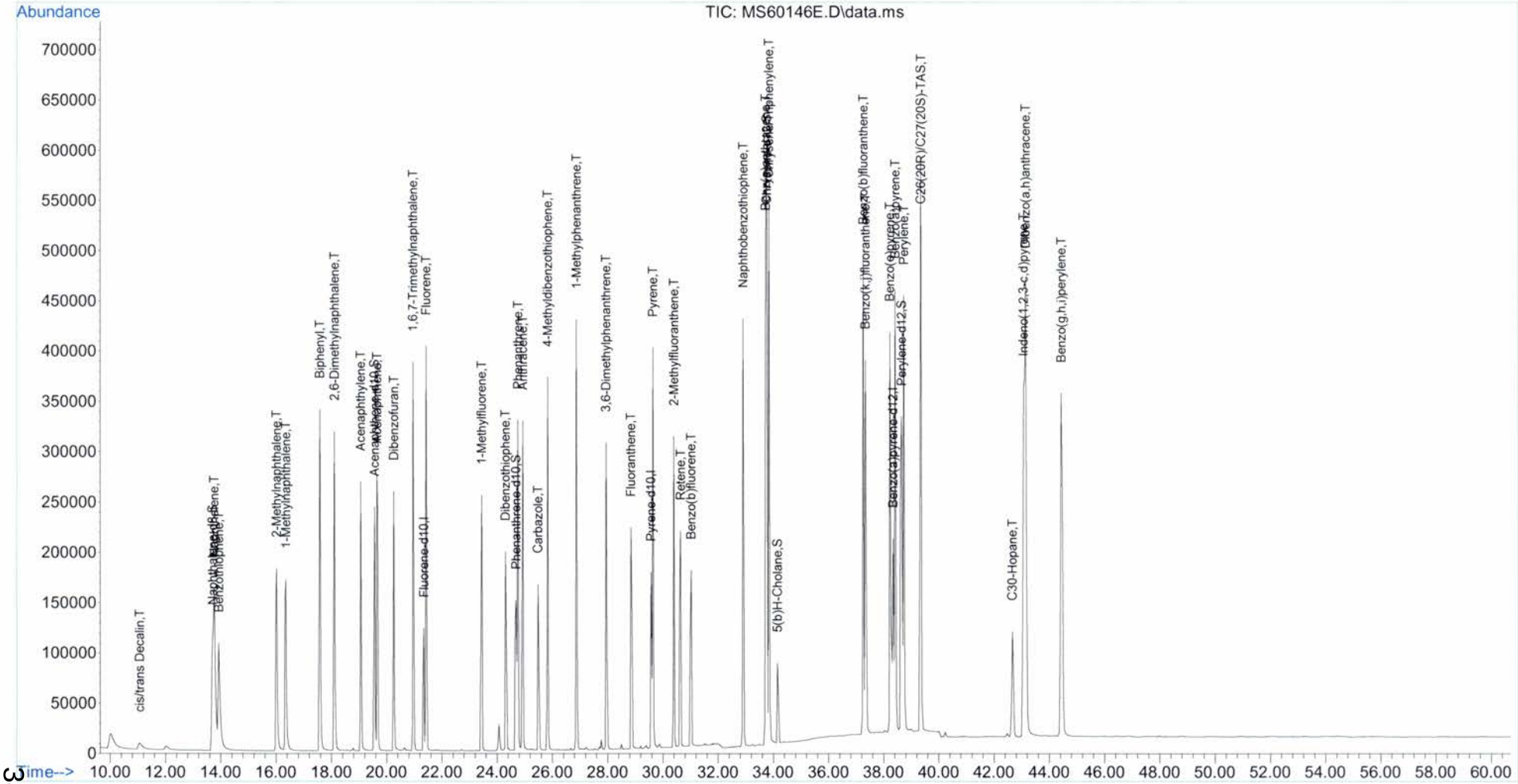
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146E.D
Acq On : 2 Sep 2013 11:22 pm
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 11 16:30:50 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 15:11:15 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146F.D
Acq On : 3 Sep 2013 12:32 am
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 11 16:31:53 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 15:17:28 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.344	176	163051m	251.05		0.00
31) Pyrene-d10	29.571	212	325960m	250.63		0.00
73) Benzo(a)pyrene-d12	38.342	264	457317m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.681	136	1092799m	1024.64		-0.03
21) Acenaphthene-d10	19.561	164	611687m	976.60		0.00
32) Phenanthrene-d10	24.687	188	1030150m	992.06		0.00
66) Chrysene-d12	33.763	240	1860913m	1029.00		0.00
88) Perylene-d12	38.653	264	1996964m	973.62		0.00
90) 5(b)H-Cholane	34.151	217	339972m	983.38		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.062	138	203483m	1152.50		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.765	128	1144534m	957.14		
9) 2-Methylnaphthalene	15.994	142	760437m	987.25		
10) 1-Methylnaphthalene	16.328	142	705954m	988.02		
11) 2,6-Dimethylnaphthalene	18.112	156	677937m	965.03		
12) 1,6,7-Trimethylnaphtha...	20.954	170	659933m	1002.88		
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	13.932	134	899185m	949.80		
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	17.582	154	970797m	947.76		
23) Acenaphthylene	19.059	152	1146061m	967.54		
24) Acenaphthene	19.644	154	646099m	980.11		
25) Dibenzofuran	20.257	168	1049700m	959.39		
26) Fluorene	21.428	166	818487m	960.57		
27) 1-Methylfluorene	23.440	180	507105m	959.22		
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	25.483	167	962245m	1006.84		
34) Dibenzothiophene	24.306	184	1124493m	1011.94		
35) 4-Methyldibenzothiophene	25.830	198	1004478m	1013.50		
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.		
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.756	178	1266799m	976.33		
42) Anthracene	24.929	178	1253553m	998.83		

Data Path : C:\GCMS6\MS60146\
Data File : MS60146F.D
Acq On : 3 Sep 2013 12:32 am
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 11 16:31:53 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 15:17:28 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	26.869	192	1035104m	1021.49		
48) 3,6-Dimethylphenanthrene	27.943	206	854410m	999.81		
49) Retene	30.645	234	427719m	841.90		
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.		
53) Naphthobenzothiophene	32.909	234	1893127m	974.47		
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.843	202	1401940m	988.69		
59) Pyrene	29.640	202	1801897m	982.77		
60) 2-Methylfluoranthene	30.402	216	1191569m	980.78		
61) Benzo(b)fluorene	31.026	216	974853m	958.80		
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	33.724	228	1822051m	931.70		
68) Chrysene/Triphenylene	33.841	228	1848928m	1032.15		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.661	191	764436m	909.95		
77) Benzo(b)fluoranthene	37.256	252	2254157m	758.98		
78) Benzo(k,j)fluoranthene	37.333	252	2081652m	717.69		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.226	252	2136152m	942.39		
81) Benzo(a)pyrene	38.420	252	2330763m	1012.03		
82) Indeno(1,2,3-c,d)pyrene	43.067	276	2798265m	957.73		
83) Dibenzo(a,h)anthracene	43.141	278	2267687m	967.92		
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	44.431	276	2453420m	955.58		
89) Perylene	38.730	252	2369489m	998.79		
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	39.351	231	2885838m	938.31		
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	

Data Path : C:\GCMS6\MS60146\
Data File : MS60146F.D
Acq On : 3 Sep 2013 12:32 am
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 11 16:31:53 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 15:17:28 2013
Response via : Initial Calibration

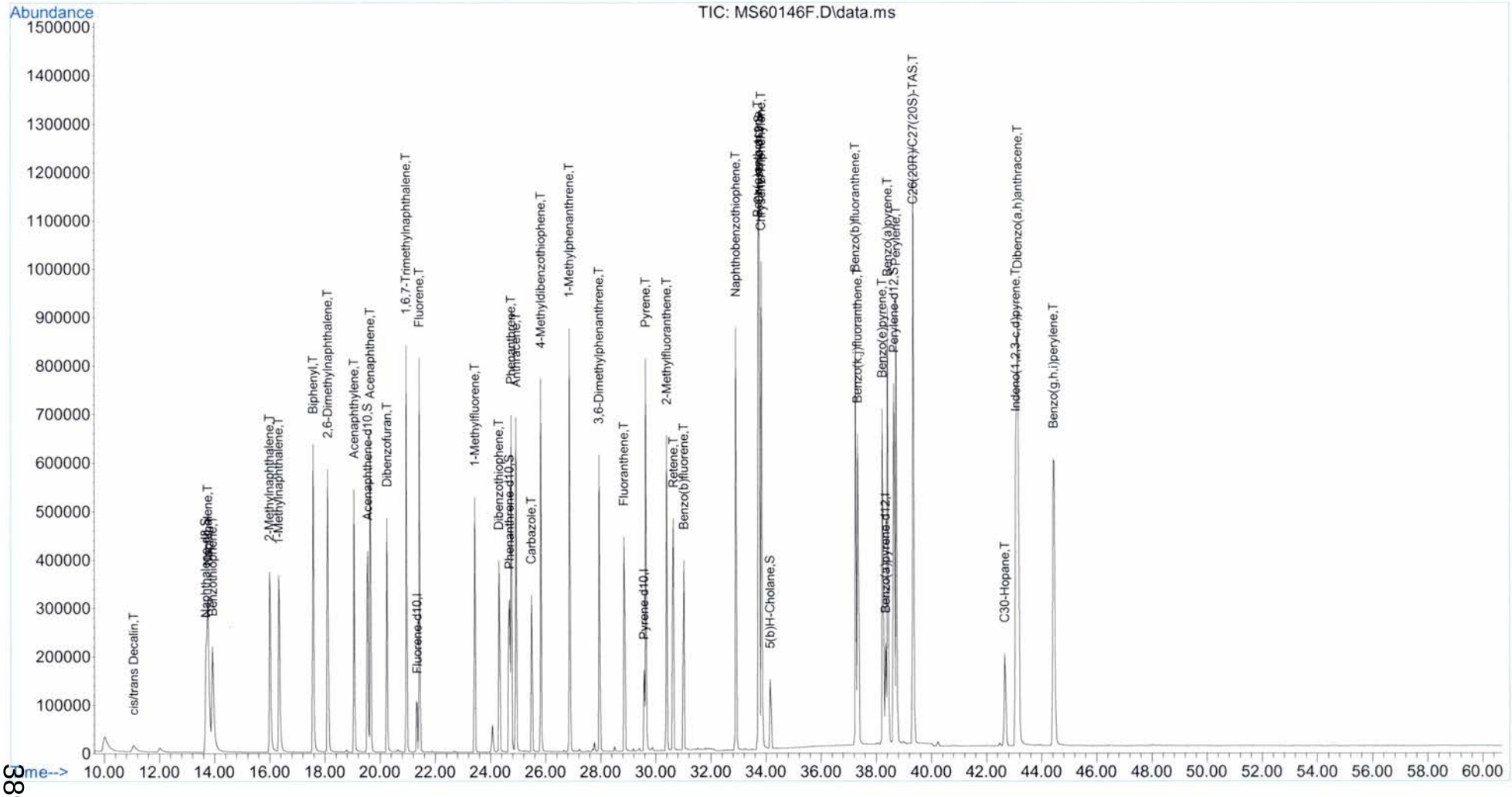
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146F.D
Acq On : 3 Sep 2013 12:32 am
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 11 16:31:53 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 15:17:28 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146G.D
Acq On : 3 Sep 2013 1:42 am
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 11 16:32:43 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 15:22:06 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.341	176	173609m	251.05		0.00
31) Pyrene-d10	29.572	212	340394m	250.63		0.00
73) Benzo(a)pyrene-d12	38.343	264	491374m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.678	136	5640229m	4912.78		0.00
21) Acenaphthene-d10	19.558	164	3272748m	4906.46		0.00
32) Phenanthrene-d10	24.688	188	5843203m	5379.35		0.00
66) Chrysene-d12	33.764	240	7633653m	4046.24		0.00
88) Perylene-d12	38.653	264	11175729m	5074.67		0.00
90) 5(b)H-Cholane	34.152	217	1693951m	4561.65		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.059	138	1018554m	5089.73		
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	13.762	128	5938909m	4688.40		
9) 2-Methylnaphthalene	15.991	142	3981213m	4852.09		
10) 1-Methylnaphthalene	16.326	142	3701418m	4857.84		
11) 2,6-Dimethylnaphthalene	18.109	156	3692752m	4942.90		
12) 1,6,7-Trimethylnaphtha...	20.951	170	3434418m	4899.88		
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	13.929	134	4796485m	4778.00		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.579	154	5198308m	4778.74		
23) Acenaphthylene	19.056	152	6194541m	4916.33		
24) Acenaphthene	19.669	154	3438112m	4897.78		
25) Dibenzofuran	20.255	168	5724928m	4916.76		
26) Fluorene	21.425	166	4438536m	4890.28		
27) 1-Methylfluorene	23.441	180	2924037m	5193.33		
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	25.484	167	5094001m	5102.95		
34) Dibenzothiophene	24.306	184	5769378m	4969.29		
35) 4-Methyldibenzothiophene	25.831	198	5550228m	5357.66		
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	24.757	178	7551375m	5562.10		
42) Anthracene	24.930	178	7444351m	5666.19		

Data Path : C:\GCMS6\MS60146\
Data File : MS60146G.D
Acq On : 3 Sep 2013 1:42 am
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 11 16:32:43 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 15:22:06 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	26.870	192	5002018m	4725.75		
48) 3,6-Dimethylphenanthrene	27.978	206	4585753m	5134.73		
49) Retene	30.645	234	2369365m	4461.84		
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	32.910	234	10083888m	4969.80		
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.879	202	7648574m	5166.25		
59) Pyrene	29.641	202	9490996m	4954.53		
60) 2-Methylfluoranthene	30.403	216	6792442m	5346.30		
61) Benzo(b)fluorene	31.026	216	6380242m	6004.57		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.725	228	9273983m	4524.09		
68) Chrysene/Triphenylene	33.841	228	7741375m	4118.80		
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	42.699	191	4021287m	4462.10		
77) Benzo(b)fluoranthene	37.256	252	13275183m	4712.71		
78) Benzo(k,j)fluoranthene	37.373	252	9826402m	3627.39		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.265	252	12237138m	5020.80		
81) Benzo(a)pyrene	38.420	252	11265694m	4544.03		
82) Indeno(1,2,3-c,d)pyrene	43.104	276	15269025m	4870.52		
83) Dibenzo(a,h)anthracene	43.178	278	12501577m	4979.02		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.506	276	13205871m	4793.59		
89) Perylene	38.731	252	11750684m	4608.60		
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	39.352	231	16035998m	4856.93		
95) C28(20S)-TAS	0.000		0	N.D.		
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146G.D
Acq On : 3 Sep 2013 1:42 am
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 11 16:32:43 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 15:22:06 2013
Response via : Initial Calibration

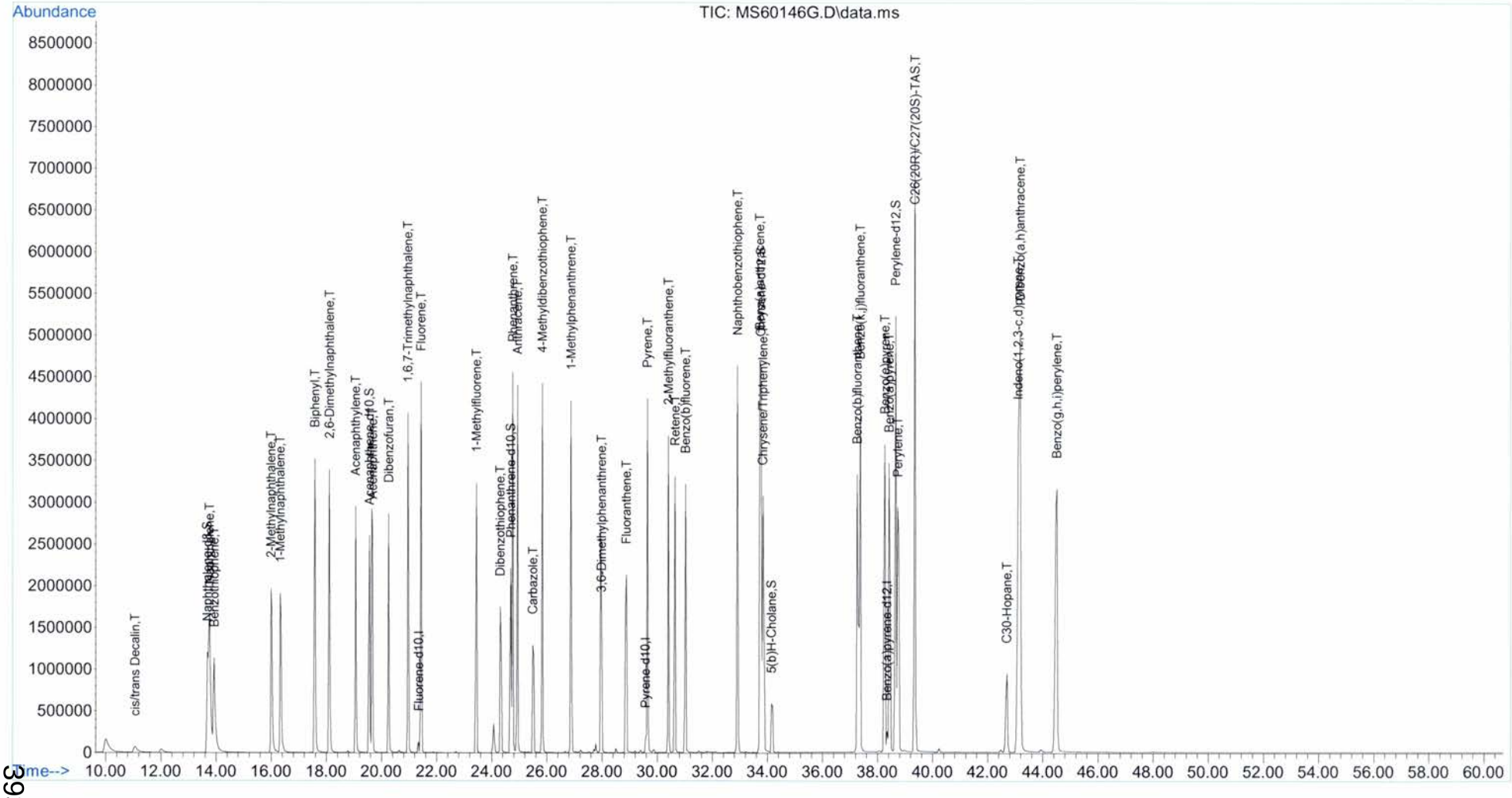
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146G.D
Acq On : 3 Sep 2013 1:42 am
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 11 16:32:43 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 15:22:06 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60146\
Data File : MS60146I.D
Acq On : 3 Sep 2013 4:01 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 11 16:37:57 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 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	108	0.00
2	S	Naphthalene-d8	1.702	1.586	6.8	107	0.03
3	T	cis/trans Decalin	0.323	0.353	-9.3	123	0.00
4	un	C1-Decalins	0.323	0.000	100.0#	0#	-12.40#
5	un	C2-Decalins	0.323	0.000	100.0#	0#	-14.54#
6	un	C3-Decalins	0.323	0.000	100.0#	0#	-16.24#
7	un	C4-Decalins	0.323	0.000	100.0#	0#	-18.53#
8	T	Naphthalene	1.817	1.999	-10.0	128	0.00
9	T	2-Methylnaphthalene	1.191	1.377	-15.6	134	0.03
10	T	1-Methylnaphthalene	1.110	1.284	-15.7	133	0.03
11	T	2,6-Dimethylnaphthalene	1.088	1.228	-12.9	130	0.00
12	T	1,6,7-Trimethylnaphthalene	1.015	1.173	-15.6	133	0.00
13	un	C2-Naphthalenes	1.817	0.000	100.0#	0#	-18.11#
14	un	C3-Naphthalenes	1.817	0.000	100.0#	0#	-20.25#
15	un	C4-Naphthalenes	1.817	0.000	100.0#	0#	-21.84#
16	T	Benzothiophene	1.453	1.643	-13.1	129	0.00
17	un	C1-Benzothiophenes	1.453	0.000	100.0#	0#	-15.38#
18	un	C2-Benzothiophenes	1.453	0.000	100.0#	0#	-18.55#
19	un	C3-Benzothiophenes	1.453	0.000	100.0#	0#	-20.20#
20	un	C4-Benzothiophenes	1.453	0.000	100.0#	0#	-22.12#
21	S	Acenaphthene-d10	0.968	0.878	9.3	105	0.00
22	T	Biphenyl	1.580	1.780	-12.7	130	0.00
23	T	Acenaphthylene	1.819	2.036	-11.9	129	0.00
24	T	Acenaphthene	1.015	1.139	-12.2	130	-0.03
25	T	Dibenzofuran	1.684	1.931	-14.7	132	0.00
26	T	Fluorene	1.314	1.458	-11.0	130	0.00
27	T	1-Methylfluorene	0.814	0.000	100.0#	0#	-23.44#
28	un	C1-Fluorenes	1.314	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.314	0.000	100.0#	0#	-25.31#
30	un	C3-Fluorenes	1.314	0.000	100.0#	0#	-26.59#
31	I	Pyrene-d10	1.000	1.000	0.0	110	0.00
32	S	Phenanthrene-d10	0.817	0.733	10.3	108	0.00
33	T	Carbazole	0.751	0.844	-12.4	134	0.00
34	T	Dibenzothiophene	0.871	0.979	-12.4	133	0.00
35	T	4-Methyldibenzothiophene	0.779	0.000	100.0#	0#	-25.83#
36	un	2/3-Methyldibenzothiophene	0.779	0.000	100.0#	0#	-26.11#
37	un	1-Methyldibenzothiophene	0.779	0.000	100.0#	0#	-26.45#
38	un	C2-Dibenzothiophenes	0.871	0.000	100.0#	0#	-27.25#
39	un	C3-Dibenzothiophenes	0.871	0.000	100.0#	0#	-28.74#
40	un	C4-Dibenzothiophenes	0.871	0.000	100.0#	0#	-30.40#
41	T	Phenanthrene	1.026	1.085	-5.8	130	0.00
42	T	Anthracene	0.993	1.046	-5.3	131	0.00
43	un	3-Methylphenanthrene	0.787	0.000	100.0#	0#	-26.87#
44	un	2-Methylphenanthrene	0.787	0.000	100.0#	0#	-26.87#
45	un	2-Methylanthracene	0.787	0.000	100.0#	0#	-26.87#
46	un	4/9-Methylphenanthrene	0.787	0.000	100.0#	0#	-26.87#

Data Path : C:\GCMS6\MS60146\
Data File : MS60146I.D
Acq On : 3 Sep 2013 4:01 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 11 16:37:57 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 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	0.787	0.885	-12.5	134	0.00
48	T	3,6-Dimethylphenanthrene	0.669	0.000	100.0#	0#	-27.98#
49	T	Retene	0.375	0.000	100.0#	0#	-30.65#
50	un	C2-Phenanthrenes/Anthracene	1.026	0.000	100.0#	0#	-28.50#
51	un	C3-Phenanthrenes/Anthracene	1.026	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.026	0.000	100.0#	0#	-32.00#
53	T	Naphthobenzothiophene	1.491	0.000	100.0#	0#	-32.91#
54	un	C1-Naphthobenzothiophenes	1.491	0.000	100.0#	0#	-34.19#
55	un	C2-Naphthobenzothiophenes	1.491	0.000	100.0#	0#	-35.78#
56	un	C3-Naphthobenzothiophenes	1.491	0.000	100.0#	0#	-37.30#
57	un	C4-Naphthobenzothiophenes	1.491	0.000	100.0#	0#	-38.46#
58	T	Fluoranthene	1.109	1.217	-9.7	133	-0.04
59	T	Pyrene	1.432	1.559	-8.9	131	0.00
60	T	2-Methylfluoranthene	0.958	0.000	100.0#	0#	-30.40#
61	T	Benzo(b)fluorene	0.802	0.000	100.0#	0#	-31.03#
62	un	C1-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-30.65#
63	un	C2-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-32.13#
64	un	C3-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-34.19#
65	un	C4-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-34.19#
66	S	Chrysene-d12	1.397	1.346	3.7	110	0.00
67	T	Benz(a)anthracene	1.486	1.737	-16.9	140	0.00
68	T	Chrysene/Triphenylene	1.401	1.677	-19.7	136	0.00
69	un	C1-Chrysenes	1.401	0.000	100.0#	0#	-35.55#
70	un	C2-Chrysenes	1.401	0.000	100.0#	0#	-36.36#
71	un	C3-Chrysenes	1.401	0.000	100.0#	0#	-38.07#
72	un	C4-Chrysenes	1.401	0.000	100.0#	0#	-39.62#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	106	0.00
74	un	C29-Hopane	0.449	0.000	100.0#	0#	-41.08#
75	un	18a-Oleanane	0.449	0.000	100.0#	0#	-41.96#
76	T	C30-Hopane	0.449	0.000	100.0#	0#	-42.70#
77	T	Benzo(b)fluoranthene	1.282	1.479	-15.4	134	0.00
78	T	Benzo(k,j)fluoranthene	1.150	1.386	-20.5	133	-0.04
79	un	Benzo(a)fluoranthene	1.150	0.000	100.0#	0#	-37.26#
80	T	Benzo(e)pyrene	1.248	1.438	-15.2	131	-0.04
81	T	Benzo(a)pyrene	1.256	1.439	-14.6	129	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.567	1.841	-17.5	135	-0.04
83	T	Dibenzo(a,h)anthracene	1.238	1.438	-16.2	131	-0.04
84	un	C1-Dibenzo(a,h)anthracenes	1.238	0.000	100.0#	0#	-49.34#
85	un	C2-Dibenzo(a,h)anthracenes	1.238	0.000	100.0#	0#	-50.63#
86	un	C3-Dibenzo(a,h)anthracenes	1.238	0.000	100.0#	0#	-50.66#
87	T	Benzo(g,h,i)perylene	1.370	1.568	-14.5	130	-0.07
88	S	Perylene-d12	1.127	1.013	10.1	106	0.00
89	T	Perylene	1.292	1.439	-11.4	127	0.00
90	S	5(b)H-Cholane	0.189	0.184	2.6	111	0.00
91	un	C20-TAS	1.683	0.000	100.0#	0#	-33.22#
92	un	C21-TAS	1.683	0.000	100.0#	0#	-34.19#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60146\
Data File : MS60146I.D
Acq On : 3 Sep 2013 4:01 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 11 16:37:57 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 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	1.683	0.000	100.0#	0# -38.65#
94 T	C26(20R)/C27(20S)-TAS	1.683	0.000	100.0#	0# -39.35#
95 un	C28(20S)-TAS	1.683	0.000	100.0#	0# -40.12#
96 un	C27(20R)-TAS	1.683	0.000	100.0#	0# -40.56#
97 un	C28(20R)-TAS	1.683	0.000	100.0#	0# -41.70#

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

Data Path : C:\GCMS6\MS60146\
Data File : MS60146I.D
Acq On : 3 Sep 2013 4:01 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 11 16:37:57 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.341	176	172340m	251.05		0.00
31) Pyrene-d10	29.571	212	358820m	250.63		0.00
73) Benzo(a)pyrene-d12	38.342	264	484374m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.706	136	272267m	232.97		0.03
21) Acenaphthene-d10	19.558	164	150853m	227.09		0.00
32) Phenanthrene-d10	24.687	188	262438m	224.47		0.00
66) Chrysene-d12	33.763	240	481869m	241.00		0.00
88) Perylene-d12	38.653	264	490214m	224.71		0.00
90) 5(b)H-Cholane	34.151	217	88779m	242.51		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.059	138	59940m	270.07		
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	13.762	128	343103m	275.04		
9) 2-Methylnaphthalene	16.019	142	236474m	289.14		
10) 1-Methylnaphthalene	16.353	142	220085m	288.83		
11) 2,6-Dimethylnaphthalene	18.109	156	210809m	282.38		
12) 1,6,7-Trimethylnaphtha...	20.951	170	201274m	288.76		
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	13.929	134	280227m	280.88		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.579	154	302762m	279.17		
23) Acenaphthylene	19.056	152	346616m	277.51		
24) Acenaphthene	19.641	154	195943m	281.09		
25) Dibenzofuran	20.254	168	329815m	285.23		
26) Fluorene	21.425	166	250706m	277.95		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.484	167	299261m	278.50		
34) Dibenzothiophene	24.306	184	345598m	277.12		
35) 4-Methyldibenzothiophene	0.000		0	N.D.	d	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.756	178	384776m	261.86		
42) Anthracene	24.929	178	375477m	264.14		

Data Path : C:\GCMS6\MS60146\
Data File : MS60146I.D
Acq On : 3 Sep 2013 4:01 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 11 16:37:57 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 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	26.869	192	313174m	278.08		
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	28.844	202	436041m	274.55		
59) Pyrene	29.640	202	558135m	272.33		
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	33.724	228	620524m	291.63		
68) Chrysene/Triphenylene	33.841	228	596666m	297.45		
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	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	37.256	252	716768m	288.83		
78) Benzo(k,j)fluoranthene	37.333	252	667910m	300.03		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.226	252	692885m	286.99		
81) Benzo(a)pyrene	38.420	252	694822m	285.95		
82) Indeno(1,2,3-c,d)pyrene	43.067	276	875261m	288.74		
83) Dibenzo(a,h)anthracene	43.141	278	689179m	287.63		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.432	276	751664m	283.52		
89) Perylene	38.730	252	696978m	278.75		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146I.D
Acq On : 3 Sep 2013 4:01 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 11 16:37:57 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration

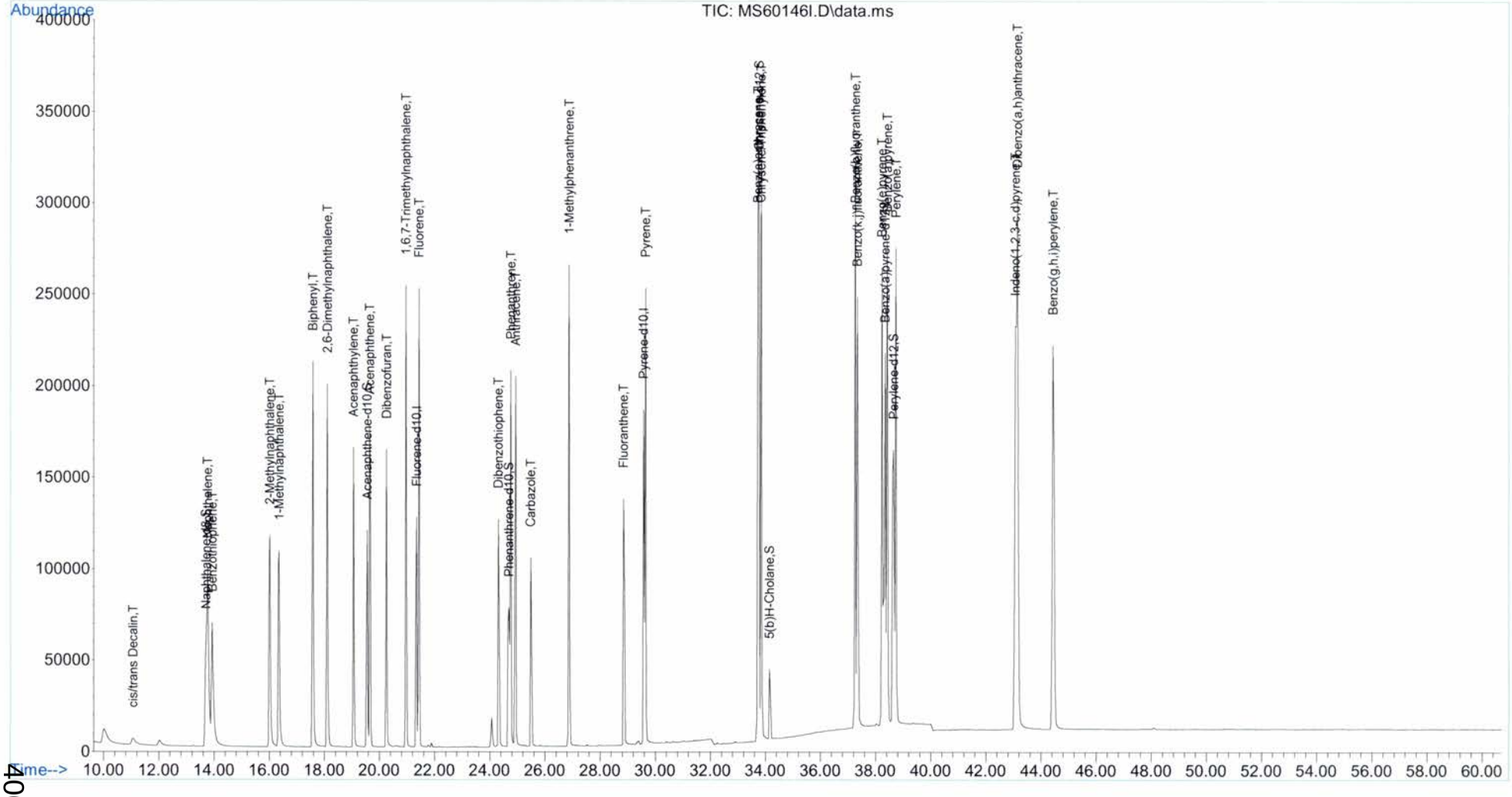
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60146\
Data File : MS60146I.D
Acq On : 3 Sep 2013 4:01 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 11 16:37:57 2013
Quant Method : C:\GCMS6\MS60146\AR60146.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Sep 11 16:32:59 2013
Response via : Initial Calibration



PAH Mass Discrimination Ratio

B&B Laboratories
Project J13034
Report 13-3114

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
MS60146B.D	AR-WKC1-020-030	27.4	20.8	1.32	
MS60146C.D	AR-WKC2-100-030	100	99.4	1.01	
MS60146D.D	AR-WKC3-250-030	225	229	0.98	
MS60146E.D	AR-WKC4-500-030	485	468	1.04	
MS60146F.D	AR-WKC5-1000-030	956	976	0.98	
MS60146G.D	AR-WKC6-5000-030	4794	5562	0.86	
MS60146I.D	AR-WKICV-250-004	283.5	261.9	1.08	
MS60146J.D	AR-WKCC-250-038	237.4	234.8	1.01	
MS60146L.D	AR-WKCC-250-038	238	190	1.25	
MS60146M.D	AR-WKCC-250-038	232	213	1.09	
MS60146N.D	AR-WKCC-250-038	234	210	1.12	

Qualifiers (Q): Ratio of Benzo(g,h,i)perylene to Phenanthrene needs to be ≥ 0.70

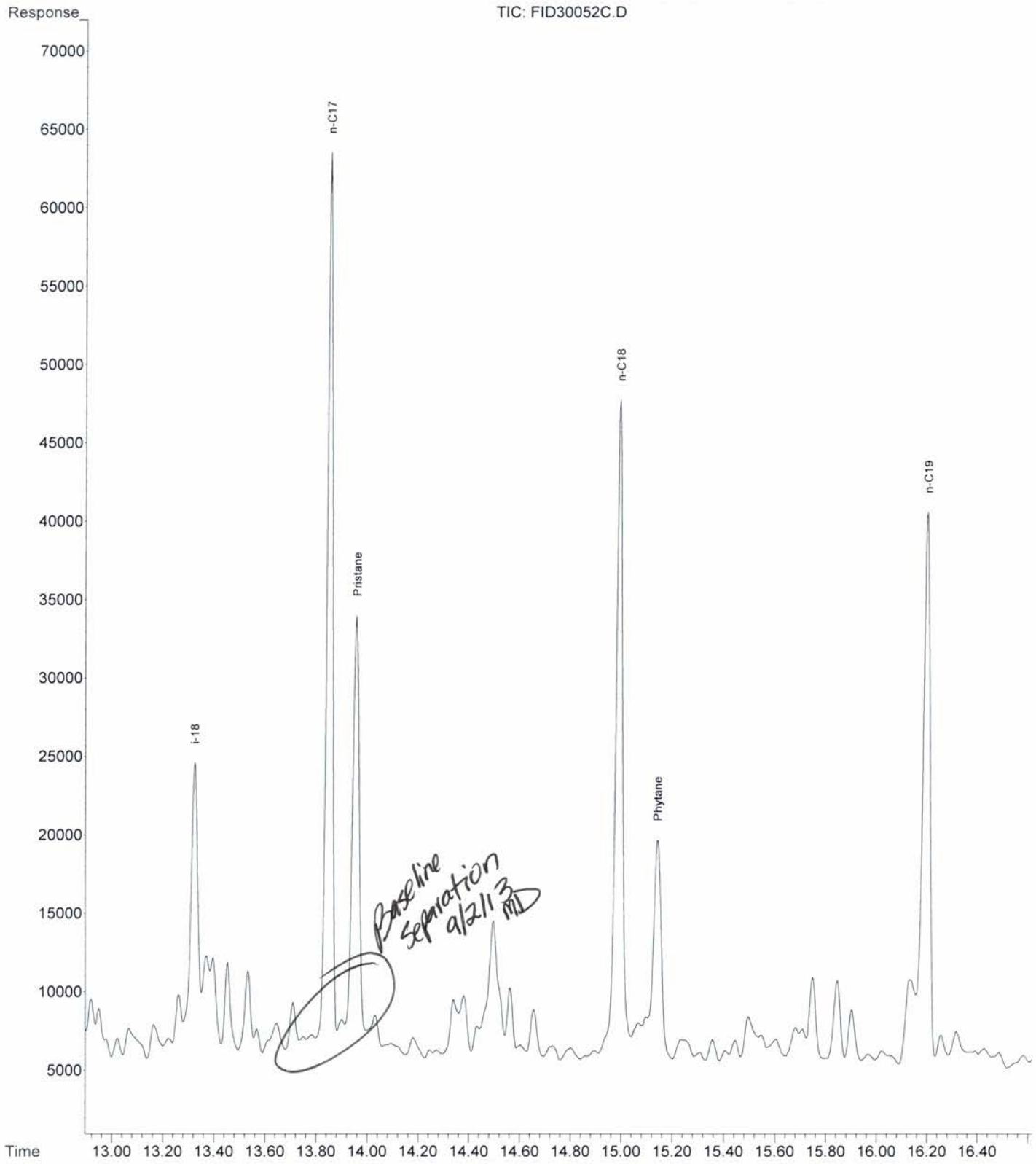
PAH Internal Standard Area Data

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)
MS60146D.D	AR-WKC3-250-030	159923	79962	319846	326537	163269	653074	456605	228303	913210
MS60146I.D	AR-WKICV-250-004	172340			358820			484374		
MS60146J.D	**AR-WKCC-250-038**	**131881**	**65941**	**263762**	**250590**	**125295**	**501180**	**356595**	**178298**	**713190**
ENV3093A.D	Procedural Blank	136749			272517			363223		
ENV3093B.D	SRM 1941b	113913			233858			407003		
ENV3093C.D	SED-DA-019 (0-0.5) MS	194401			434669			470244		
ENV3093D.D	SED-DA-019 (0-0.5) MSD	198120			462408			492997		
ENV3093E.D	Dupl. (SED-DA-045 (0-0.5))	245495			423638			539483		
ARC1816.D	SED-DA-045 (0-0.5)	260128			471516			545102		
ARC1817.D	SED-DA-045 (0.5-1.0)	221511			290067			367801		
MS60146L.D	**AR-WKCC-250-038**	**144136**	**72068**	**288272**	**361786**	**180893**	**723572**	**407922**	**203961**	**815844**
ARC1818.D	SED-DA-052 (0-0.5)	182171			438316			443147		
ARC1819.D	SED-DA-052 (0.5-1.0)	141052			332238			361132		
ARC1820.D	SED-DA-052 (1.0-1.5)	134360			336552			348531		
ARC1821.D	SED-DA-DUP-06-081013	187311			452008			406521		
ARC1822.D	SED-DA-018 (0-0.5)	168835			449462			430197		
ARC1823.D	SED-DA-018 (0.5-1.0)	159942			331658			332181		
ARC1824.D	SED-DA-018 (1.0-1.5)	132651			294250			373163		
ARC1825.D	SED-DA-018 (1.5-2.0)	137656			323896			346788		
MS60146M.D	**AR-WKCC-250-038**	**153115**	**76558**	**306230**	**325822**	**162911**	**651644**	**400256**	**200128**	**800512**
ARC1826.D	SED-DA-019 (0-0.5)	182087			413518			374413		
ARC1829.D	SED-DA-019 (0.5-1.0)	211299			338365			338812		
ARC1830.D	SED-DA-019 (1.0-1.5)	135681			299355			381939		
ARC1833.D	SO-DA-001 (0-0.5)	158419			310709			290957		
ARC1834.D	SO-DA-001 (0.5-1.0)	148613			303152			285656		
ARC1835.D	SO-DA-001 (1.0-1.5)	143760			313914			343085		
ARC1839.D	SO-DA-002 (0.5-1.0)	133262			320470			244971		
ARC1840.D	SO-DA-002 (1.0-1.5)	121410			291096			300344		
MS60146N.D	**AR-WKCC-250-038**	**156251**	**78126**	**312502**	**350040**	**175020**	**700080**	**402231**	**201116**	**804462**

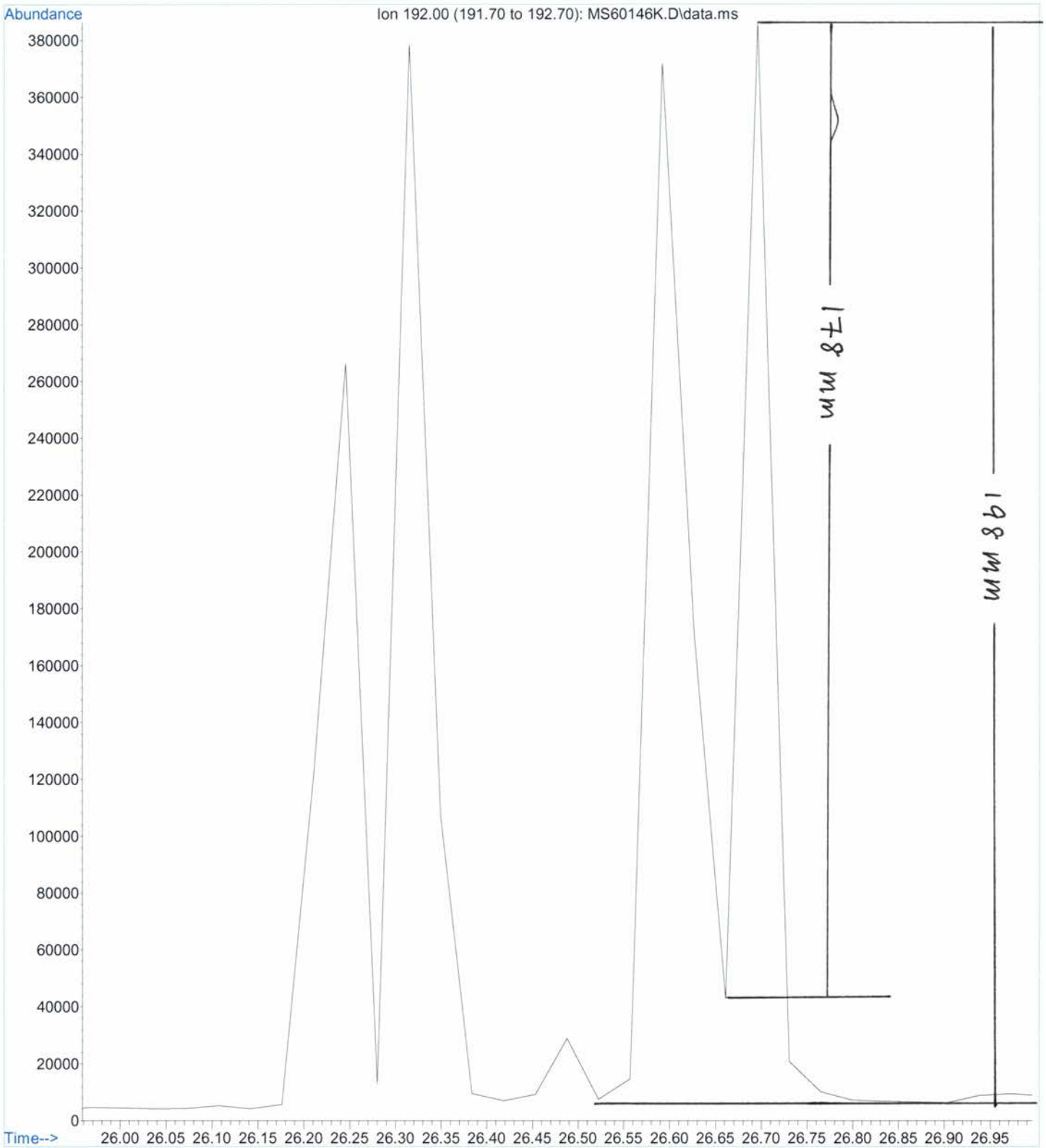
SRM-2779 Reference Oil Aliphatic and PAH Resolution Checks

File :P:\2013\J13034\Aliphatics\ENV 3093\FID30052\FID30052C.D
Operator : Meghan Dailey
Acquired : 28-Aug-2013, 22:15:39 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: AL-SRM2779-20-01
Misc Info :
Vial Number: 3



File :C:\GCMS6\MS60146\MS60146K.D
Operator : YM
Acquired : 3 Sep 2013 6:23 am using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: AR-SRM2779-WK-4.0-002
Misc Info :
Vial Number: 11

90% separation



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: 8/12/13
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
Trk# 8022 2781 5939
0200

TUE - 13 AUG 10:30A
PRIORITY OVERNIGHT

XH CLLA

77845
TX-US IAH

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J18034 Date Received: 8/13/13 SDG#: 13081301

Sender: Arcadis- Mayflower AR

1. Number of Shipping Containers: 4 Arcadis: Daniel Mays

Comments: 2 of 4, 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 1308130
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 DOWLINS RD STE B
E STATION, TX 778453473
STATES US

SHIP DATE: 12AUG13
ACTWGT: 66.9 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# 0881 7958 1083 5899
Mstr# 8022 2781 5939
0200

TUE - 13 AUG
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: 3 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: 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



FedEx Express NEW Package US Airbill

FedEx Tracking Number 8022 2781 5939

0200

1 From
Date 3-15-13
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
We cannot deliver to P.O. boxes or P.O. ZIP codes.
Dept./Floor/Suite/Room
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.

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 address, someone at a neighboring address may sign for delivery. Fee applies.

Does this shipment contain dangerous goods?
One box must be checked.
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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8022 2781 5939

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 (TG

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 seeds
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 B0086002.1301

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Analyses

Other Instructions: Sdg 13081301 Cooler 3 of 4 (1)

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)	8/9/13	1235	Sed	none	8oz	1	X	X			2		Full List
SED-DA-021 (0.5-1.0)		1240			4oz						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			8oz			X			2		Full List
SED-DA-042 (0-0.5)ms		1400			8oz			X			2		Full List
SED-DA-042 (0-0.5)msD		1400			8oz			X			2		Full List
SED-DA-042 (0.5-1.0)		1405			4oz						2		44 PAHs List
					Total # of Containers	10							

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 B0086003.1301

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays Daniel Mays

Analyses

Other Instructions: sdg 13081301 Cooler 3 of 4 (2)

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs + 8270 SIM	TEH by 8015 Sol's			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						

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 Bower Pipeline Incident B0086003.1301

B&B Contact: Dina 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

Analyses

Other Instructions: SDG 13081301 Cooler 3 of 4 (4)

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs + 8270 S-IM	TEH by mod 8015	Cooler #	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	
VV So-DA-EB-04-081113		1100	Water	Yr	VOA	2	X		1,1	
					Total # of Containers	10				

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

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs + 8270 Sim	Analyses: TEH by mod 8015	Analyses:	Analyses:	Analyses: Cooler #	Analyses:	Other Instructions / Comments
													Sdg 13081301 Cooler 3 of 4 (5)
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								

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: 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:	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			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 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

Analyses

Other Instructions: Sdg 13081301 Cooler 3 of 4 (7)

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs + 8270 Sim	TEH by mod 8015			Cooler #		Comments
SED-DA-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

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

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, AL
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 µl
Spike Standard(s): ali / PAH Volume(s): 100 µl
Internal Standard(s): ali / PAH Volume(s): 100 µl
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 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: 8/13/13
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	x	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

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081301
Client: Arcadis - MayflowerAR
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	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 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	a	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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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)

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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
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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
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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
Environmental Lab Manager
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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 1944	☑ Blank Spike
☐	Blank Spike Duplicate	☑	Matrix Spike ____
☑	Matrix Spike Duplicate ____	☑	Duplicate ____

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, ALI Volume(s): 100ml

Spike Standard(s): PAH, ALI Volume(s): 100ml

Internal Standard(s): PAH, ALI Volume(s): 100ml

Final Extract Volume (ml): 1.0 Final Solvent: DCM

Comments:

Sample Custodian Signature: amanda Brewster Date: 8/14/13

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

1/8

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 SRM1941b	☐	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	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
64516	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/

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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
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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

ARCADIS, Imagine the result

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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
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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	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

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/14/13 SDG#: 13081401

Sender: Arcadis- Mayflower, AR

1. Number of Shipping Containers: 1 Arcadis: Ryan Lewis

Comments: large blue cooler

2. Airbill Present? (Yes)/No Shipping Company: Fed Ex

Airbill Number: 8022 2781 5847 Comments: PON

3. Custody Seals on Container?
No (Yes) (Intact) Not Intact Comments: on top of duct tape

4. Chain of Custody Records?
No (Yes) Comments

5. General Sample Conditions:
Frozen (Cool) Unrefrigerated
Dry Ice Blue Ice (Ice)

Temperature/Comments: 0.9°c / temp blank 0.9°c (T6

6. List of Broken Containers:

None

7. Number of Samples Expected: 1 cooler Number of Samples Received: 21 soil
2 water

8. Problems/Discrepancies:

None

9. Resolutions:

N/A

10. Checked in by: Amanda Brewster Date: 8/14/13

large blue cooler

Ice type: wet ice
Cooler temp: 0.9
Temp blank: 0.9
Thermometer: 6
Custody seal:

Sdg 13081401
Cooler 1 of 1

eurofins | Lancaster Laboratories

480554
CUSTODY SEAL

DATE: 8/13/13
SIGNATURE:

2425 New Holland Pike, Lancaster, PA 17601-5994 (717) 656-2300

FedEx NEW Package

8022 2781 5847

0200

Recipient's Copy

1 From
Date 8-13-20
Sender's Name Ryan Lewis Phone 503 863-9000
Company ARCADIS
Address 111 SW Columbia Street Ste 675
Dept./Floor/Suite/Room
City Portland State OR ZIP 97201

2 Your Internal Billing Reference

3 To
Recipient's Name B+B Laboratories Phone
Company B+B
Address 145 JB South Dupont Rd
We cannot deliver to P.O. boxes or P.O. ZIP codes.
Dept./Floor/Suite/Room
Address
Use this line for the HOLD location address or for continuation of your shipping address.
City Chester Springs State IL ZIP 7345

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.

4 Express Package Service * To most locations.
NOTE: Service order has changed. Please select carefully.
Packages up to 150 lbs.
For packages over 150 lbs., use the new FedEx Express Freight (1Q Airbill)

Next Business Day
- FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days
- FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.
- FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.
- FedEx Envelope*
- FedEx Pak*
- FedEx Box
- FedEx Tube
- Other

6 Special Handling and Delivery Signature Options
- SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.
- No Signature Required — Package may be left without obtaining a signature for delivery.
- Direct Signature — Someone at recipient's address may sign for delivery. Fee applies.
- Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. Fee applies.

Does this shipment contain dangerous goods?
- No
- Yes — As per attached Shipper's Declaration.
- Yes — Shipper's Declaration not required.
- Dry Ice — Dry ice, 9, UN 1845 ____ x ____ kg
- Cargo Aircraft Only

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

7 Payment Bill to:
Enter FedEx Acct. No. or Credit Card No. below.
- Sender — Acct. No. in Section 1 will be billed
- Recipient
- Third Party
- Credit Card
- Cash/Check

Total Packages ____ Total Weight ____ lbs.
Credit Card Auth.

*Our liability is limited to $100.00 unless you declare a higher value. See the current FedEx Service Guide for details.

644

8022 2781 5847

B&B Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Home Office 14391B South Dowling Road College Station TX 77845 phone (979) 693-3446 fax (979) 693-6389 http://www.tdi-bi.com

TDI Brooks

Client: ARCADIS

Project ID: Book6003.1301 Mayflower Pipeline

B&B Contact: Juan Ramirez

Sampler Signature:

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs + 8270 SIM	Other Instructions	Comments
SS-DA-001 (0-0.5)	8/13/13	1030	Sed	none	4oz	1	X	sdg 13081401 Cooler 1 of 1 (1)	44 PAHs List
SS-DA-001 (0.5-1.0)		1035				1			
SO-DA-001 (1.0-1.5)		1040				1			
SO-DA-002 (0-0.5)		1100				1			
SO-DA-002 (0-0.5)MS		1100				1			
SO-DA-002 (0-0.5)MSD		1100				1			
SS-DA-002 (0.5-1.0)		1105				1			
SS-DA-002 (1.0-1.5)		1110				1			
SO-DA-003 (0-0.5)		1215				1			
SO-DA-003 (0.5-1.0)		1220				1			
					Total # of Containers	10			

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jonathan Flemerfelt	ARCADIS	8/13/13	1630	Printed Name: Amanda Brewster	B&B Labs	8/14/13	11:00
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

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TDI Brooks

Client: ARCADIS

Project ID: B0086003.1301 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature:

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs + 8270 SIM	Other Instructions	Comments
SO-DA-003 (1-1.5)	8/13/13	1225	Sed	none	4 oz	1	X	sdg 13081401 Cooler 1 of 1 (2)	4/4 PAHs List
SO-DA-004 (0-0.5)		1330				1			
SO-DA-004 (0.5-1.0)		1335				1			
SO-DA-004 (1.0-1.5)		1340				1			
SO-DA-005 (0-0.5)		1400				1			
SO-DA-005 (0.5-1.0)		1405				1			
SO-DA-005 (1.0-1.5)		1410				1			
SO-DA-006 (0-0.5)		1430				1			
SO-DA-006 (0.5-1.0)		1435				1			
SO-DA-006 (1.0-1.5)		1440				1			
					Total # of Containers	10			

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jonathon Flowerdew	ARCADIS	8/12/13	1630	Printed Name: Amanda Brewster	B&B Labs	8/14/13	11:00
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: B0086003.1301 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature:

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs + 8270 SIM	Other Instructions	Comments
SO-DA-Grab-06-081313	8/13/13		Soil	none	4oz	1		SDG 13081401 cooler 1 of 1 (3)	44 PAHs List
SO-DA-EB-05-081313	↓	1610	Water	↓	1 LAG	2			↓

Total # of Containers: 3

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jonathan Flomer Felt	ARCADIS	8/13/13	1630	Printed Name: Amanda Brewster	B&B Labs	8/14/13	11:00
Signature:	↓	↓	↓	Signature: Amanda Brewster			
Printed Name				Printed Name:			
Signature:				Signature:			

Matrix:

T=Tissue G=Gas
S=Soil/Sediment Ws=Waste
R=Rinseate HW=Hazardous Waste
P=Product W=Water

Sample Container: Vol/material

G=Glass C=Core
P=Plastic B=Bag

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
64522	J13034	Arcadis - Mayflower AR	ARC1833	SO-DA-001 (0-0.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64523	J13034	Arcadis - Mayflower AR	ARC1834	SO-DA-001 (0.5-1.0)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64524	J13034	Arcadis - Mayflower AR	ARC1835	SO-DA-001 (1.0-1.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64525	J13034	Arcadis - Mayflower AR	ARC1836	SO-DA-002 (0-0.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64526	J13034	Arcadis - Mayflower AR	ARC1837	SO-DA-002 (0-0.5) MS	08/13/13	08/14/13	PAH	SOIL	44 analytes, MS	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64527	J13034	Arcadis - Mayflower AR	ARC1838	SO-DA-002 (0-0.5) MSD	08/13/13	08/14/13	PAH	SOIL	44 analytes, MSD	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64528	J13034	Arcadis - Mayflower AR	ARC1839	SO-DA-002 (0.5-1.0)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64529	J13034	Arcadis - Mayflower AR	ARC1840	SO-DA-002 (1.0-1.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64530	J13034	Arcadis - Mayflower AR	ARC1841	SO-DA-003 (0-0.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64531	J13034	Arcadis - Mayflower AR	ARC1842	SO-DA-003 (0.5-1.0)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64532	J13034	Arcadis - Mayflower AR	ARC1843	SO-DA-003 (1.0-1.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64533	J13034	Arcadis - Mayflower AR	ARC1844	SO-DA-004 (0-0.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64534	J13034	Arcadis - Mayflower AR	ARC1845	SO-DA-004 (0.5-1.0)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64535	J13034	Arcadis - Mayflower AR	ARC1846	SO-DA-004 (1.0-1.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64536	J13034	Arcadis - Mayflower AR	ARC1847	SO-DA-005 (0-0.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64537	J13034	Arcadis - Mayflower AR	ARC1848	SO-DA-005 (0.5-1.0)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64538	J13034	Arcadis - Mayflower AR	ARC1849	SO-DA-005 (1.0-1.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64539	J13034	Arcadis - Mayflower AR	ARC1850	SO-DA-006 (0-0.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64540	J13034	Arcadis - Mayflower AR	ARC1851	SO-DA-006 (0.5-1.0)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64541	J13034	Arcadis - Mayflower AR	ARC1852	SO-DA-006 (1.0-1.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64542	J13034	Arcadis - Mayflower AR	ARC1853	SO-DA-DUP-06-081313	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64543	J13034	Arcadis - Mayflower AR	ARC1854	SO-DA-EB-05-081313	08/13/13	08/14/13	PAH	WATER	44 analytes, 1 of 2	13081401	Cooler 1	Arcadis: Ryan Lewis	1L amber glass BR bottle		B0086003.1302
64544	J13034	Arcadis - Mayflower AR	ARC1855	SO-DA-EB-05-081313	08/13/13	08/14/13	HOLD	WATER	44 analytes, 2 of 2	13081401	Cooler 1	Arcadis: Ryan Lewis	1L amber glass BR bottle		B0086003.1302

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081401
Client: Arcadis- Mayflower AR
Initiation Date: 8/14/13

Number of Samples: 21
Matrix: Soil
Due Date: 45 days: 9/28/13
Comments: ~~PAH~~: 44 analytes
received 8/14/13

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, AC — Volume(s): 100 µl
Spike Standard(s): PAH, AC — Volume(s): 100 µl
Internal Standard(s): PAH, AC — 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	Project #
64522	J13034	Arcadis - Mayflower AR	ARC1833	SO-DA-001 (0-0.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64523	J13034	Arcadis - Mayflower AR	ARC1834	SO-DA-001 (0.5-1.0)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64524	J13034	Arcadis - Mayflower AR	ARC1835	SO-DA-001 (1.0-1.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64525	J13034	Arcadis - Mayflower AR	ARC1836	SO-DA-002 (0-0.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64526	J13034	Arcadis - Mayflower AR	ARC1837	SO-DA-002 (0-0.5) MS	08/13/13	08/14/13	PAH	SOIL	44 analytes, MS	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64527	J13034	Arcadis - Mayflower AR	ARC1838	SO-DA-002 (0-0.5) MSD	08/13/13	08/14/13	PAH	SOIL	44 analytes, MSD	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64528	J13034	Arcadis - Mayflower AR	ARC1839	SO-DA-002 (0.5-1.0)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64529	J13034	Arcadis - Mayflower AR	ARC1840	SO-DA-002 (1.0-1.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64530	J13034	Arcadis - Mayflower AR	ARC1841	SO-DA-003 (0-0.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64531	J13034	Arcadis - Mayflower AR	ARC1842	SO-DA-003 (0.5-1.0)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64532	J13034	Arcadis - Mayflower AR	ARC1843	SO-DA-003 (1.0-1.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64533	J13034	Arcadis - Mayflower AR	ARC1844	SO-DA-004 (0-0.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64534	J13034	Arcadis - Mayflower AR	ARC1845	SO-DA-004 (0.5-1.0)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64535	J13034	Arcadis - Mayflower AR	ARC1846	SO-DA-004 (1.0-1.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64536	J13034	Arcadis - Mayflower AR	ARC1847	SO-DA-005 (0-0.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64537	J13034	Arcadis - Mayflower AR	ARC1848	SO-DA-005 (0.5-1.0)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64538	J13034	Arcadis - Mayflower AR	ARC1849	SO-DA-005 (1.0-1.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64539	J13034	Arcadis - Mayflower AR	ARC1850	SO-DA-006 (0-0.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64540	J13034	Arcadis - Mayflower AR	ARC1851	SO-DA-006 (0.5-1.0)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64541	J13034	Arcadis - Mayflower AR	ARC1852	SO-DA-006 (1.0-1.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64542	J13034	Arcadis - Mayflower AR	ARC1853	SO-DA-DUP-06-081313	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081401
Client: Arcadis-Mayflower, AR
Initiation Date: 8/14/13

Number of Samples: 1
Matrix: water
Due Date: 45 days: 9/28/13
Comments: collected 8/13/13
extract by 8/19/13
received 8/14/13

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, A11 Volume(s): 100µl
Spike Standard(s): PAH, A11 Volume(s): 100µl
Internal Standard(s): PAH, A11 Volume(s): 100µl
Final Extract Volume (ml): 1.0 Final Solvent: DCM

Comments:

Sample Custodian Signature: Amanda Brewster Date: 8/14/13 8/13/14 QB 8/14/13
Laboratory Manager Signature: _____ Date: 8/14/13

Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	x	Project #
J13034	Arcadis - Mayflower AR	ARC1854	SO-DA-EB-05-081313	08/13/13	08/14/13	PAH	WATER	44 analytes, 1 of 2	13081401	Cooler 1	Arcadis: Ryan Lewis	1L amber glass BR bottle		B0086003.1302

amanda brewster

From: amanda brewster <amandabrewster@tdi-bi.com>
Sent: Wednesday, August 14, 2013 10:52 AM
To: 'Lewis, Ryan'; 'Mays, Daniel'; Parmelee, Rhiannon (Rhiannon.Parmelee@arcadis-us.com); 'Jennifer.Chandler@arcadis-us.com'; 'Dennis.Capria@arcadis-us.com'; Mott, Lyndi (Lyndi.Mott@arcadis-us.com)
Cc: Juan Ramirez (juanramirez@tdi-bi.com); Donell Frank; 'tommcdonald@tdi-bi.com' (tommcdonald@tdi-bi.com)
Subject: Samples Received 8/14/13
Attachments: COC 8-14-13.pdf

Hi Ryan,

We received your cooler this morning in good condition.
The internal temperature of the cooler was 0.9ºC and the temperature blank was 0.9ºC.
A PDF of the COC is attached for your records.

Regards,
Amanda

From: Lewis, Ryan [mailto:Ryan.Lewis@arcadis-us.com]
Sent: Tuesday, August 13, 2013 7:18 PM
To: amandabrewster@tdi-bi.com
Cc: Mays, Daniel
Subject: One Cooler Shipped 8-13-2013

Good Evening Amanda,

One cooler shipped today from the XOM-Mayflower Site are under tracking #8022 2781 5847.

Regards,

Ryan B Lewis | Geologist 1 | ryan.lewis@arcadis-us.com

ARCADIS U.S., Inc. | 111 SW Columbia Street, Suite 670 | Portland, OR 97201
T: 503 220 8201 ext. 1101 | M: 503 863 9060
www.arcadis-us.com

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Laboratory Bench Sheet Logs

B&B LABORATORIES ENVIRONMENTAL EXTRACTION LOG

MATRIX: ☐ OTHER ☐ WATER ☒ SEDIMENT ☐ TISSUE

Job #: J13034 SDG #: 13081301, 13081401

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-1000-026
Pest/PCB: —
Aliphatic: AL-WKSK-100-020
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 13-3114

All samples get PAH + ALI standards.
See comments for specific analysis -CK

	Added	Witness
Surrogate:	8/23/13 HA	8/23/13 CK
Spike:	8/23/13 HA	8/23/13 CK
Internal:	8/27/13 CK	8-27-13

	Sample Name	Client ID	Wet Wt. (g or L)	Dry Wt. %	Dry Wt. (g)	Extraction Comments
1	ENV3093A	Procedural Blank	-	-	-	
2	ENV3093B	SRM 1941b	4.15	97.61	4.05	
3	ENV3093C	Matrix Spike (ARC1827)	103.16	14.71	15.17	
4	ENV3093D	Matrix Spike Dup (ARC1828)	110.78	13.68	15.15	
5	ENV3093E	Duplicate (ARC1816)	10.17	50.34	5.12	Petroleum smell - 5 g only
6	ARC1816	SED-DA-045 (0-0.5)	10.19	50.34	5.13	Petroleum smell - 5 g only
7	ARC1817	SED-DA-045 (0.5-1.0)	25.54	59.12	15.10	PAH only
8	ARC1818	SED-DA-052 (0-0.5)	38.04	39.52	15.03	
9	ARC1819	SED-DA-052 (0.5-1.0)	22.50	67.12	15.10	PAH only
10	ARC1820	SED-DA-052 (1.0-1.5)	20.49	73.46	15.05	PAH only
11	ARC1821	SED-DA-DUP-06-081013	56.30	26.79	15.08	
12	ARC1822	SED-DA-018 (0-0.5)	59.77	25.36	15.16	

Internal Chain of Custody

Extraction Prep	
Date: 8/23/13	Date: 8/23/13
Initials: HA	Initials: CK
Extraction	
Date: 8-23-13	Date: 8-24-13
Initials:	Initials:
Concentration	
Date: 8-26-13	Date: 8-26-13
Initials:	Initials:
Short Columns	
Date: 8-26-13	Date: 8-26-13
Initials:	Initials:

ENV 3093

B&B LABORATORIES ENVIRONMENTAL EXTRACTION LOG

	Sample Name	Client ID	Wet Wt. (g or L)	Dry Wt. %	Dry Wt. (g)	Extraction Comments	Internal Chain of Custody
13	ARC1823	SED-DA-018 (0.5-1.0)	41.77	~~36.42~~ 36.22	15.13	PAH only	Concentration Short Columns Date: 8-27-13 Initials: EM
14	ARC1824	SED-DA-018 (1.0-1.5)	22.04	68.42	15.08	PAH only	
15	ARC1825	SED-DA-018 (1.5-2.0)	19.79	76.35	15.11	PAH only	
16	ARC1826	SED-DA-019 (0-0.5)	103.38	14.66	15.15	original for MS/MSD	Columns SA1 Date: Initials:
17	ARC1829	SED-DA-019 (0.5-1.0)	43.38	34.69	15.05	PAH only	
18	ARC1830	SED-DA-019 (1.0-1.5)	21.17	71.72	15.18	PAH only	
19	ARC1833	SO-DA-001 (0-0.5)	18.35	82.39	15.12	PAH only	Concentration SA1 Date: Initials:
20	ARC1834	SO-DA-001 (0.5-1.0)	18.38	81.95	15.06	PAH only	
21	ARC1835	SO-DA-001 (1.0-1.5)	16.84	89.92	15.14	PAH only	
22	ARC1839	SO-DA-002 (0.5-1.0)	18.67	80.77	15.08	PAH only	Columns SA2 Date: Initials:
23	ARC1840	SO-DA-002 (1.0-1.5)	19.40	78.05	15.14	PAH only	
24							Concentration SA2 Date: Initials:

Dry Weight Page
DRY 1364, 1365

Lipid/EOM Page
EOM 1031

Clean-up/Separation/Other Columns
—

Lot Numbers
- DCM: 52314
- Hexane: —
- Hydromatrix: —
- Water: DI514-F
- Silica: BCBJ9493V
- Alumina: TG14B2EMS
- Sodium Sulfate: 2092C525
- Pentane: —
- Copper: 115050-AV
- Hydrochloric Acid: —
- SPE Columns: —
- Other: —

Sample Storage Box #
J13034-4

HPLC Storage Box #
—

QC Review

Date	Initials
8/28/13	

Copied to Folders
8/28/13 CK

Transfer for HPLC Date: Initials:

HPLC Date: Initials:

Post-HPLC Concentration Date: Initials:

Final Extract Transfer Date: 8-27-13 Initials: EM

B&B LABORATORIES % DRY WEIGHT LOGBOOK

MATRIX
- ☐ OTHER
- ☒ SEDIMENT
- ☐ TISSUE Type

Job #: J13034 SDG #: 13081401

Client: Arcadis - Mayflower AR

General comments:

Lab Mananger		Date/Init: ☒ Bal. Cal.	Beaker + Dry Smpl (g)		Date/Init:
Date:	Init:		Date/Init: ☑ Bal. Cal.	Date/Init: ☑ Bal. Cal.	
8/21/13		8/15/13	8/16/13 HA	8/19/13	8/21/13 CK

	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	1	2	(%) Dry Weight	Comments
1	ARC1833	SO-DA-001 (0-0.5)	1.32	2.74	2.50	2.49	82.39	
2	ARC1834	SO-DA-001 (0.5-1.0)	1.30	2.63	2.39	2.39	81.95	
3	ARC1835	SO-DA-001 (1.0-1.5)	1.31	2.50	2.38	2.38	89.92	
4	ARC1836	SO-DA-002 (0-0.5)	1.30	2.66	2.38	2.37	78.68	
5	ARC1837	SO-DA-002 (0-0.5) MS	1.31	2.57	2.28	2.28	76.98	
6	ARC1838	SO-DA-002 (0-0.5) MSD	1.29	3.32	2.89	2.89	78.82	
7	ARC1839	SO-DA-002 (0.5-1.0)	1.32	2.62	2.38	2.37	80.77	
8	ARC1840	SO-DA-002 (1.0-1.5)	1.31	2.95	2.59	2.59	78.05	
9	ARC1841	SO-DA-003 (0-0.5)	1.31	2.40	2.16	2.15	77.06	
10	ARC1842	SO-DA-003 (0.5-1.0)	1.29	2.91	2.63	2.63	82.72	
11	ARC1843	SO-DA-003 (1.0-1.5)	1.30	2.71	2.49	2.49	84.40	
12	ARC1844	SO-DA-004 (0-0.5)	1.29	2.45	2.16	2.16	75.00	
13	ARC1845	SO-DA-004 (0.5-1.0)	1.32	2.59	2.40	2.40	85.04	
14	ARC1846	SO-DA-004 (1.0-1.5)	1.32	3.09	2.74	2.72	79.10	
15	ARC1847	SO-DA-005 (0-0.5)	1.32	3.35	3.02	3.01	83.25	
16	ARC1848	SO-DA-005 (0.5-1.0)	1.32	2.55	2.36	2.36	84.55	

DRY 1364

B&B LABORATORIES % DRY WEIGHT LOGBOOK

					Beaker + Dry Smpl (g) Date/Init: 8/16/13 HA [X] Bal. Cal.	Beaker + Dry Smpl (g) Date/Init: 8/19/13 HA [✓] Bal. Cal.		
	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	1	2	(%) Dry Weight	Comments
17	ARC1849	SO-DA-005 (1.0-1.5)	1.33	2.92	2.58	2.58	78.62	
18	ARC1850	SO-DA-006 (0-0.5)	1.33	2.53	2.22	2.22	74.17	
19	ARC1851	SO-DA-006 (0.5-1.0)	1.31	3.11	2.74	2.74	79.44	
20	ARC1852	SO-DA-006 (1.0-1.5)	1.32	2.83	2.62	2.61	85.43	
21	ARC1853	SO-DA-DUP-06-081313	1.30	2.77	2.45	2.45	78.23	
22	ARC1853 Dup	Duplicate	1.31	2.95	2.67	2.67	82.93	
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
8/21/13 CK	5.827%
Sample # ARC1853	
Duplicate # ARC1853 Dup	

DRY 1364

B&B LABORATORIES % DRY WEIGHT LOGBOOK

MATRIX
- ☐ OTHER
- ☒ SEDIMENT
- ☐ TISSUE Type

Job #: J13034 SDG #: 13081301

Client: Arcadis - Mayflower AR

General comments:

Lab Mananger		Date/Init: ☒ Bal. Cal.	Beaker + Dry Smpl (g)		Date/Init:
Date: 8/21/13	Init:	8/16/13 ABS	Date/Init: 8/16/13 HA ☒ Bal. Cal.	Date/Init: 8/19/13 HA ☑ Bal. Cal.	8/21/13 CK

	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	1	2	(%) Dry Weight	Comments
1	ARC1816	SED-DA-045 (0-0.5)	1.31	2.80	2.06	2.06	50.34	
2	ARC1817	SED-DA-045 (0.5-1.0)	1.30	3.11	2.37	2.37	59.12	
3	ARC1818	SED-DA-052 (0-0.5)	1.31	2.55	1.80	1.80	39.52	
4	ARC1819	SED-DA-052 (0.5-1.0)	1.30	3.49	2.77	2.77	~~3~~67.12	
5	ARC1820	SED-DA-052 (1.0-1.5)	1.29	2.91	2.48	2.48	73.46	
6	ARC1821	SED-DA-DUP-06-081013	1.31	2.99	1.77	1.76	26.79	
7	ARC1822	SED-DA-018 (0-0.5)	1.32	2.20	1.68	1.67	25.36	
8	ARC1823	SED-DA-018 (0.5-1.0)	1.30	2.57	1.76	1.76	36.22	
9	ARC1824	SED-DA-018 (1.0-1.5)	1.31	3.40	2.74	2.74	68.42	
10	ARC1825	SED-DA-018 (1.5-2.0)	1.31	3.34	2.86	2.86	76.35	
11	ARC1826	SED-DA-019 (0-0.5)	1.31	2.47	1.49	1.48	14.66	
12	ARC1827	SED-DA-019 (0-0.5) MS	1.31	2.33	1.46	1.46	14.71	
13	ARC1828	SED-DA-019 (0-0.5) MSD	1.31	2.48	1.47	1.47	13.68	
14	ARC1829	SED-DA-019 (0.5-1.0)	1.29	3.25	1.97	1.97	34.69	
15	ARC1830	SED-DA-019 (1.0-1.5)	1.31	3.29	2.74	2.73	71.72	
16	ARC1831	SED-DA-019 (1.5-2.0)	1.32	3.02	2.66	2.66	76.57	

DRY 1365

B&B LABORATORIES % DRY WEIGHT LOGBOOK

	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	Beaker + Dry Smpl (g) Date/Init: 8/16/13 HA ☒ Bal. Cal. — 1	Beaker + Dry Smpl (g) Date/Init: 8/19/13 HA ☑ Bal. Cal. — 2	(%) Dry Weight	Comments
17	ARC1831 Dup	Duplicate	1.30	3.88	3.28	3.28	76.74	
18								
19								
20								
21								
22								
23								
24								

$$\% \text{ Dry Weight} = \frac{[\text{Beaker + Dry SMPL (g)}] - [\text{Beaker Weight (g)}]}{[\text{Beaker + Wet SMPL (g)}] - [\text{Beaker Weight (g)}]} \times 100$$

$$\text{RPD} = \frac{[\text{Original \% Dry Weight Value} - \text{Duplicate \% Dry Weight Value}]}{[\text{Original \% Dry Weight Value} + \text{Duplicate \% Dry Weight Value}] \times 0.5} \times 100$$

The Relative Percent Difference (RPD) between duplicates must be ≤ 25%.

Date / Init.	RPD
8/21/13 CK	0.225 %
Sample # ARC1831	
Duplicate # ARC1831 Dup	

DRY 1365

MATRIX: OTHER / (SEDIMENT) / WATER

Job #: J13034 SDG #: 13081301, 13081401

Client: Arcadis - Mayflower AR

General comments:

Lab Manager Date/Int: 8/28/13 AR

Transferred by Date/Int: 8/27/13 CK
From ENV Pg: ENV3093
From DRY Pg: DR41364, 1365

Date/Int: 8-26-13 EN Bal. Cal. ✓

Date/Int: 8/27/13 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	ENV3093A	Procedural Blank	—	—	3	29.891	29.891	0.000	—	—	
2	ENV3093B	SRM 1941b	4.05	97.61	3	29.893	30.004	0.111	803	822	
3	ENV3093C	Matrix Spike (ARC1827)	15.17	14.71	3	29.952	32.616	2.664	775	5268	
4	ENV3093D	Matrix Spike Dup (ARC1828)	15.15	13.68	3	30.243	33.897	3.654	989	7236	
5	ENV3093E	Duplicate (ARC1816)	5.12	50.34	3	30.624	33.066	2.442	7202	14309	
6	ARC1816	SED-DA-045 (0-0.5)	5.13	50.34	3	30.119	32.813	2.694	7930	15754	
7	ARC1817	SED-DA-045 (0.5-1.0)	15.10	59.12	3	30.010	31.468	1.458	1712	2897	
8	ARC1818	SED-DA-052 (0-0.5)	15.03	39.52	3	29.828	32.163	2.335	1842	4661	
9	ARC1819	SED-DA-052 (0.5-1.0)	15.10	67.12	3	30.270	30.503	0.233	311	463	
10	ARC1820	SED-DA-052 (1.0-1.5)	15.05	73.46	3	30.211	30.328	0.117	171	233	
11	ARC1821	SED-DA-DUP-06-081013	15.08	26.79	3	29.830	32.262	2.432	1296	4838	
12	ARC1822	SED-DA-018 (0-0.5)	15.16	25.36	3	29.798	32.459	2.661	1336	5266	

EOM 1031

B&B LABORATORIES EOM LOGBOOK

	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	ARC1823	SED-DA-018 (0.5-1.0)	15.13	36.22	3	30.220	32.192	1.972	1416	3910	
14	ARC1824	SED-DA-018 (1.0-1.5)	15.08	68.42	3	30.073	EN 30.281	0.208	283	414	30.28/EN
15	ARC1825	SED-DA-018 (1.5-2.0)	15.11	76.35	3	29.707	29.734	0.027	41	54	
16	ARC1826	SED-DA-019 (0-0.5)	15.15	14.66	3	30.464	33.128	2.664	773	5275	
17	ARC1829	SED-DA-019 (0.5-1.0)	15.05	34.69	3	29.691	31.868	8127 CK ~~2.177~~	1506	4340	2.177
18	ARC1830	SED-DA-019 (1.0-1.5)	15.18	71.72	3	30.504	30.705	0.201	285	397	
19	ARC1833	SO-DA-001 (0-0.5)	15.12	82.39	3	30.400	30.657	0.257	420	510	
20	ARC1834	SO-DA-001 (0.5-1.0)	15.06	81.95	3	30.340	30.500	0.160	261	319	
21	ARC1835	SO-DA-001 (1.0-1.5)	15.14	89.92	3	29.724	29.777	0.053	94	105	
22	ARC1839	SO-DA-002 (0.5-1.0)	15.08	80.77	3	30.108	30.196	0.088	141	175	
23	ARC1840	SO-DA-002 (1.0-1.5)	15.14	78.05	3	30.239	30.388	0.149	230	295	
24											

$$EOM = \frac{(EOM\ Wt.\ (mg))\ (Final\ Extract\ Vol.\ (ml))}{(Smpl\ Wt/Vol.\ (g/L))\ (0.10\ ml)} \times 1000$$

$$\%RPD = \frac{(EOM_1 - EOM_2)}{(EOM_1 + EOM_2) \times 0.5} \times 100\%$$

	Initial Filter Wt (mg)	Filter & Sample Wt (mg)	Wt. of 100 µl Lipid Wt. (mg)
Solvent Blank	29.861	29.861	0.000
EOM Standard	30.059	40.258	10.199

EOM-WKLC-10-004

The Relative Percent Difference (RPD) between duplicates must be ≤ 25%.

Date/Int:	RPD
8/27/13 CK	9.618 %
Sample: ARC1816	
Duplicate: ENV3093E	

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