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

Arcadis
Mayflower AR Project
(Contract # B0086003.1301 and B0086003.1302)
July 28, 2013 and July 29, 2013
Collection Dates

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

(QC Batch ENV 3076)

September 2, 2013

Technical Report 13-3089

Arcadis
Mayflower AR Project
(Contract # B0086003.1301 and B0086003.1302)
July 28, 2013 through July 29, 2013
Collection Dates
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B&B Laboratories
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Narrative

Technical Report 13-3089
Arcadis
Mayflower AR Project
(Contract # B0086003.1301 and B0086003.1302)
Sediment Samples
July 28, 2013 and July 29, 2013 Collection Dates

September 2, 2013

Introduction

B&B Laboratories received a shipment of two (2) ice chests that were sent by Daniel Mays of Arcadis using FedEx on July 29, 2013 and arrived on July 30, 2013 in College Station, Texas. The ice chests arrived sealed and in good condition.

Cooler Number	Temperature	Samples Received
1	7.4°C 5.1°C (Temp Blank)	Eleven (11) sediments in 8oz or 4oz jars Two (2) 1L water samples in B/R amber bottles.
2	10.9°C 2.3°C (Temp Blank)	Sixteen (16) sediments in 8oz or 4oz jars

B&B Laboratories received a shipment of two (2) ice chests that were sent by Daniel Mays of Arcadis using FedEx on July 30, 2013 and arrived on July 31, 2013 in College Station, Texas. The ice chests arrived sealed and in good condition.

Cooler Number	Temperature	Samples Received
1	6.6°C 2.9°C (Temp Blank)	Nineteen (19) sediments in 8oz or 4oz jars Two (2) 1L water samples in B/R amber bottles.
2	4.9°C 3.6°C (Temp Blank)	Nineteen (19) sediments in 8oz or 4oz jars Two (2) 1L water samples in B/R amber bottles.

The water and sediment samples were collected between July 27, 2013 and July 30, 2013 in support of the Mayflower AR, Project (Arcadis-US Contract # B0086003.1301 and 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 samples were logged in according to B&B Laboratories standard operating procedure (B&B 1009) and were stored in an access-controlled freezer (<-16.0°C) prior to analysis. Selected sediment samples were analyzed for Total Petroleum Hydrocarbons (TPH) and C_9 to C_{40} Aliphatic Hydrocarbons (ALI) by GC/FID, Polycyclic Aromatic Hydrocarbons (PAH) by GC/MS-SIM, and selected biological markers by GC/MS-SIM.

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

Analytical Methods

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

Table 1. Standard Operating Procedures for each analytical test.

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

Data Reporting

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

Table 2. Analytical reporting units.

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

Table 3. Data Qualifier Definitions.

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

Table 4. Method Detection Limits.

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

Table 4. Continued. Method Detection Limits.

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

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

Quality Assurance/Quality Control - Sediment

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

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

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

Polycyclic Aromatic Hydrocarbons (PAH)

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

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

Quality Assurance/Quality Control Variances - Sediments

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

Initial Calibration (Six Point)

Observation

- No variances were observed.

Initial Calibration Verification

Observation

- No variances were observed.

Mass Discrimination Ratio

Observation

- No variances were observed.

Internal Standard Area Response

Observation

- No variances were observed.

Continuing Calibration Checks

Observation

- No variances were observed.

Surrogate Recoveries

Observation

- ARC1574 (SED-DA-028 (0-0.5), ENV3076C (MS ((SED-DA-028 (0-0.5))), and ENV3076D (MSD ((SED-DA-028 (0-0.5))). Required dilution prior to analysis on the GC/FID. All thee samples required a 2x dilution prior to analysis due to high concentrations of native hydrocarbons in the sample. The surrogate recoveries are annotated with a "D".

Comment

- The surrogate standard was re-added to the diluted samples prior to instrument analysis.

Procedural Blank

Observation

- No variances were observed.

Matrix Spike/Matrix Spike Duplicate

Observation

- Numerous analytes were detected outside of the QC %recovery limits of 40% to 120% in samples ENV3076C and ENV3076D (SED-DA-028-(0-0.5) MS/MSD).

Comment

- The recoveries of these analytes are outside the QC limits due to the high native concentration of these analytes in the sediment samples relative to the spike amounts. Consequently, spike levels are invalid and 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

- No variances were observed.

Procedural Blank

Observation

- No variances were observed.

Matrix Spike/Matrix Spike Duplicate

Observation

- Numerous analytes were detected outside of the QC %recovery limits of 40% to 120% in samples ENV3076C and ENV3076D (SED-DA-028-(0-0.5) MS/MSD).

Comment

- The recoveries of these analytes are outside the QC limits due to the high native concentration of these analytes in the sediment samples relative to the spike amounts. Consequently, spike levels are invalid and qualified with a "Y".

Laboratory Duplicate

Observation

- No variances were observed.

Laboratory Control Standard (Solution, Sediment, and Petroleum)

Observation

- Anthracene was detected outside of the certified concentration limits of ±30% for the NIST sediment sample ENV3076B (SRM1941b). The %RPD is 38%.

Comment

- It is unknown as to why this analyte was outside of the certified concentration limits of ±30% in the tissue standard reference material.

Additional QC Batch Information

Observation

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

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

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 13-3089

Arcadis - Mayflower AR
Sample Inventory

Client Project #B0086003.1301/1302

#	File Number	Client Identification	Collection Date	Received Date	Analysis	Matrix	Comments	B&B SDG	Client Project #
1	ARC1558	SED-DA-032 (0-0.5)	07/28/13	07/30/13	PAH, TPH, ALI	Sediment		13073001	B0086003.1301
2	ARC1559	SED-DA-032 (0.5-1.0)	07/28/13	07/30/13	PAH	Sediment	44 analytes	13073001	B0086003.1301
3	ARC1560	SED-DA-032 (1.0-1.5)	07/28/13	07/30/13	PAH	Sediment	44 analytes	13073001	B0086003.1301
4	ARC1561	SED-DA-031 (0-0.5)	07/28/13	07/30/13	PAH, TPH, ALI	Sediment		13073001	B0086003.1301
5	ARC1562	SED-DA-031 (0.5-1.0)	07/28/13	07/30/13	PAH	Sediment	44 analytes	13073001	B0086003.1301
6	ARC1563	SED-DA-031 (1.0-1.5)	07/28/13	07/30/13	PAH	Sediment	44 analytes	13073001	B0086003.1301
7	ARC1566	SED-DA-029 (0-0.5)	07/29/13	07/31/13	PAH, TPH, ALI	Sediment		13073101	B0086003.1302
8	ARC1567	SED-DA-029 (0.5-1.0)	07/29/13	07/31/13	PAH	Sediment	44 analytes	13073101	B0086003.1302
9	ARC1568	SED-DA-029 (1.0-1.5)	07/29/13	07/31/13	PAH	Sediment	44 analytes	13073101	B0086003.1302
10	ARC1571	SED-DA-030 (0-0.5)	07/29/13	07/31/13	PAH, TPH, ALI	Sediment		13073101	B0086003.1302
11	ARC1572	SED-DA-030 (0.5-1.0)	07/29/13	07/31/13	PAH	Sediment	44 analytes	13073101	B0086003.1302
12	ARC1573	SED-DA-030 (1.0-1.5)	07/29/13	07/31/13	PAH	Sediment	44 analytes	13073101	B0086003.1302
13	ARC1574	SED-DA-028 (0-0.5)	07/29/13	07/31/13	PAH, TPH, ALI	Sediment		13073101	B0086003.1302
14	ARC1575	SED-DA-028 (0-0.5) MS/MSD	07/29/13	07/31/13	PAH, TPH, ALI	Sediment	no wet sample remaining, 1 of 2	13073101	B0086003.1302
15	ARC1577	SED-DA-028 (0.5-1.0)	07/29/13	07/31/13	PAH	Sediment	44 analytes	13073101	B0086003.1302
16	ARC1578	SED-DA-028 (1.0-1.5)	07/29/13	07/31/13	PAH	Sediment	44 analytes	13073101	B0086003.1302
17	ARC1579	SED-DA-027 (0-0.5)	07/29/13	07/31/13	PAH, TPH, ALI	Sediment		13073101	B0086003.1302
18	ARC1580	SED-DA-027 (0.5-1.0)	07/29/13	07/31/13	PAH	Sediment	44 analytes	13073101	B0086003.1302

Sediment Samples

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

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

Sample Name	ARC1558.D	ARC1560.D	ARC1561.D	ARC1566.D
Client Name	SED-DA-032 (0-0.5)	SED-DA-032 (1.0-1.5)	SED-DA-031 (0-0.5)	SED-DA-029 (0-0.5)
Matrix	Sediment	Sediment	Sediment	Sediment
Collection Date	07/28/13	07/28/13	07/28/13	07/29/13
Received Date	07/30/13	07/30/13	07/30/13	07/31/13
Extraction Date	08/08/13	08/08/13	08/08/13	08/08/13
Extraction Batch	ENV 3076	ENV 3076	ENV 3076	ENV 3076
Date Acquired	14-Aug-2013, 00:46:29	14-Aug-2013, 01:56:37	14-Aug-2013, 03:07:17	14-Aug-2013, 04:17:27
Method	ALIBACK.M	ALIBACK.M	ALIBACK.M	ALIBACK.M
Sample Dry Weight (g)	15.1	15.1	15.0	15.0
Sample Wet Weight (g)	46.8	19.5	57.2	45.1
% Dry	32	77	26	33
% Moisture	68	23	74	67
% Lipid (dry)	NA	NA	NA	NA
% Lipid (wet)	NA	NA	NA	NA
Dilution	1X	1X	1X	1X

Target Compounds	Su. Corrected Conc. (µg/dry g)	Q	Su. Corrected Conc. (µg/dry g)	Q	Su. Corrected Conc. (µg/dry g)	Q	Su. Corrected Conc. (µg/dry g)	Q
n-C9	<0.012	U	<0.012	U	<0.012	U	<0.012	U
n-C10	0.016	J	0.006	J	0.015	J	0.004	J
n-C11	0.025		0.007	J	0.025		0.012	J
n-C12	0.029		0.015	J	0.035		0.014	J
n-C13	0.036	J	0.014	J	0.050		0.016	J
i-C15	0.033		0.006	J	0.084		0.019	
n-C14	0.049		0.026		0.088		0.024	
i-C16	0.084		0.008		0.131		0.053	
n-C15	0.272		0.071		0.362		0.195	
n-C16	0.035		0.040		0.046		0.013	
i-C18	0.043		0.008		0.096		0.025	
n-C17	0.236		0.014		0.147		0.111	
Pristane	0.161		0.014		0.195		0.105	
n-C18	0.753		0.049		0.733		0.498	
Phytane	0.291		0.010		0.337		0.201	
n-C19	0.742		0.029		0.711		0.433	
n-C20	0.144		0.008	J	0.126		0.176	
n-C21	1.59		0.012		1.24		1.85	
n-C22	0.257		0.011		0.163		0.218	
n-C23	3.03		0.034		1.86		1.86	
n-C24	0.319		0.015		0.182		0.273	
n-C25	1.88		0.045		1.45		1.37	
n-C26	0.251		0.009		0.190		0.179	
n-C27	2.50		0.046		1.56		1.55	
n-C28	0.664		0.009	J	0.219		0.448	
n-C29	6.567		0.088		1.91		3.77	
n-C30	0.682		0.016		0.285		0.584	
n-C31	9.38		0.108		1.62		5.45	
n-C32	0.298		0.035		0.433		0.367	
n-C33	15.2		0.116		1.50		9.40	
n-C34	1.36		0.013	J	0.193		0.523	
n-C35	8.62		0.068		0.898		2.74	
n-C36	0.409		<0.016	U	0.122		0.238	
n-C37	1.81		<0.017	U	0.523		1.17	
n-C38	0.171		<0.019	U	0.139		0.143	
n-C39	0.362		<0.019	U	0.285		0.231	
n-C40	0.147		<0.019	U	0.133		<0.019	U
Total Alkanes	58.5		1.0		18.1		34.3	
Total Petroleum Hydrocarbons	692		67		467		510	
Total Resolved Hydrocarbons	343		17		220		248	
Unresolved Complex Mixture	349		50		247		262	
EOM (µg/dry g)	2101		76	J	1462		1753	

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)	Su Recovery (%)	Su Recovery (%)
n-dodecane-d26	95	92	94	98
n-eicosane-d42	85	99	88	92
n-triacontane-d62	77	93	77	78

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

Sample Name	ARC1571.D	ARC1574.D	ARC1579.D
Client Name	SED-DA-030 (0-0.5)	SED-DA-028 (0-0.5)	SED-DA-027 (0-0.5)
Matrix	Sediment	Sediment	Sediment
Collection Date	07/29/13	07/29/13	07/29/13
Received Date	07/31/13	07/31/13	07/31/13
Extraction Date	08/08/13	08/08/13	08/08/13
Extraction Batch	ENV 3076	ENV 3076	ENV 3076
Date Acquired	14-Aug-2013, 05:27:36	14-Aug-2013, 06:37:43	14-Aug-2013, 07:47:58
Method	ALIBACK.M	ALIBACK.M	ALIBACK.M
Sample Dry Weight (g)	15.1	15.0	15.0
Sample Wet Weight (g)	76.9	106.4	34.8
% Dry	20	14	43
% Moisture	80	86	57
% Lipid (dry)	NA	NA	NA
% Lipid (wet)	NA	NA	NA
Dilution	1X	2X	1X

Target Compounds	Su. Corrected Conc. (µg/dry g)	Q	Su. Corrected Conc. (µg/dry g)	Q	Su. Corrected Conc. (µg/dry g)	Q
n-C9	<0.012	U	<0.025	U	<0.012	U
n-C10	<0.021	U	0.005	J	0.004	J
n-C11	0.025		0.017	J	0.010	J
n-C12	0.023		0.015	J	0.010	J
n-C13	0.034	J	0.036	J	0.015	J
i-C15	0.012	J	0.030	J	0.008	J
n-C14	0.043		0.051		0.026	
i-C16	0.096		0.241		0.042	
n-C15	0.475		0.514		0.210	
n-C16	0.034		0.054		0.020	
i-C18	0.047		0.079		0.015	
n-C17	0.136		0.894		0.059	
Pristane	0.174		0.398		0.086	
n-C18	1.18		1.30		0.674	
Phytane	0.316		0.840		0.175	
n-C19	0.910		0.881		0.430	
n-C20	0.209		0.246		0.092	
n-C21	3.46		2.91		1.65	
n-C22	0.383		0.363		0.149	
n-C23	5.45		3.38		1.96	
n-C24	0.620		0.336		0.239	
n-C25	3.79		2.77		1.67	
n-C26	0.414		0.361		0.190	
n-C27	4.45		4.17		3.15	
n-C28	0.697		0.852		0.371	
n-C29	7.36		8.23		3.66	
n-C30	1.04		1.13		0.425	
n-C31	6.66		14.7		4.19	
n-C32	0.940		1.59		0.247	
n-C33	5.38		19.9		4.59	
n-C34	0.914		1.33		0.588	
n-C35	3.19		9.65		3.44	
n-C36	0.583		0.665		0.231	
n-C37	2.05		2.14		1.07	
n-C38	0.259		0.472		0.121	
n-C39	0.698		0.721		0.330	
n-C40	<0.019	U	<0.038	U	<0.019	U
Total Alkanes	52.1		81.2		30.2	
Total Petroleum Hydrocarbons	1125		1296		393	
Total Resolved Hydrocarbons	584		717		309	
Unresolved Complex Mixture	541		579		83	
EOM (µg/dry g)	2875		4220		1384	

Surrogate (Su)	Su Recovery (%)		Su Recovery (%)		Su Recovery (%)	
n-dodecane-d26	95		101	D	97	
n-eicosane-d42	84		88	D	92	
n-triacontane-d62	80		73	D	79	

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

Sample Name	ENV3076A.D
Client Name	Procedural Blank
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	08/08/13
Extraction Batch	ENV 3076
Date Acquired	13-Aug-2013, 18:55:24
Method	ALIBACK.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	91
n-eicosane-d42	92
n-triacontane-d62	87

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

Sample Name	ARC1574.D	ENV3076C.D	ENV3076D.D
Client Name	SED-DA-028 (0-0.5)	MS (SED-DA-028 (0-0.5))	MSD (SED-DA-028 (0-0.5))
Matrix	Sediment	Sediment	Sediment
Collection Date	07/29/13	07/29/13	07/29/13
Received Date	07/31/13	07/31/13	07/31/13
Extraction Date	08/08/13	08/08/13	08/08/13
Extraction Batch	ENV 3076	ENV 3076	ENV 3076
Date Acquired	14-Aug-2013, 06:37:43	13-Aug-2013, 20:05:36	13-Aug-2013, 21:16:08
Method	ALIBACK.M	ALIBACK.M	ALIBACK.M
Sample Dry Weight (g)	15.0	15.1	15.0
Sample Wet Weight (g)	106.4	101.2	101.0
% Dry	14	15	15
% Moisture	86	85	85
% Lipid (dry)	NA	NA	NA
% Lipid (wet)	NA	NA	NA
Dilution	2X	2X	2X

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	<0.025	U	0.546		41			0.572		43			5		9.95
n-C10	0.005	J	0.637		48			0.664		50			4		10.0
n-C11	0.017	J	0.719		53			0.752		56			4		9.90
n-C12	0.015	J	0.749		55			0.763		56			2		10.0
n-C13	0.036	J	0.769		55			0.775		56			1		10.0
i-C15	0.030	J	NA					NA							
n-C14	0.051		0.800		57			0.835		60			4		9.86
i-C16	0.241		NA					NA							
n-C15	0.514		1.07		42			1.22		53			13		9.98
n-C16	0.054		0.790		56			0.825		58			4		10.0
i-C18	0.079		NA					NA							
n-C17	0.894		1.57		52			1.63		56			3		9.94
Pristane	0.398		1.09		52			1.11		54			2		9.90
n-C18	1.30		2.05		57			2.19		67			6		10.0
Phytane	0.840		1.47		48			1.57		55			6		9.91
n-C19	0.881		1.67		60			1.81		70			8		10.0
n-C20	0.246		1.02		58			0.936		52			9		10.0
n-C21	2.91		5.43				Y	5.48				Y	1		10.0
n-C22	0.363		0.939		44			0.968		46			3		9.95
n-C23	3.38		4.16				Y	4.22				Y	1		9.91
n-C24	0.336		1.06		55			1.12		59			5		10.0
n-C25	2.77		3.30				Y	3.35				Y	2		10.0
n-C26	0.361		0.982		47			1.04		52			6		10.0
n-C27	4.17		4.48				Y	4.73				Y	5		9.89
n-C28	0.852		1.98		85			2.06		91			4		10.0
n-C29	8.23		9.01				Y	8.99				Y	0		10.0
n-C30	1.13		1.95		63			1.96		63			0		10.0
n-C31	14.7		16.1				Y	15.6				Y	3		10.0
n-C32	1.59		2.48				Y	2.29				Y	8		10.0
n-C33	19.9		20.5				Y	19.5				Y	5		10.0
n-C34	1.33		2.33		76			2.51		89			7		10.0
n-C35	9.65		15.0				Y	14.8				Y	1		10.0
n-C36	0.665		1.25		44			1.22		42			2		9.90
n-C37	2.14		2.78				Y	2.71				Y	3		10.0
n-C38	0.472		1.11		48			1.08		46			2		10.0
n-C39	0.721		1.47		57			1.60		66			8		10.0
n-C40	<0.038	U	0.718		54			0.699		53			3		10.0
Average %Recovery					54	*				58	*				

Surrogate (Su)	Su Recovery (%)		Su Recovery (%)		Su Recovery (%)	
n-dodecane-d26	101	D	101	D	101	D
n-eicosane-d42	88	D	93	D	91	D
n-triacontane-d62	73	D	75	D	82	D

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

Sample Name	ARC1560.D	ENV3076E.D
Client Name	SED-DA-032 (1.0-1.5)	Duplicate (ARC1560)
Matrix	Sediment	Sediment
Collection Date	07/28/13	07/28/13
Received Date	07/30/13	07/30/13
Extraction Date	08/08/13	08/08/13
Extraction Batch	ENV 3076	ENV 3076
Date Acquired	14-Aug-2013, 01:56:37	13-Aug-2013, 22:26:13
Method	ALIBACK.M	ALIBACK.M
Sample Dry Weight (g)	15.1	15.1
Sample Wet Weight (g)	19.5	19.5
% Dry	77	77
% Moisture	23	23
% Lipid (dry)	NA	NA
% Lipid (wet)	NA	NA
Dilution	1X	1X

Target Compounds	Su. Corrected Conc. (µg/dry g)	Q	Su. Corrected Conc. (µg/dry g)	Q	RPD (%)	Q	Q	MDL (µg/dry g)	3X MDL (µg/dry g)
n-C9	<0.012	U	<0.012	U	0			0.012	0.037
n-C10	0.006	J	0.005	J	18		X	0.021	0.064
n-C11	0.007	J	0.007	J	0		X	0.016	0.049
n-C12	0.015	J	0.016	J	6		X	0.019	0.056
n-C13	0.014	J	0.013	J	7		X	0.045	0.134
i-C15	0.006	J	0.006	J	0		X	0.016	0.049
n-C14	0.026		0.027		4		X	0.013	0.039
i-C16	0.008		0.007		13		X	0.004	0.013
n-C15	0.071		0.081		13			0.016	0.049
n-C16	0.040		0.042		5			0.004	0.013
i-C18	0.008		0.007		13		X	0.004	0.011
n-C17	0.014		0.014		0			0.003	0.010
Pristane	0.014		0.015		7			0.003	0.008
n-C18	0.049		0.053		8			0.004	0.011
Phytane	0.010		0.011		10		X	0.006	0.018
n-C19	0.029		0.031		7			0.005	0.015
n-C20	0.008	J	0.007	J	13		X	0.012	0.037
n-C21	0.012		0.012		0			0.004	0.012
n-C22	0.011		0.010		10		X	0.003	0.010
n-C23	0.034		0.032		6			0.008	0.024
n-C24	0.015		0.013		14		X	0.005	0.016
n-C25	0.045		0.040		12			0.007	0.021
n-C26	0.009		0.010		11		X	0.008	0.023
n-C27	0.046		0.044		4			0.011	0.032
n-C28	0.009	J	0.009	J	0		X	0.011	0.033
n-C29	0.088		0.092		4			0.021	0.064
n-C30	0.016		0.015		6		X	0.013	0.038
n-C31	0.108		0.117		8			0.015	0.044
n-C32	0.035		0.033		6		X	0.012	0.035
n-C33	0.116		0.105		10			0.021	0.064
n-C34	0.013	J	0.012	J	8		X	0.016	0.049
n-C35	0.068		0.063		8			0.015	0.044
n-C36	<0.016	U	<0.016	U	0			0.016	0.047
n-C37	<0.017	U	<0.017	U	0			0.017	0.052
n-C38	<0.019	U	<0.019	U	0			0.019	0.057
n-C39	<0.019	U	<0.019	U	0			0.019	0.056
n-C40	<0.019	U	<0.019	U	0			0.019	0.056
Total Alkanes	1.0		0.9		0				
Total Petroleum Hydrocarbons	67		69		4			1.40	4.20
Total Resolved Hydrocarbons	17		19		12			1.40	4.20
Unresolved Complex Mixture	50		50		1			1.40	4.20
EOM (µg/dry g)	76	J	70	J	8				

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)
n-dodecane-d26	92	97
n-eicosane-d42	99	97
n-triacontane-d62	93	96

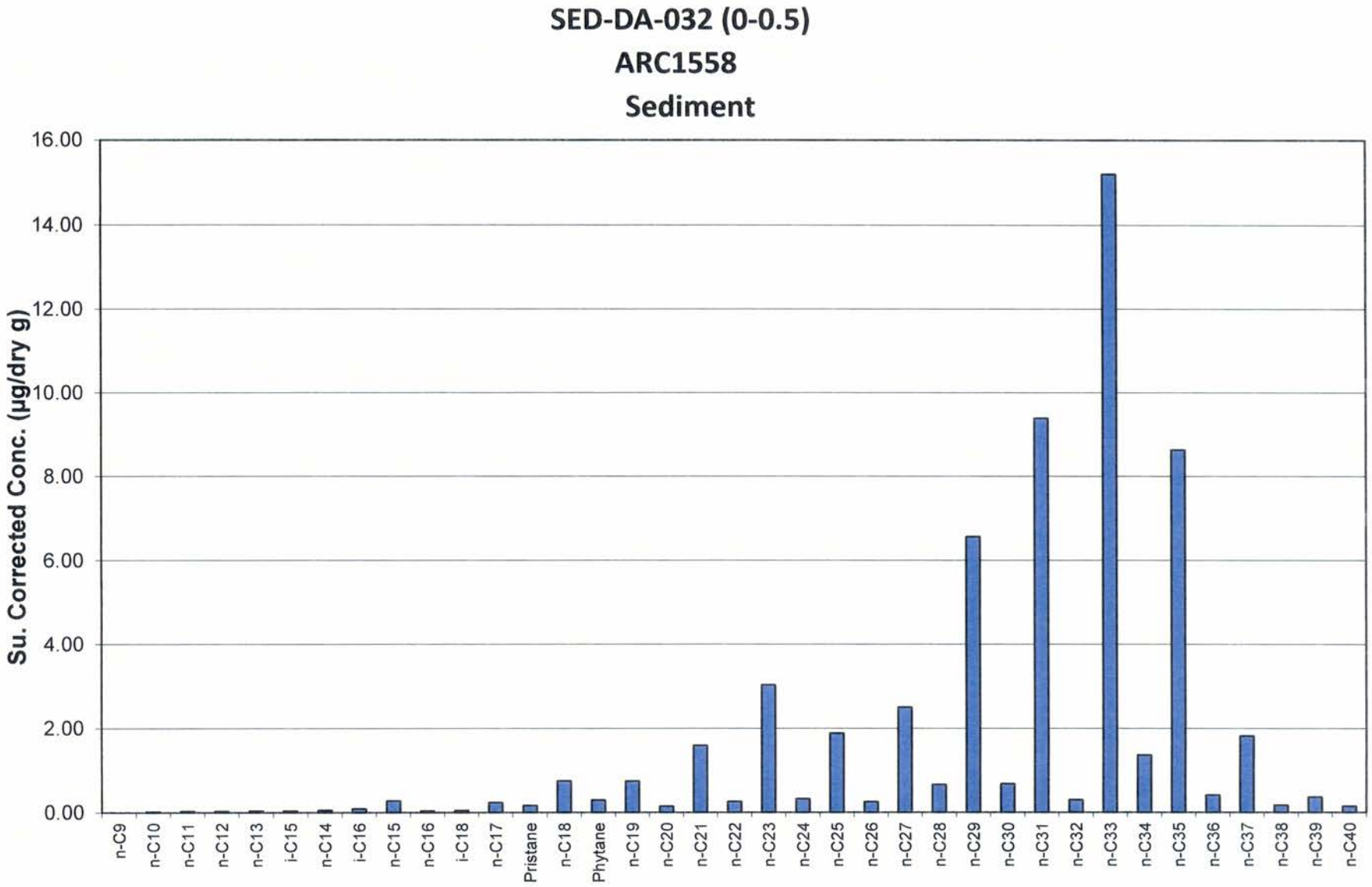
Arcadis-Mayflower AR
Aliphatic Hydrocarbon and Total Petroleum Hydrocarbon Data
Standard Reference Material Report

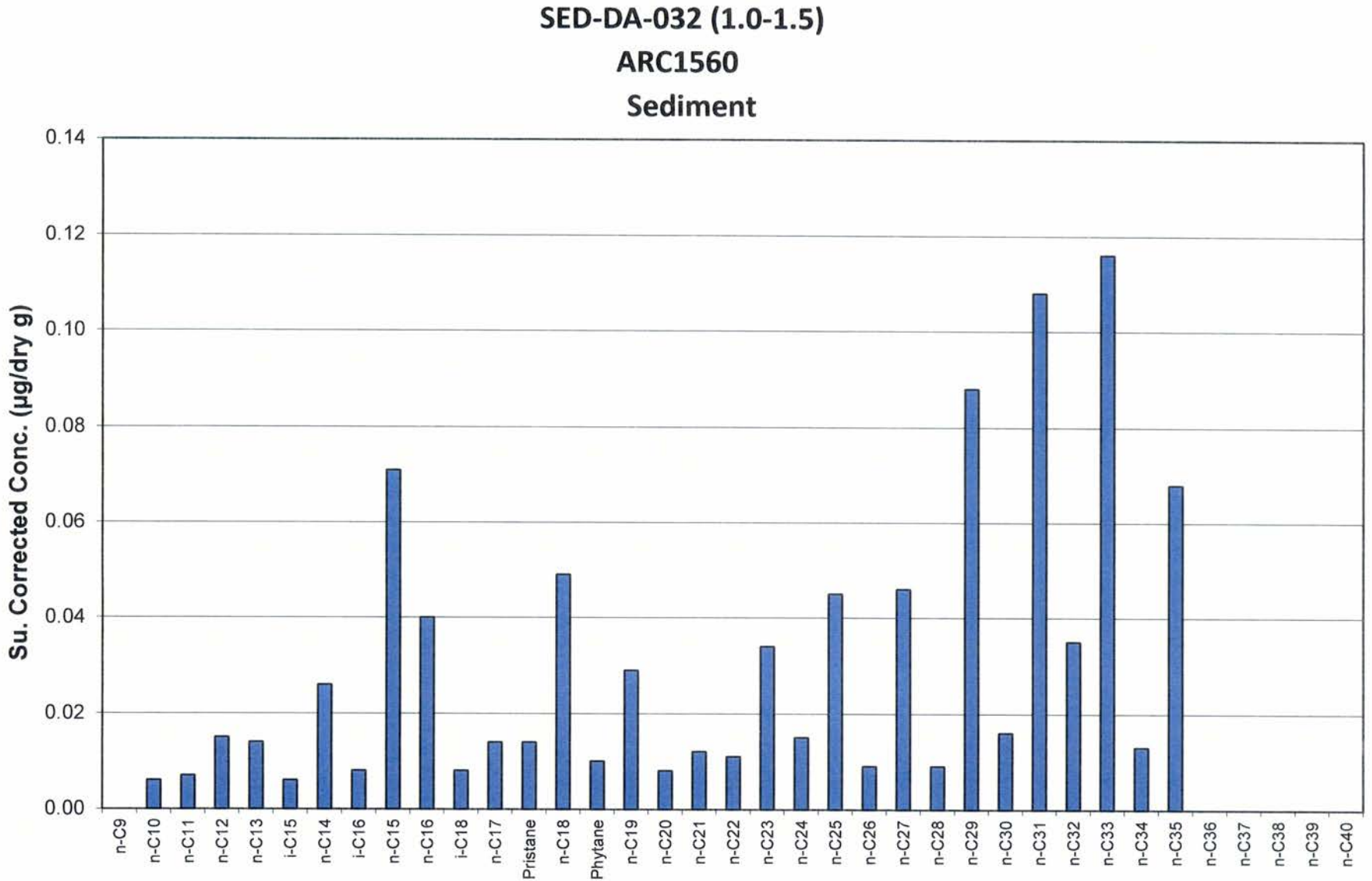
Sample Name	FID10074C.D
Client Name	AL-WKSRM2779-20-01
Matrix	Reference Oil
Collection Date	NA
Received Date	NA
Extraction Date	08/08/13
Extraction Batch	ENV 3076
Date Acquired	13-Aug-2013, 14:14:25
Method	ALIBACK.M
Sample Dry Weight (mg)	20.0
Sample Wet Weight (mg)	NA
% Dry	NA
% Moisture	NA
% Lipid (dry)	NA
% Lipid (wet)	NA
Dilution	1X

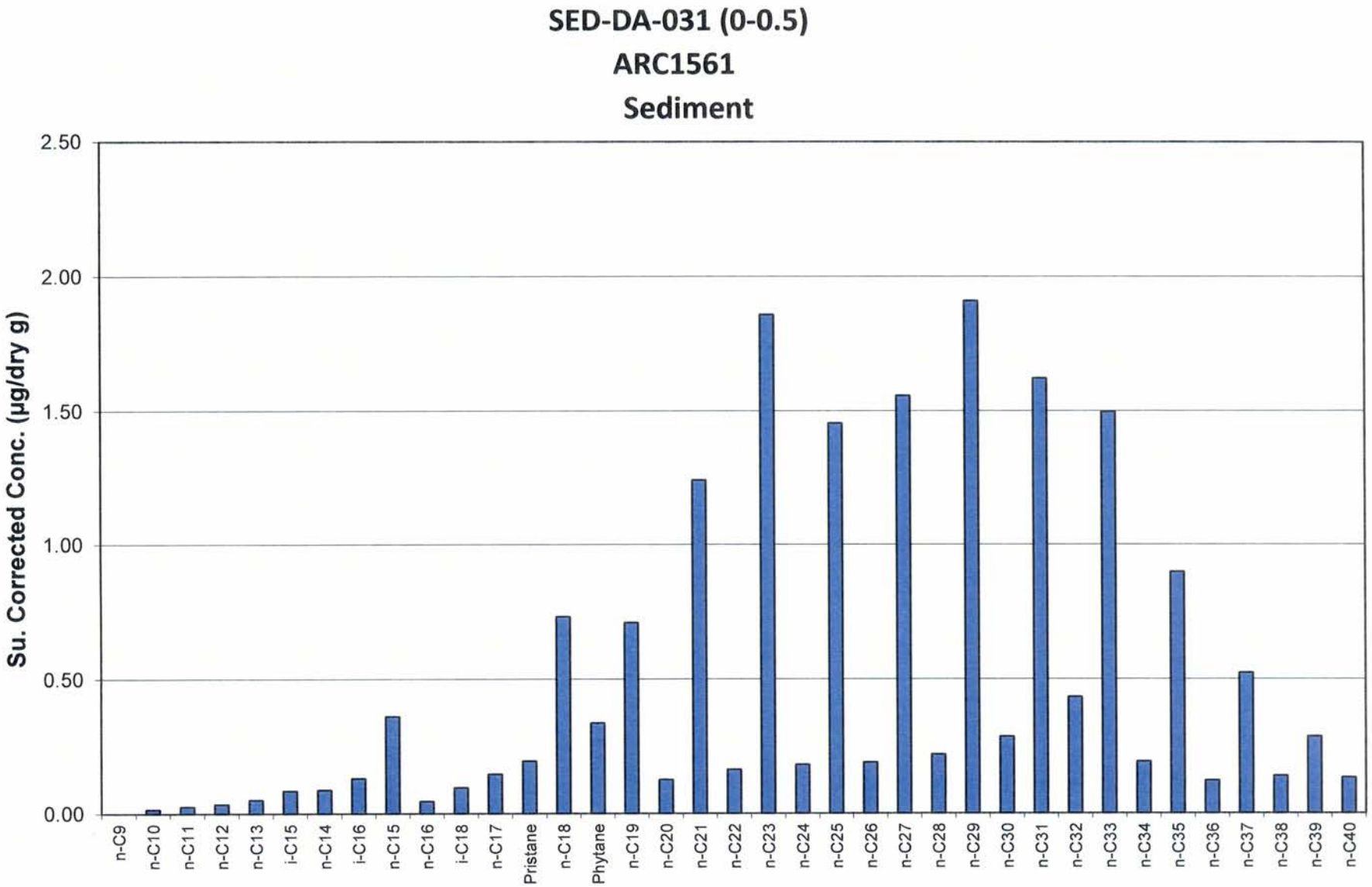
Target Compounds	Su. Corrected Conc. (µg/mg)	Q	Q	RPD (%)	B&B Average	-20% Conc. (µg/mg)	+20% Conc. (µg/mg)
n-C9	14.2			5	13.5	10.8	16.2
n-C10	12.4			3	12.0	9.60	14.4
n-C11	11.4			6	10.8	8.64	13.0
n-C12	10.2			4	9.82	7.86	11.8
n-C13	9.13			8	8.41	6.73	10.1
i-C15	2.03			4	1.95	1.56	2.34
n-C14	7.72			0	7.70	6.16	9.24
i-C16	3.11			5	2.95	2.36	3.54
n-C15	7.50			4	7.23	5.78	8.68
n-C16	6.08			1	6.15	4.92	7.38
i-C18	1.53			2	1.56	1.25	1.87
n-C17	4.74			1	4.69	3.75	5.63
Pristane	2.47			2	2.42	1.94	2.90
n-C18	4.30			11	3.84	3.07	4.61
Phytane	1.52			1	1.51	1.21	1.81
n-C19	3.53			2	3.47	2.78	4.16
n-C20	2.90			2	2.84	2.27	3.41
n-C21	2.56			8	2.37	1.90	2.84
n-C22	2.21			8	2.04	1.63	2.45
n-C23	1.94			5	1.84	1.47	2.21
n-C24	1.72			4	1.66	1.33	1.99
n-C25	1.36			1	1.37	1.10	1.64
n-C26	1.19			6	1.13	0.904	1.36
n-C27	0.947			6	0.892	0.714	1.07
n-C28	0.792			2	0.776	0.621	0.931
n-C29	0.757			2	0.739	0.591	0.887
n-C30	0.680	J		2	0.666	0.533	0.799
n-C31	0.563	J		4	0.539	0.431	0.647
n-C32	0.455	J		3	0.443	0.354	0.532
n-C33	0.513	J		9	0.467	0.374	0.560
n-C34	0.418	J		2	0.428	0.342	0.514
n-C35	0.347	J		1	0.342	0.274	0.410
n-C36	0.212	J		0	0.211	0.169	0.253
n-C37	0.211	J		2	0.206	0.165	0.247
n-C38	0.176	J		2	0.172	0.138	0.206
n-C39	0.161	J		5	0.169	0.135	0.203
n-C40	0.167	J		5	0.176	0.141	0.211
Total Petroleum Hydrocarbons	593			2	607	484	726

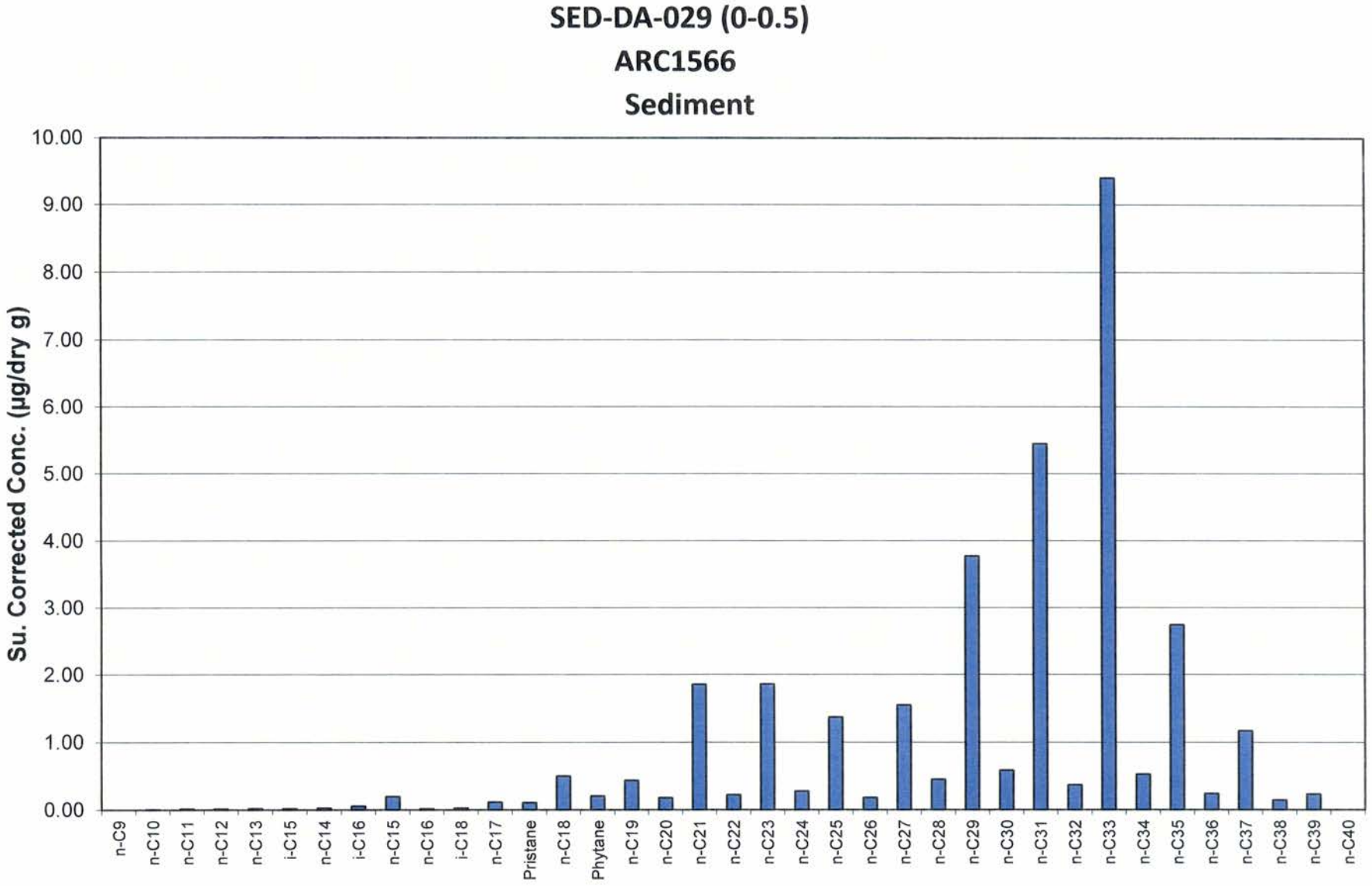
Surrogate (Su)	Su Recovery (%)
n-dodecane-d26	99
n-eicosane-d42	98
n-triacontane-d62	98

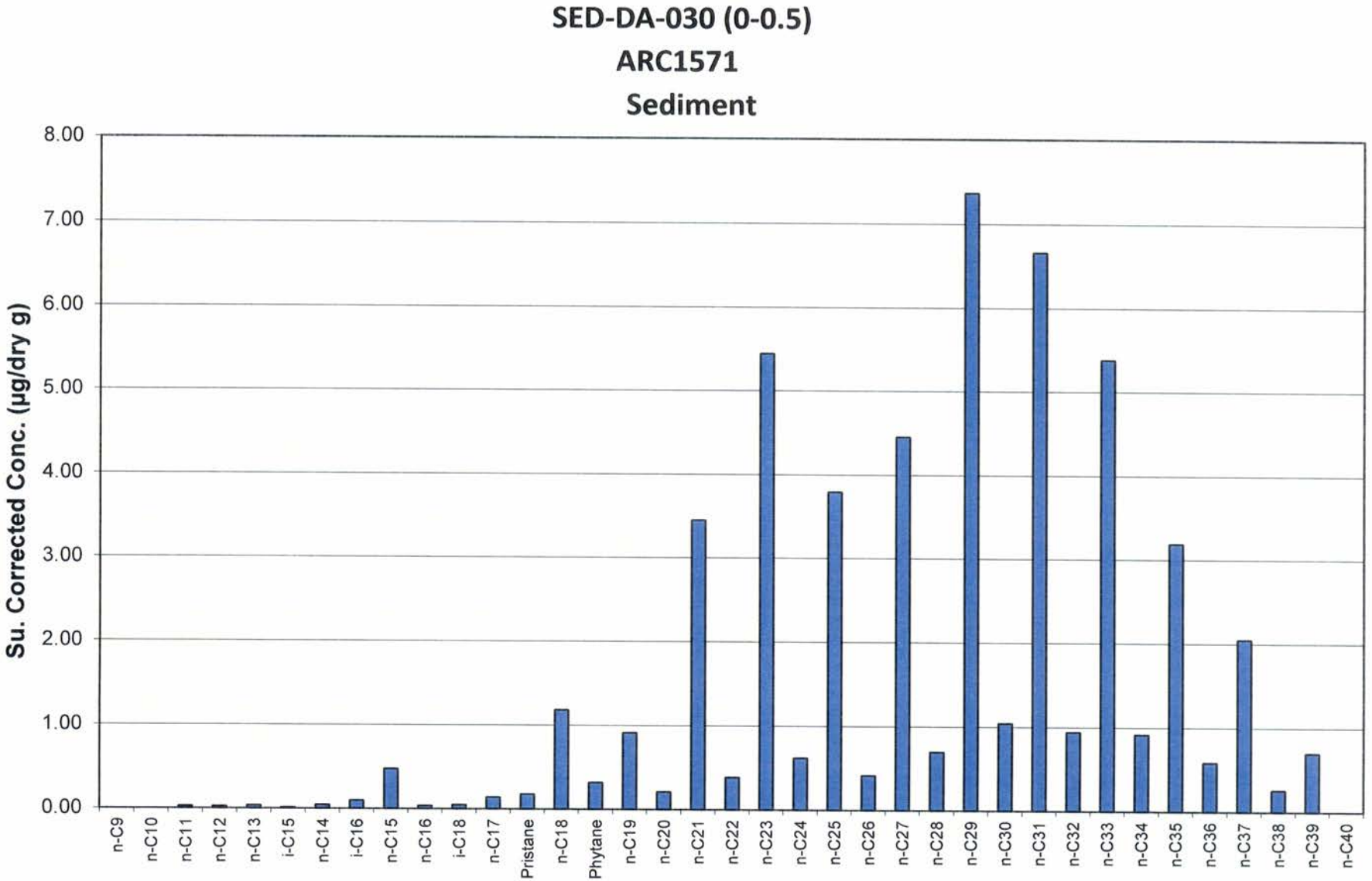
Aliphatic Hydrocarbon Histograms

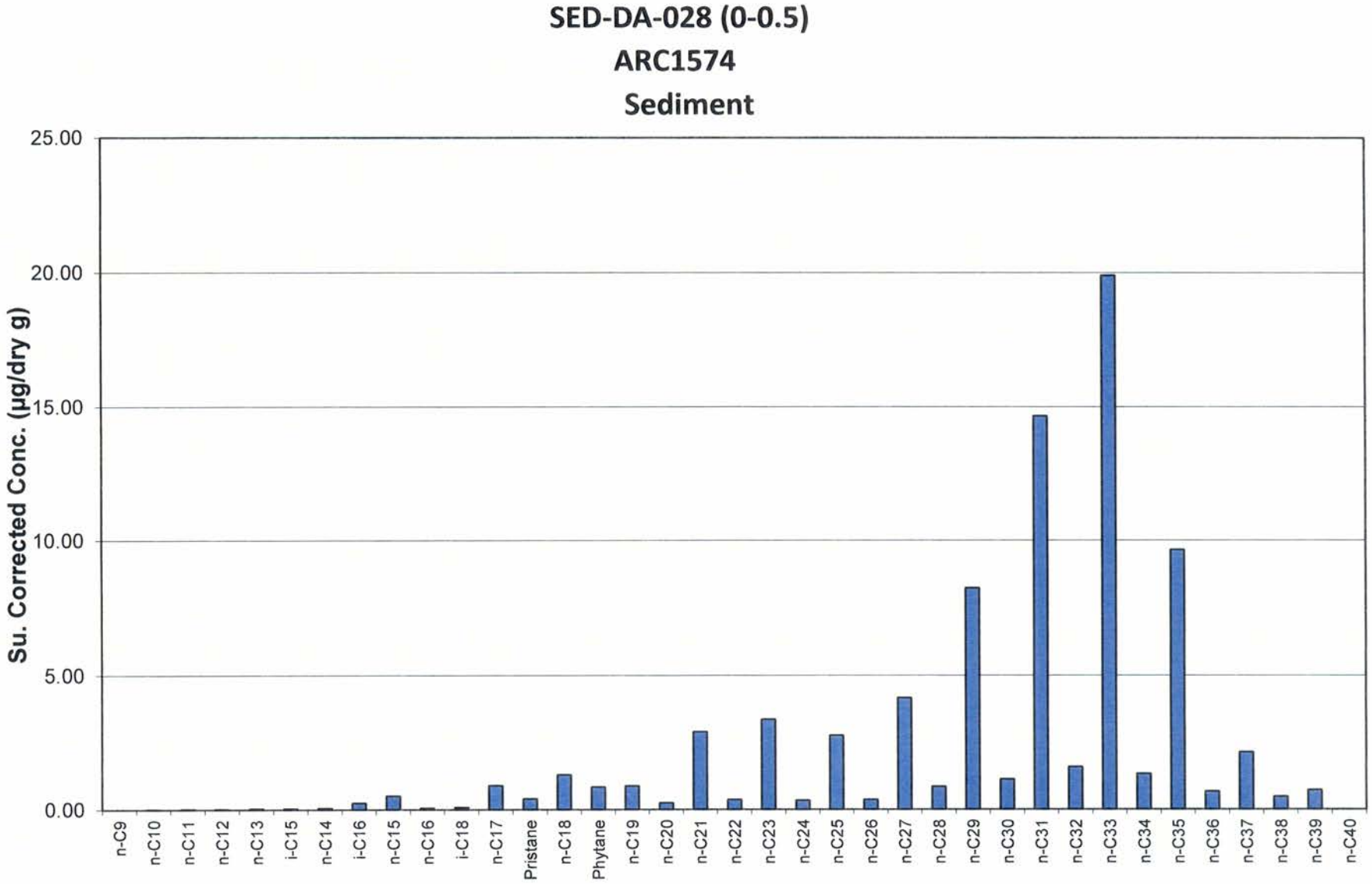

SED-DA-032 (0-0.5)
ARC1558
Sediment
Su. Corrected Conc. (µg/dry g)
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
n-C9
n-C10
n-C11
n-C12
n-C13
i-C15
n-C14
i-C16
n-C15
n-C16
i-C18
n-C17
Pristane
n-C18
Phytane
n-C19
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C34
n-C35
n-C36
n-C37
n-C38
n-C39
n-C40

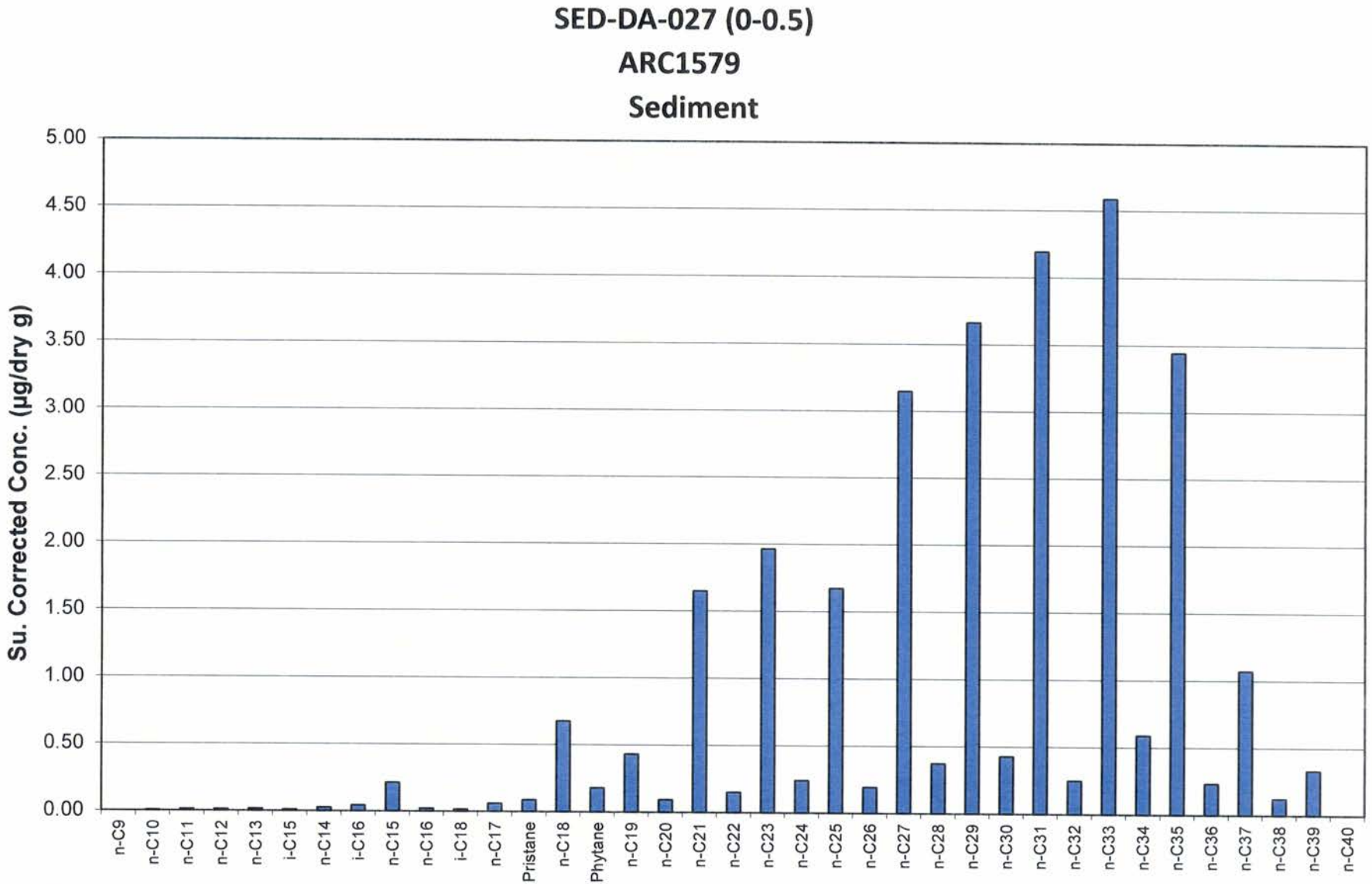

SED-DA-032 (1.0-1.5)
ARC1560
Sediment
Su. Corrected Conc. (µg/dry g)
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
n-C9
n-C10
n-C11
n-C12
n-C13
i-C15
n-C14
i-C16
n-C15
n-C16
i-C18
n-C17
Pristane
n-C18
Phytane
n-C19
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C34
n-C35
n-C36
n-C37
n-C38
n-C39
n-C40


SED-DA-031 (0-0.5)
ARC1561
Sediment
Su. Corrected Conc. (µg/dry g)
2.50
2.00
1.50
1.00
0.50
0.00
n-C9
n-C10
n-C11
n-C12
n-C13
i-C15
n-C14
i-C16
n-C15
n-C16
i-C18
n-C17
Pristane
n-C18
Phytane
n-C19
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C34
n-C35
n-C36
n-C37
n-C38
n-C39
n-C40


SED-DA-029 (0-0.5)
ARC1566
Sediment
Su. Corrected Conc. (µg/dry g)
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
n-C9
n-C10
n-C11
n-C12
n-C13
i-C15
n-C14
i-C16
n-C15
n-C16
i-C18
n-C17
Pristane
n-C18
Phytane
n-C19
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C34
n-C35
n-C36
n-C37
n-C38
n-C39
n-C40

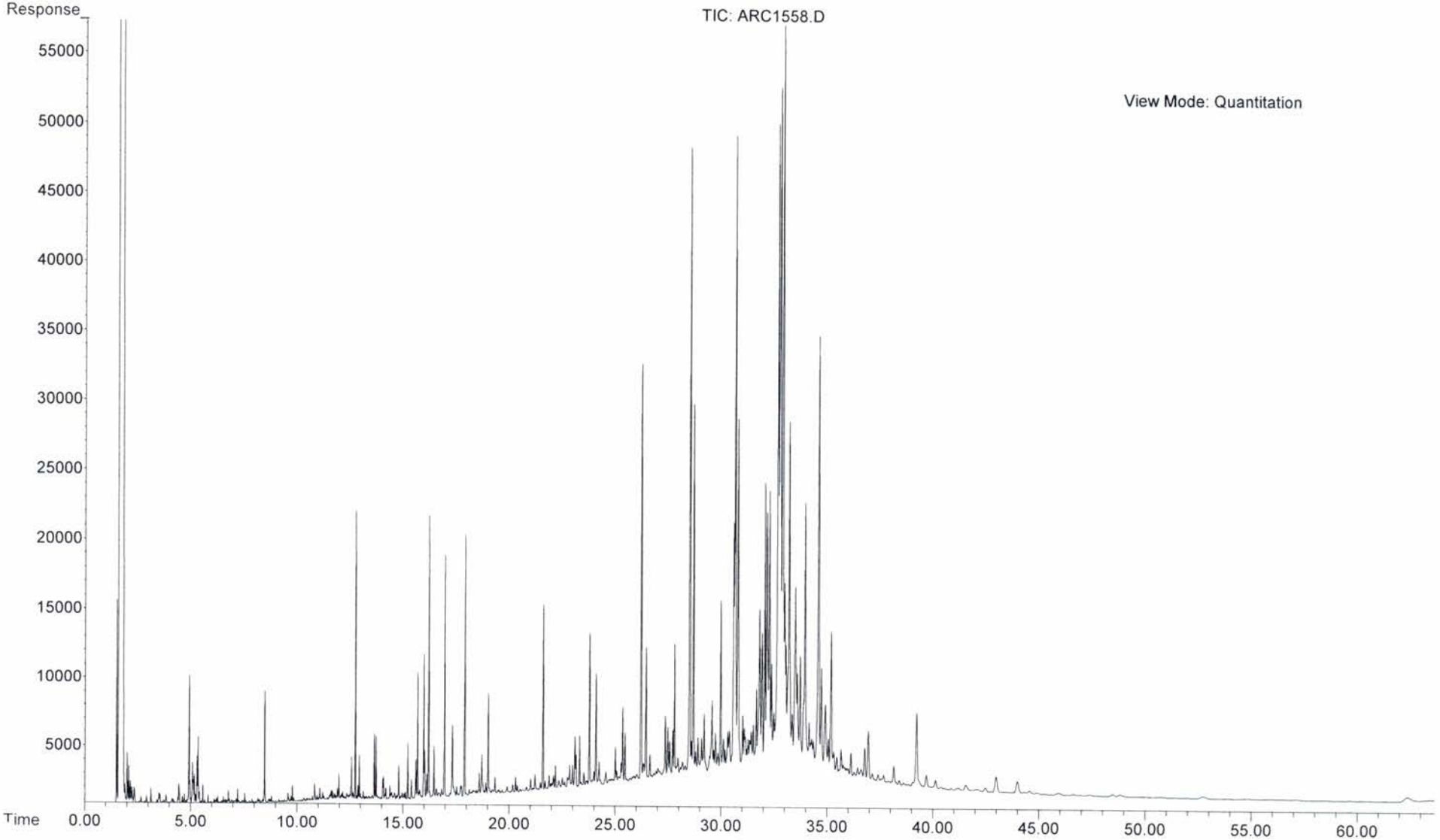

SED-DA-030 (0-0.5)
ARC1571
Sediment
Su. Corrected Conc. (µg/dry g)
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
n-C9
n-C10
n-C11
n-C12
n-C13
i-C15
n-C14
i-C16
n-C15
n-C16
i-C18
n-C17
Pristane
n-C18
Phytane
n-C19
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C34
n-C35
n-C36
n-C37
n-C38
n-C39
n-C40


SED-DA-028 (0-0.5)
ARC1574
Sediment
Su. Corrected Conc. (µg/dry g)
25.00
20.00
15.00
10.00
5.00
0.00
n-C9
n-C10
n-C11
n-C12
n-C13
i-C15
n-C14
i-C16
n-C15
n-C16
i-C18
n-C17
Pristane
n-C18
Phytane
n-C19
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C34
n-C35
n-C36
n-C37
n-C38
n-C39
n-C40

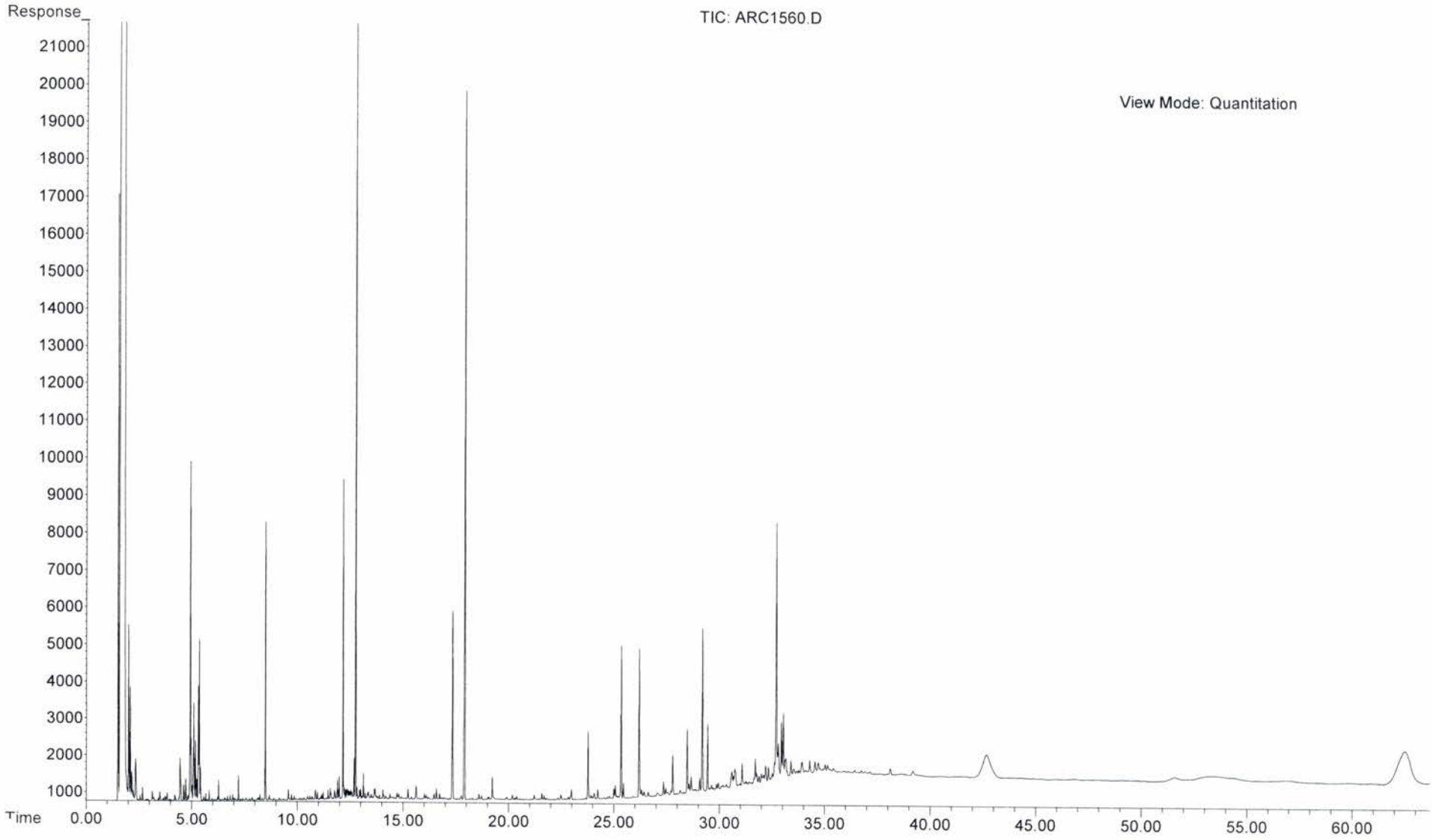

SED-DA-027 (0-0.5)
ARC1579
Sediment
Su. Corrected Conc. (µg/dry g)
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
n-C9
n-C10
n-C11
n-C12
n-C13
i-C15
n-C14
i-C16
n-C15
n-C16
i-C18
n-C17
Pristane
n-C18
Phytane
n-C19
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C34
n-C35
n-C36
n-C37
n-C38
n-C39
n-C40

Total Petroleum Hydrocarbons Chromatograms

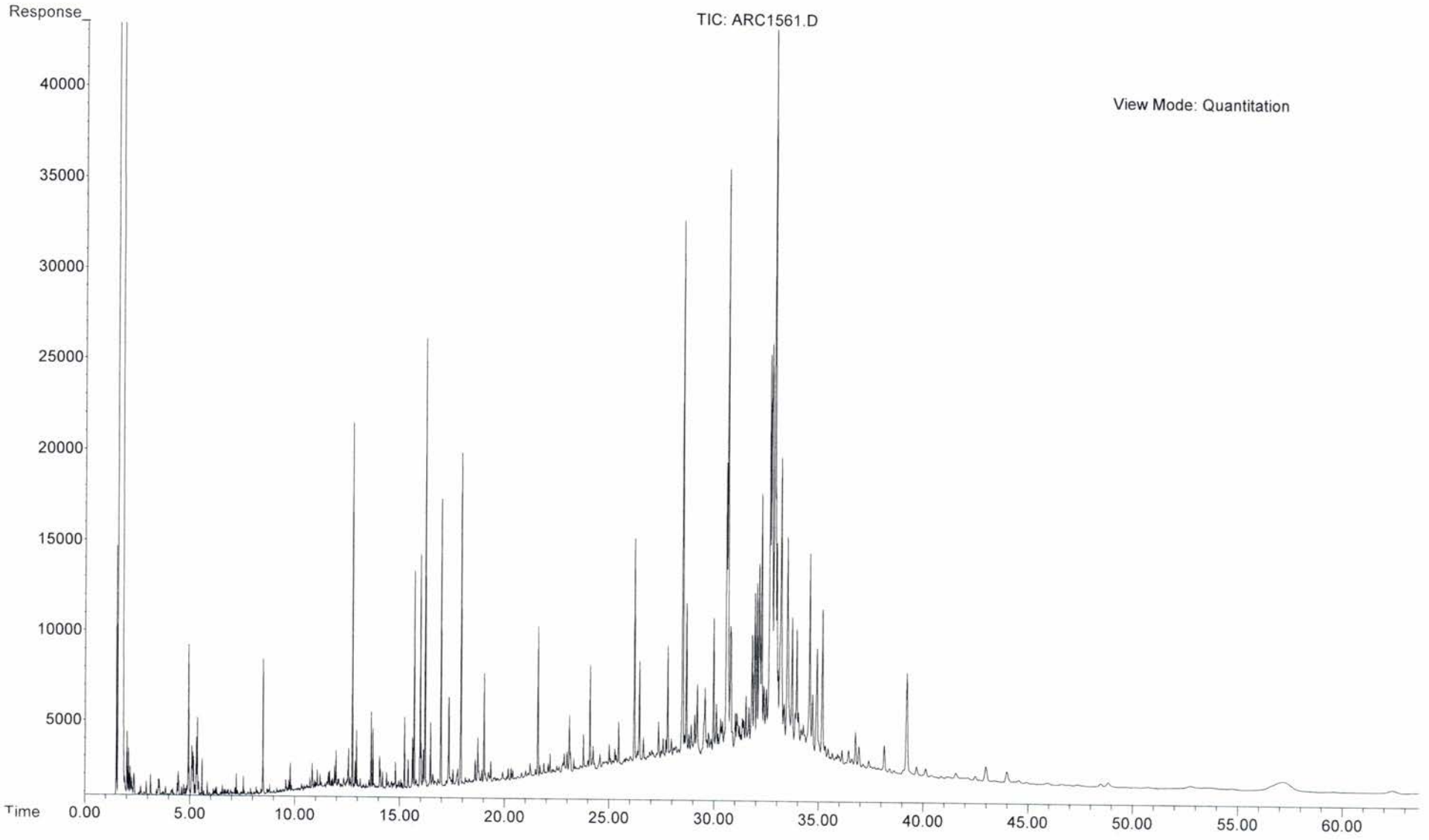
File :P:\2013\J13034\Aliphatics\ENV 3076\FID10074\ARC1558.D
Operator : Meghan Dailey
Acquired : 14-Aug-2013, 00:46 using AcqMethod ALIBACK.M
Instrument : HP5890
Sample Name: SED-DA-032 (0-0.5)
Misc Info :
Vial Number: 61



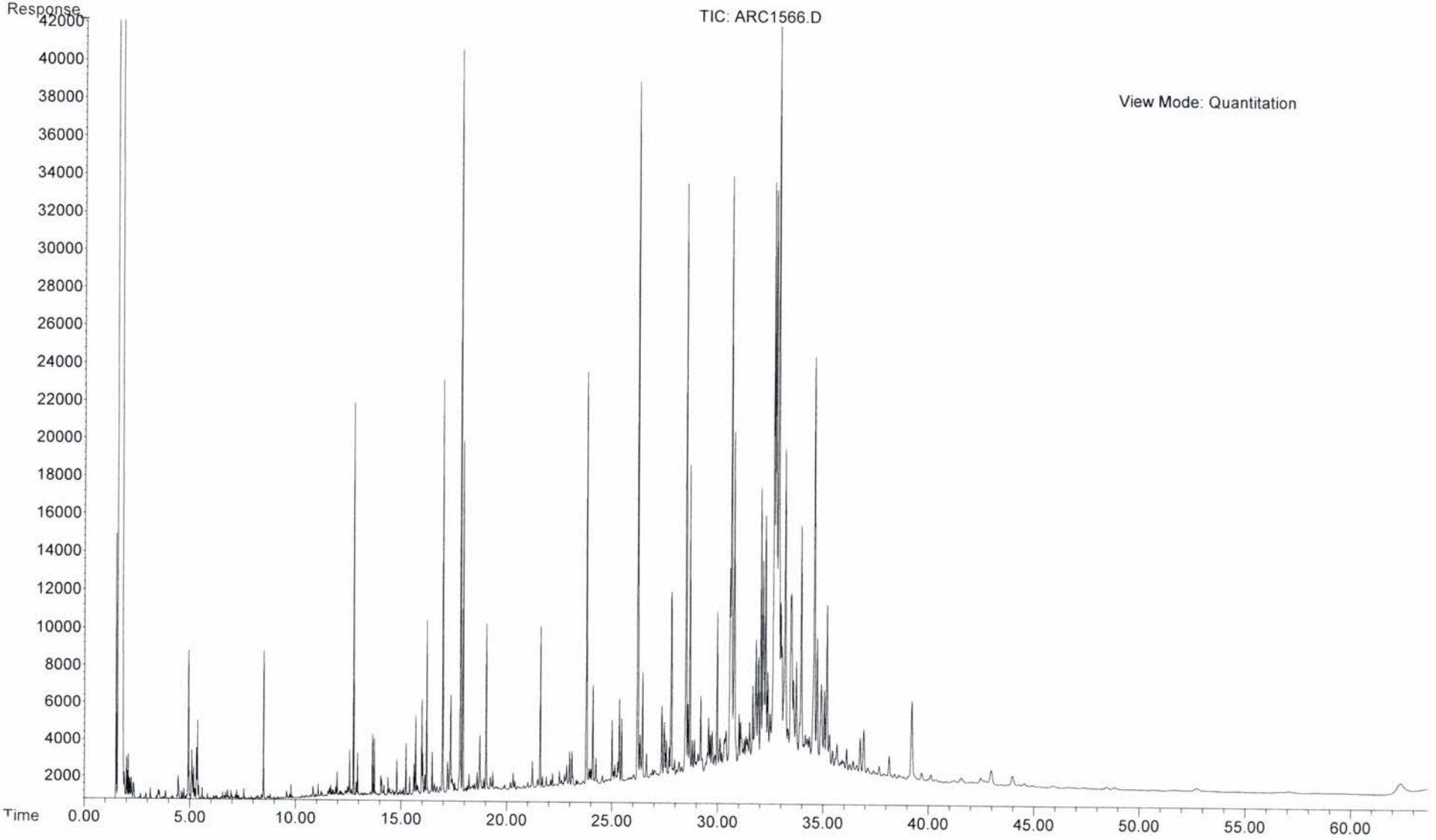
File :P:\2013\J13034\Aliphatics\ENV 3076\FID10074\ARC1560.D
Operator : Meghan Dailey
Acquired : 14-Aug-2013, 01:56 using AcqMethod ALIBACK.M
Instrument : HP5890
Sample Name: SED-DA-032 (1.0-1.5)
Misc Info :
Vial Number: 62



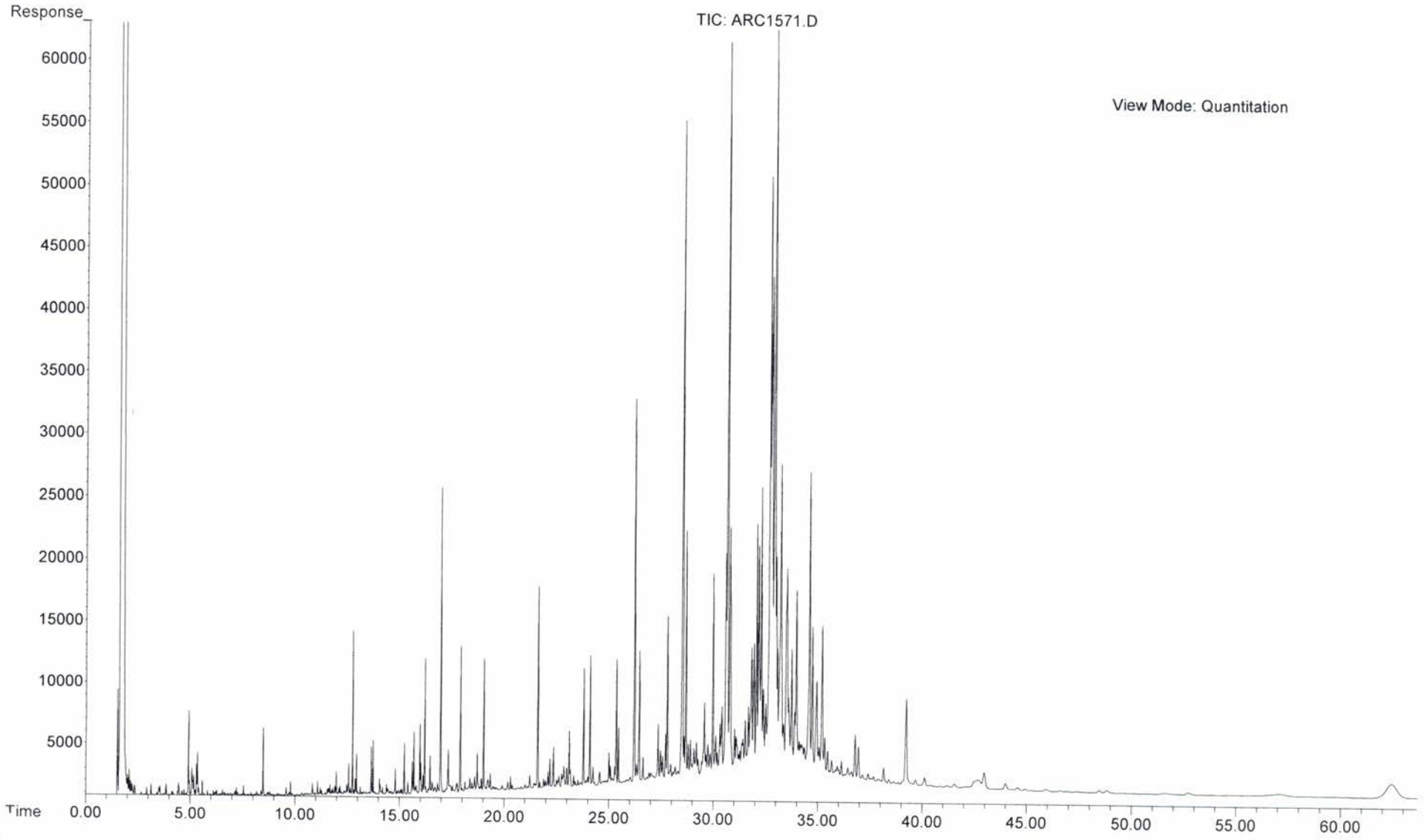
File :P:\2013\J13034\Aliphatics\ENV 3076\FID10074\ARC1561.D
Operator : Meghan Dailey
Acquired : 14-Aug-2013, 03:07 using AcqMethod ALIBACK.M
Instrument : HP5890
Sample Name: SED-DA-031 (0-0.5)
Misc Info :
Vial Number: 63



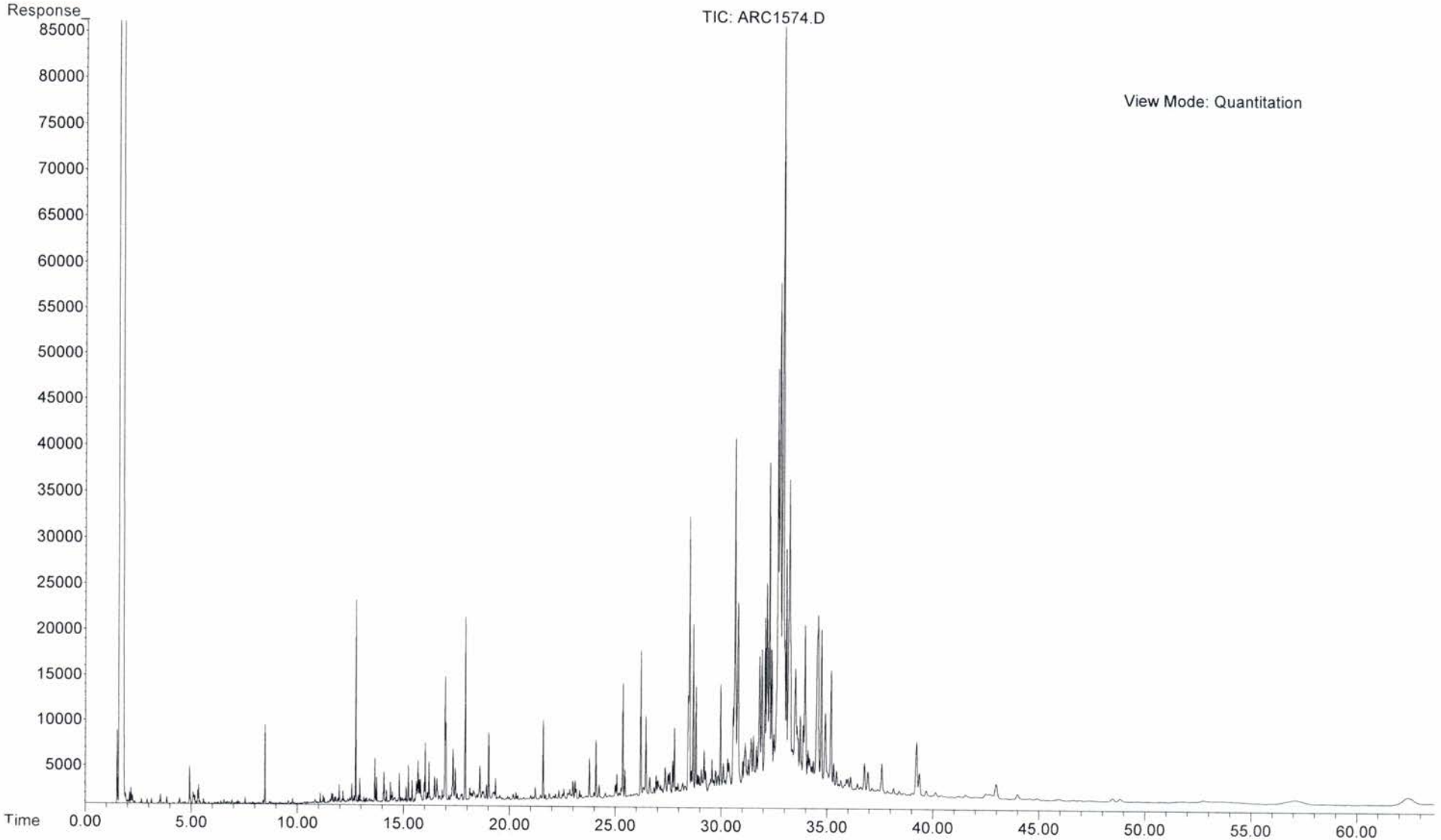
File :P:\2013\J13034\Aliphatics\ENV 3076\FID10074\ARC1566.D
Operator : Meghan Dailey
Acquired : 14-Aug-2013, 04:17 using AcqMethod ALIBACK.M
Instrument : HP5890
Sample Name: SED-DA-029 (0-0.5)
Misc Info :
Vial Number: 64



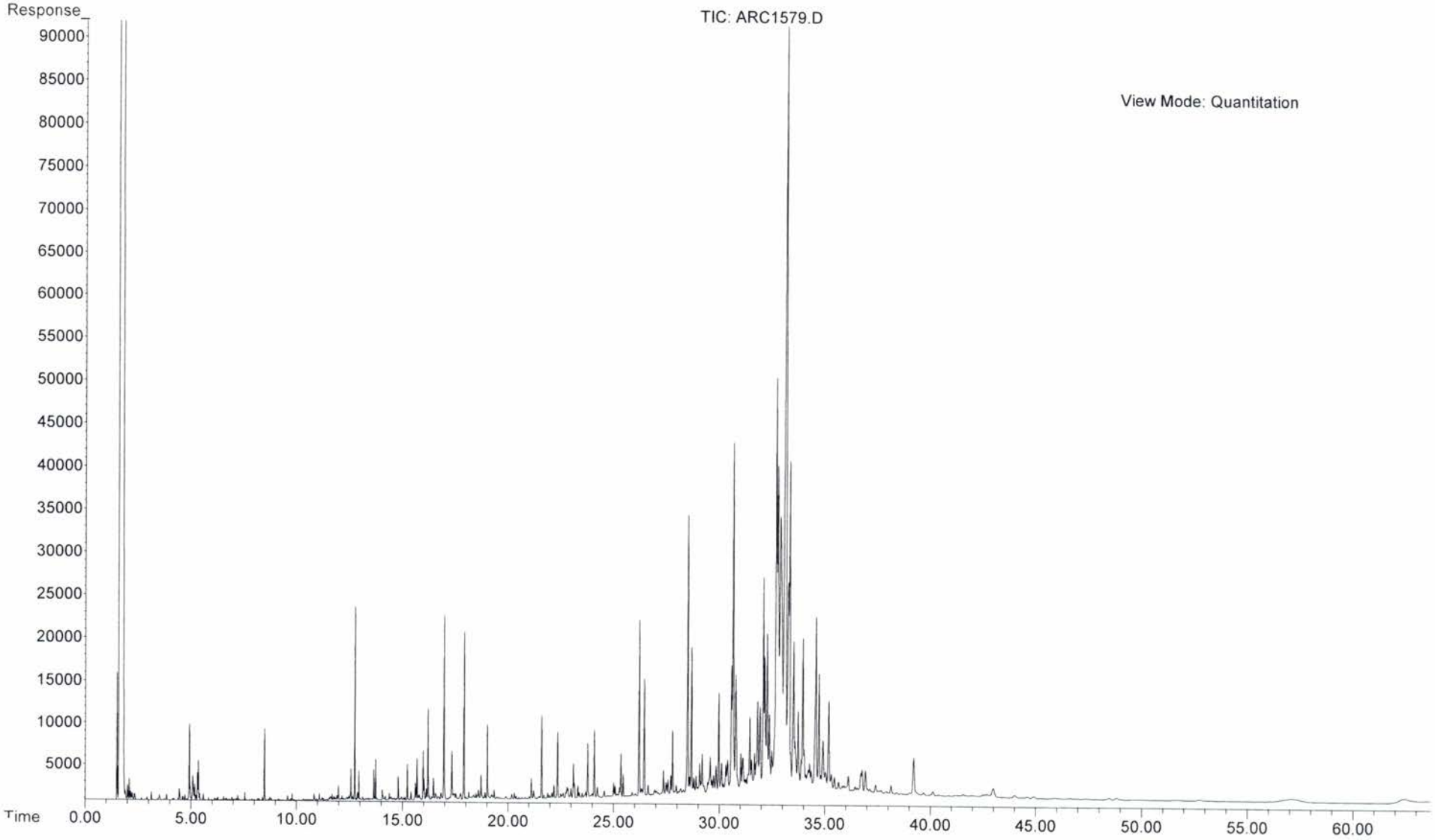
File :P:\2013\J13034\Aliphatics\ENV 3076\FID10074\ARC1571.D
Operator : Meghan Dailey
Acquired : 14-Aug-2013, 05:27 using AcqMethod ALIBACK.M
Instrument : HP5890
Sample Name: SED-DA-030 (0-0.5)
Misc Info :
Vial Number: 65



File :P:\2013\J13034\Aliphatics\ENV 3076\FID10074\ARC1574.D
Operator : Meghan Dailey
Acquired : 14-Aug-2013, 06:37 using AcqMethod ALIBACK.M
Instrument : HP5890
Sample Name: SED-DA-028 (0-0.5)
Misc Info :
Vial Number: 66



File :P:\2013\J13034\Aliphatics\ENV 3076\FID10074\ARC1579.D
Operator : Meghan Dailey
Acquired : 14-Aug-2013, 07:47 using AcqMethod ALIBACK.M
Instrument : HP5890
Sample Name: SED-DA-027 (0-0.5)
Misc Info :
Vial Number: 67



Polycyclic Aromatic Hydrocarbon Concentration

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1558.D	ARC1559.D	ARC1560.D	ARC1561.D	ARC1562.D
Client Name	SED-DA-032 (0-0.5)	SED-DA-032 (0.5-1.0)	SED-DA-032 (1.0-1.5)	SED-DA-031 (0-0.5)	SED-DA-031 (0.5-1.0)
Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
Collection Date	07/28/13	07/28/13	07/28/13	07/28/13	07/28/13
Received Date	07/30/13	07/30/13	07/30/13	07/30/13	07/30/13
Extraction Date	08/08/13	08/08/13	08/08/13	08/08/13	08/08/13
Extraction Batch	ENV 3076	ENV 3076	ENV 3076	ENV 3076	ENV 3076
Date Acquired	8/13/13 12:42	8/13/13 13:52	8/13/13 15:01	8/14/13 9:14	8/14/13 10:23
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.1	15.1	15.0	15.1
% Dry	32	67	77	26	37
% Moisture	68	33	23	74	63
Dilution	1X	1X	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q
cis/trans Decalin	28.5		NA		NA		35.9		NA	
C1-Decalins	<0.3	U	NA		NA		<0.3	U	NA	
C2-Decalins	<0.3	U	NA		NA		<0.3	U	NA	
C3-Decalins	<0.3	U	NA		NA		<0.3	U	NA	
C4-Decalins	<0.3	U	NA		NA		<0.3	U	NA	
Naphthalene	12.7		4.51		1.17		8.38		14.1	
C1-Naphthalenes	14.3		3.31		0.764	J	16.8		17.7	
C2-Naphthalenes	34.2		9.55		3.17		61.9		84.2	
C3-Naphthalenes	50.8		6.48		4.69		87.2		158	
C4-Naphthalenes	30.6		28.2		5.65		50.8		96.3	
Benzothiophene	1.61		NA		NA		1.25		NA	
C1-Benzothiophenes	<0.2	U	NA		NA		<0.2	U	NA	
C2-Benzothiophenes	<0.2	U	NA		NA		<0.2	U	NA	
C3-Benzothiophenes	<0.2	U	NA		NA		<0.2	U	NA	
C4-Benzothiophenes	<0.2	U	NA		NA		<0.2	U	NA	
Biphenyl	6.77		NA		NA		4.95		NA	
Acenaphthylene	4.31		0.569		<0.04	U	4.44		4.18	
Acenaphthene	3.79		1.01		<0.1	U	1.67		4.67	
Dibenzofuran	9.36		NA		NA		7.14		NA	
Fluorene	16.0		5.63		2.56		11.2		16.9	
C1-Fluorenes	10.9		2.25		0.854		12.0		14.3	
C2-Fluorenes	41.8		3.36		<0.4	U	44.6		55.9	
C3-Fluorenes	41.3		<0.4	U	<0.4	U	32.6		39.8	
Carbazole	4.04		NA		NA		4.07		NA	
Anthracene	8.58		0.661		<0.1	U	10.2		5.71	
Phenanthrene	34.2		13.7		6.23		37.9		43.2	
C1-Phenanthrenes/Anthracenes	37.6		7.11		3.98		43.9		47.6	
C2-Phenanthrenes/Anthracenes	69.0		6.42		<0.3	U	66.9		80.0	
C3-Phenanthrenes/Anthracenes	78.9		1.33		<0.3	U	69.7		87.6	
C4-Phenanthrenes/Anthracenes	70.8		1.65		<0.3	U	71.0		81.7	
Dibenzothiophene	8.64		1.37		0.214		8.94		9.30	
C1-Dibenzothiophenes	16.0		1.21		<0.1	U	18.0		21.1	
C2-Dibenzothiophenes	36.5		0.923		<0.2	U	34.7		44.7	
C3-Dibenzothiophenes	79.9		0.470		<0.2	U	63.9		89.7	
C4-Dibenzothiophenes	69.9		0.850		<0.2	U	56.1		71.2	
Fluoranthene	31.8		4.05		1.35		42.4		22.9	
Pyrene	35.2		2.83		0.621		48.4		23.0	
C1-Fluoranthenes/Pyrenes	33.4		2.52		0.403	J	36.8		23.0	
C2-Fluoranthenes/Pyrenes	77.2		<0.5	U	<0.5	U	65.7		36.5	
C3-Fluoranthenes/Pyrenes	49.7		<0.5	U	<0.5	U	51.8		31.7	
C4-Fluoranthenes/Pyrenes	59.4		<0.5	U	<0.5	U	54.3		46.3	
Naphthobenzothiophene	35.0		NA		NA		29.7		NA	
C1-Naphthobenzothiophenes	106		NA		NA		84.7		NA	
C2-Naphthobenzothiophenes	184		NA		NA		181		NA	
C3-Naphthobenzothiophenes	148		NA		NA		156		NA	
C4-Naphthobenzothiophenes	69.1		NA		NA		95.0		NA	
Benz(a)anthracene	20.0		1.31		0.181	J	35.6		12.2	
Chrysene/Triphenylene	32.3		3.90		0.324		35.2		22.5	
C1-Chrysenes	71.5		<0.2	U	<0.2	U	85.6		66.5	
C2-Chrysenes	59.7		<0.2	U	<0.2	U	71.6		34.7	
C3-Chrysenes	41.4		<0.2	U	<0.2	U	52.7		36.7	
C4-Chrysenes	23.4		<0.2	U	<0.2	U	25.9		17.5	
Benzo(b)fluoranthene	43.9		5.51		0.419		49.8		29.0	
Benzo(k,j)fluoranthene	10.7		1.01		0.099		14.3		6.55	
Benzo(a)fluoranthene	10.3		NA		NA		7.20		NA	
Benzo(e)pyrene	21.2		<0.2	U	<0.2	U	26.8		12.6	
Benzo(a)pyrene	11.9		<0.1	U	<0.1	U	24.1		5.84	
Perylene	303		892	E	264		197		518	E
Indeno(1,2,3-c,d)pyrene	12.6		1.48		<0.1	U	20.1		10.3	
Dibenzo(a,h)anthracene	4.74		1.84		<0.1	U	5.99		4.04	
Benzo(g,h,i)perylene	14.2		1.44		<0.1	U	27.0		13.8	
Total PAHs	2330		1019		297		2392		2061	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1558.D	ARC1559.D	ARC1560.D	ARC1561.D	ARC1562.D
Client Name	SED-DA-032 (0-0.5)	SED-DA-032 (0.5-1.0)	SED-DA-032 (1.0-1.5)	SED-DA-031 (0-0.5)	SED-DA-031 (0.5-1.0)
Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
Collection Date	07/28/13	07/28/13	07/28/13	07/28/13	07/28/13
Received Date	07/30/13	07/30/13	07/30/13	07/30/13	07/30/13
Extraction Date	08/08/13	08/08/13	08/08/13	08/08/13	08/08/13
Extraction Batch	ENV 3076	ENV 3076	ENV 3076	ENV 3076	ENV 3076
Date Acquired	8/13/13 12:42	8/13/13 13:52	8/13/13 15:01	8/14/13 9:14	8/14/13 10:23
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.1	15.1	15.0	15.1
% Dry	32	67	77	26	37
% Moisture	68	33	23	74	63
Dilution	1X	1X	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q
Individual Alkyl Isomers and Hopanes										
2-Methylnaphthalene	16.4		3.73		0.860	J	19.4		20.2	
1-Methylnaphthalene	6.70		1.63		0.376	J	7.61		8.43	
2,6-Dimethylnaphthalene	20.0		NA		NA		35.5		NA	
1,6,7-Trimethylnaphthalene	4.12		NA		NA		13.0		NA	
1-Methylfluorene	6.50		NA		NA		7.14		NA	
4-Methyldibenzothiophene	11.9		NA		NA		14.7		NA	
2/3-Methyldibenzothiophene	11.0		NA		NA		11.8		NA	
1-Methyldibenzothiophene	4.41		NA		NA		4.16		NA	
3-Methylphenanthrene	11.6		NA		NA		15.1		NA	
2-Methylphenanthrene	13.3		NA		NA		16.6		NA	
2-Methylanthracene	9.39		NA		NA		9.03		NA	
4/9-Methylphenanthrene	8.21		NA		NA		9.94		NA	
1-Methylphenanthrene	7.99		NA		NA		8.19		NA	
3,6-Dimethylphenanthrene	4.27		NA		NA		4.54		NA	
Retene	8.14		NA		NA		6.11		NA	
2-Methylfluoranthene	4.98		NA		NA		6.17		NA	
Benzo(b)fluorene	9.60		NA		NA		12.1		NA	
C29-Hopane	<0.6	U	NA		NA		<0.6	U	NA	
18a-Oleanane	<0.6	U	NA		NA		<0.6	U	NA	
C30-Hopane	<0.6	U	NA		NA		<0.6	U	NA	
C20-TAS	<0.6	U	NA		NA		<0.6	U	NA	
C21-TAS	<0.6	U	NA		NA		<0.6	U	NA	
C26(20S)-TAS	<0.6	U	NA		NA		<0.6	U	NA	
C26(20R)/C27(20S)-TAS	<0.6	U	NA		NA		<0.6	U	NA	
C28(20S)-TAS	<0.6	U	NA		NA		<0.6	U	NA	
C27(20R)-TAS	<0.6	U	NA		NA		<0.6	U	NA	
C28(20R)-TAS	<0.6	U	NA		NA		<0.6	U	NA	
Surrogate Recovery										
Naphthalene-d8	76		76		73		76		74	
Acenaphthene-d10	81		84		85		85		83	
Phenanthrene-d10	74		75		73		78		73	
Chrysene-d12	99		97		93		102		104	
Perylene-d12	33		52		58		44		41	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1563.D	ARC1566.D	ARC1567.D	ARC1568.D	ARC1571.D
Client Name	SED-DA-031 (1.0-1.5)	SED-DA-029 (0-0.5)	SED-DA-029 (0.5-1.0)	SED-DA-029 (1.0-1.5)	SED-DA-030 (0-0.5)
Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
Collection Date	07/28/13	07/29/13	07/29/13	07/29/13	07/29/13
Received Date	07/30/13	07/31/13	07/31/13	07/31/13	07/31/13
Extraction Date	08/08/13	08/08/13	08/08/13	08/08/13	08/08/13
Extraction Batch	ENV 3076	ENV 3076	ENV 3076	ENV 3076	ENV 3076
Date Acquired	8/14/13 11:33	8/14/13 12:42	8/14/13 13:51	8/14/13 15:01	8/14/13 19:38
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.0	15.2	15.2	15.1
% Dry	57	33	58	72	20
% Moisture	43	67	42	28	80
Dilution	1X	1X	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q
cis/trans Decalin	NA		20.2		NA		NA		39.83	
C1-Decalins	NA		49.0		NA		NA		<0.3	U
C2-Decalins	NA		<0.3	U	NA		NA		<0.3	U
C3-Decalins	NA		<0.3	U	NA		NA		<0.3	U
C4-Decalins	NA		<0.3	U	NA		NA		<0.3	U
Naphthalene	7.43		5.21		3.20		2.74		9.16	
C1-Naphthalenes	5.18		8.24		3.07		1.84		8.90	
C2-Naphthalenes	17.9		21.3		7.73		4.41		20.73	
C3-Naphthalenes	37.1		<0.7	U	13.3		5.68		27.21	
C4-Naphthalenes	11.6		22.8		6.58		6.96		16.06	
Benzothiophene	NA		0.855		NA		NA		1.33	
C1-Benzothiophenes	NA		<0.2	U	NA		NA		<0.2	U
C2-Benzothiophenes	NA		<0.2	U	NA		NA		<0.2	U
C3-Benzothiophenes	NA		<0.2	U	NA		NA		<0.2	U
C4-Benzothiophenes	NA		<0.2	U	NA		NA		<0.2	U
Biphenyl	NA		5.12		NA		NA		5.73	
Acenaphthylene	1.82		3.02		0.797		0.449		8.77	
Acenaphthene	1.79		2.67		0.685		0.580		3.47	
Dibenzofuran	NA		4.64		NA		NA		9.96	
Fluorene	8.13		8.67		3.71		4.27		18.65	
C1-Fluorenes	4.53		8.59		2.05		1.94		8.63	
C2-Fluorenes	10.3		22.57		10.7		3.59		36.34	
C3-Fluorenes	13.3		30.88		10.8		6.02		31.05	
Carbazole	NA		2.79		NA		NA		5.10	
Anthracene	2.61		5.33		1.28		0.828		19.56	
Phenanthrene	20.4		24.0		8.96		11.9		56.02	
C1-Phenanthrenes/Anthracenes	14.1		29.5		9.14		7.44		41.97	
C2-Phenanthrenes/Anthracenes	16.9		64.5		16.3		7.84		51.22	
C3-Phenanthrenes/Anthracenes	13.2		56.2		16.5		3.72		75.08	
C4-Phenanthrenes/Anthracenes	12.5		46.1		14.0		3.40		71.93	
Dibenzothiophene	3.13		7.05		1.70		1.18		8.76	
C1-Dibenzothiophenes	3.72		13.5		2.98		1.09		11.20	
C2-Dibenzothiophenes	6.27		28.4		6.94		1.55		23.54	
C3-Dibenzothiophenes	12.2		48.9		16.2		2.18		41.71	
C4-Dibenzothiophenes	9.30		49.0		16.9		1.69		43.70	
Fluoranthene	12.1		18.6		5.05		4.88		57.06	
Pyrene	9.73		21.1		4.98		4.02		56.41	
C1-Fluoranthenes/Pyrenes	8.94		21.8		6.05		2.81		41.70	
C2-Fluoranthenes/Pyrenes	15.5		46.9		13.6		3.06		97.15	
C3-Fluoranthenes/Pyrenes	10.6		37.3		13.2		2.25		55.80	
C4-Fluoranthenes/Pyrenes	14.3		38.5		13.1		3.74		45.25	
Naphthobenzothiophene	NA		19.5		NA		NA		35.02	
C1-Naphthobenzothiophenes	NA		56.2		NA		NA		89.05	
C2-Naphthobenzothiophenes	NA		120		NA		NA		142.97	
C3-Naphthobenzothiophenes	NA		118		NA		NA		142.89	
C4-Naphthobenzothiophenes	NA		48.2		NA		NA		56.06	
Benz(a)anthracene	5.39		11.6		2.41		2.15		24.24	
Chrysene/Triphenylene	15.7		22.2		6.69		3.95		34.37	
C1-Chrysenes	30.7		55.8		20.3		13.0		145.83	
C2-Chrysenes	11.7		42.3		17.7		3.06		56.69	
C3-Chrysenes	10.4		31.5		15.7		1.75		44.75	
C4-Chrysenes	4.12		17.4		7.18		<0.2	U	35.60	
Benzo(b)fluoranthene	19.1		24.0		6.16		3.40		64.98	
Benzo(k,j)fluoranthene	2.14		5.43		1.58		0.944		18.28	
Benzo(a)fluoranthene	NA		<0.1	U	NA		NA		<0.1	U
Benzo(e)pyrene	6.25		12.3		3.72		<0.2	U	26.47	
Benzo(a)pyrene	4.06		5.87		1.47		<0.1	U	16.31	
Perylene	567	E	1905	E	153		567	E	818	E
Indeno(1,2,3-c,d)pyrene	6.40		11.4		2.65		1.57		20.32	
Dibenzo(a,h)anthracene	2.58		3.53		1.00		0.793		5.48	
Benzo(g,h,i)perylene	6.25		12.2		3.40		1.64		36.67	
Total PAHs	997		3296		472		701		2863	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1563.D	ARC1566.D	ARC1567.D	ARC1568.D	ARC1571.D
Client Name	SED-DA-031 (1.0-1.5)	SED-DA-029 (0-0.5)	SED-DA-029 (0.5-1.0)	SED-DA-029 (1.0-1.5)	SED-DA-030 (0-0.5)
Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
Collection Date	07/28/13	07/29/13	07/29/13	07/29/13	07/29/13
Received Date	07/30/13	07/31/13	07/31/13	07/31/13	07/31/13
Extraction Date	08/08/13	08/08/13	08/08/13	08/08/13	08/08/13
Extraction Batch	ENV 3076	ENV 3076	ENV 3076	ENV 3076	ENV 3076
Date Acquired	8/14/13 11:33	8/14/13 12:42	8/14/13 13:51	8/14/13 15:01	8/14/13 19:38
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.0	15.2	15.2	15.1
% Dry	57	33	58	72	20
% Moisture	43	67	42	28	80
Dilution	1X	1X	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q
Individual Alkyl Isomers and Hopanes										
2-Methylnaphthalene	5.72		8.86		3.47		2.00		10.3	
1-Methylnaphthalene	2.67		4.48		1.49		0.982		4.10	
2,6-Dimethylnaphthalene	NA		11.6		NA		NA		10.5	
1,6,7-Trimethylnaphthalene	NA		4.41		NA		NA		2.91	
1-Methylfluorene	NA		4.75		NA		NA		5.00	
4-Methyldibenzothiophene	NA		10.4		NA		NA		8.43	
2/3-Methyldibenzothiophene	NA		8.38		NA		NA		8.23	
1-Methyldibenzothiophene	NA		4.12		NA		NA		2.37	
3-Methylphenanthrene	NA		9.09		NA		NA		12.0	
2-Methylphenanthrene	NA		9.72		NA		NA		12.9	
2-Methylanthracene	NA		7.67		NA		NA		13.6	
4/9-Methylphenanthrene	NA		6.66		NA		NA		9.15	
1-Methylphenanthrene	NA		6.51		NA		NA		8.76	
3,6-Dimethylphenanthrene	NA		18.7		NA		NA		3.24	
Retene	NA		4.69		NA		NA		32.1	
2-Methylfluoranthene	NA		3.39		NA		NA		7.58	
Benzo(b)fluorene	NA		6.09		NA		NA		12.2	
C29-Hopane	NA		<0.6	U	NA		NA		<0.6	U
18a-Oleanane	NA		<0.6	U	NA		NA		<0.6	U
C30-Hopane	NA		<0.6	U	NA		NA		<0.6	U
C20-TAS	NA		<0.6	U	NA		NA		<0.6	U
C21-TAS	NA		<0.6	U	NA		NA		<0.6	U
C26(20S)-TAS	NA		<0.6	U	NA		NA		<0.6	U
C26(20R)/C27(20S)-TAS	NA		<0.6	U	NA		NA		<0.6	U
C28(20S)-TAS	NA		<0.6	U	NA		NA		<0.6	U
C27(20R)-TAS	NA		<0.6	U	NA		NA		<0.6	U
C28(20R)-TAS	NA		<0.6	U	NA		NA		<0.6	U
Surrogate Recovery										
Naphthalene-d8	75		76		75		76		93	
Acenaphthene-d10	87		84		84		82		86	
Phenanthrene-d10	75		78		75		76		84	
Chrysene-d12	107		114		107		103		88	
Perylene-d12	68		67		43		46		62	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1572.D	ARC1573.D	ARC1574.D	ARC1577.D	ARC1578.D
Client Name	SED-DA-030 (0.5-1.0)	SED-DA-030 (1.0-1.5)	SED-DA-028 (0-0.5)	SED-DA-028 (0.5-1.0)	SED-DA-028 (1.0-1.5)
Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
Collection Date	07/29/13	07/29/13	07/29/13	07/29/13	07/29/13
Received Date	07/31/13	07/31/13	07/31/13	07/31/13	07/31/13
Extraction Date	08/08/13	08/08/13	08/08/13	08/08/13	08/08/13
Extraction Batch	ENV 3076	ENV 3076	ENV 3076	ENV 3076	ENV 3076
Date Acquired	8/14/13 20:47	8/14/13 21:56	8/14/13 23:06	8/15/13 0:15	8/15/13 1:24
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.0	15.0	15.2	15.2
% Dry	72	78	14	55	67
% Moisture	28	22	86	45	33
Dilution	1X	1X	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q
cis/trans Decalin	NA		NA		46.61		NA		NA	
C1-Decalins	NA		NA		<0.3	U	NA		NA	
C2-Decalins	NA		NA		<0.3	U	NA		NA	
C3-Decalins	NA		NA		<0.3	U	NA		NA	
C4-Decalins	NA		NA		<0.3	U	NA		NA	
Naphthalene	1.39		0.91		11.12		5.94		2.43	
C1-Naphthalenes	0.84	J	0.47	J	11.19		4.72		1.63	
C2-Naphthalenes	1.73		0.95		29.42		10.79		3.51	
C3-Naphthalenes	5.68		1.49		<0.7	U	15.63		7.14	
C4-Naphthalenes	2.09		<0.7	U	<0.7	U	20.46		<0.7	U
Benzothiophene	NA		NA		1.23		NA		NA	
C1-Benzothiophenes	NA		NA		2.00		NA		NA	
C2-Benzothiophenes	NA		NA		21.87		NA		NA	
C3-Benzothiophenes	NA		NA		17.40		NA		NA	
C4-Benzothiophenes	NA		NA		7.57		NA		NA	
Biphenyl	NA		NA		6.21		NA		NA	
Acenaphthylene	0.17		0.07		65.22		9.19		0.79	
Acenaphthene	0.31		0.11		7.58		2.51		0.63	
Dibenzofuran	NA		NA		14.77		NA		NA	
Fluorene	1.97		1.52		20.86		9.22		3.06	
C1-Fluorenes	1.02		0.80		10.69		4.75		1.40	
C2-Fluorenes	1.75		<0.4	U	48.20		11.25		2.04	
C3-Fluorenes	<0.4	U	<0.4	U	26.49		14.34		<0.4	U
Carbazole	NA		NA		14.18		NA		NA	
Anthracene	0.32		<0.1	U	115.96		12.27		1.23	
Phenanthrene	4.92		3.65		103.97		28.98		7.59	
C1-Phenanthrenes/Anthracenes	4.61		<0.1	U	80.24		26.44		5.95	
C2-Phenanthrenes/Anthracenes	6.69		<0.3	U	84.71		28.37		6.40	
C3-Phenanthrenes/Anthracenes	1.33		<0.3	U	83.36		18.66		2.01	
C4-Phenanthrenes/Anthracenes	1.97		<0.3	U	57.33		18.24		2.77	
Dibenzothiophene	0.49		0.17		13.09		3.60		0.97	
C1-Dibenzothiophenes	0.37		<0.1	U	19.64		5.18		0.78	
C2-Dibenzothiophenes	0.64		<0.2	U	34.52		7.96		0.78	
C3-Dibenzothiophenes	1.36		<0.2	U	43.16		11.72		1.21	
C4-Dibenzothiophenes	1.24		<0.2	U	38.17		10.12		1.46	
Fluoranthene	2.05		0.70		252.66		50.82		3.84	
Pyrene	1.66		0.56		199.19		53.46		3.73	
C1-Fluoranthenes/Pyrenes	1.11		0.30	J	145.56		37.90		2.68	
C2-Fluoranthenes/Pyrenes	<0.5	U	<0.5	U	119.03		30.77		<0.5	U
C3-Fluoranthenes/Pyrenes	<0.5	U	<0.5	U	79.04		18.39		<0.5	U
C4-Fluoranthenes/Pyrenes	<0.5	U	<0.5	U	57.46		18.38		<0.5	U
Naphthobenzothiophene	NA		NA		64.46		NA		NA	
C1-Naphthobenzothiophenes	NA		NA		57.95		NA		NA	
C2-Naphthobenzothiophenes	NA		NA		63.11		NA		NA	
C3-Naphthobenzothiophenes	NA		NA		45.98		NA		NA	
C4-Naphthobenzothiophenes	NA		NA		30.08		NA		NA	
Benz(a)anthracene	0.61		<0.2	U	171.95		44.98		2.65	
Chrysene/Triphenylene	1.22		<0.1	U	191.05		41.44		3.66	
C1-Chrysenes	<0.2	U	<0.2	U	164.46		<0.2	U	<0.2	U
C2-Chrysenes	<0.2	U	<0.2	U	88.01		<0.2	U	<0.2	U
C3-Chrysenes	<0.2	U	<0.2	U	34.67		<0.2	U	<0.2	U
C4-Chrysenes	<0.2	U	<0.2	U	24.21		<0.2	U	<0.2	U
Benzo(b)fluoranthene	1.25		<0.2	U	385.97		62.78		4.36	
Benzo(k,j)fluoranthene	0.35		<0.1	U	142.21		12.35		1.28	
Benzo(a)fluoranthene	NA		NA		47.22		NA		NA	
Benzo(e)pyrene	<0.2	U	<0.2	U	151.56		24.27		<0.2	U
Benzo(a)pyrene	<0.1	U	<0.1	U	123.60		16.71		<0.1	U
Perylene	304		65.7		440		549		345	
Indeno(1,2,3-c,d)pyrene	<0.1	U	<0.1	U	93.73		14.65		<0.1	U
Dibenzo(a,h)anthracene	<0.1	U	<0.1	U	29.02		6.81		<0.1	U
Benzo(g,h,i)perylene	<0.1	U	<0.1	U	87.72		14.04		<0.1	U
Total PAHs	353		77		4326		1277		421	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1572.D	ARC1573.D	ARC1574.D	ARC1577.D	ARC1578.D
Client Name	SED-DA-030 (0.5-1.0)	SED-DA-030 (1.0-1.5)	SED-DA-028 (0-0.5)	SED-DA-028 (0.5-1.0)	SED-DA-028 (1.0-1.5)
Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
Collection Date	07/29/13	07/29/13	07/29/13	07/29/13	07/29/13
Received Date	07/31/13	07/31/13	07/31/13	07/31/13	07/31/13
Extraction Date	08/08/13	08/08/13	08/08/13	08/08/13	08/08/13
Extraction Batch	ENV 3076	ENV 3076	ENV 3076	ENV 3076	ENV 3076
Date Acquired	8/14/13 20:47	8/14/13 21:56	8/14/13 23:06	8/15/13 0:15	8/15/13 1:24
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.0	15.0	15.2	15.2
% Dry	72	78	14	55	67
% Moisture	28	22	86	45	33
Dilution	1X	1X	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q
Individual Alkyl Isomers and Hopanes										
2-Methylnaphthalene	0.922	J	0.502	J	12.2		5.29		1.80	
1-Methylnaphthalene	0.445	J	0.261	J	5.93		2.34		0.838	
2,6-Dimethylnaphthalene	NA		NA		15.2		NA		NA	
1,6,7-Trimethylnaphthalene	NA		NA		3.87		NA		NA	
1-Methylfluorene	NA		NA		6.64		NA		NA	
4-Methyldibenzothiophene	NA		NA		14.7		NA		NA	
2/3-Methyldibenzothiophene	NA		NA		12.4		NA		NA	
1-Methyldibenzothiophene	NA		NA		6.26		NA		NA	
3-Methylphenanthrene	NA		NA		17.9		NA		NA	
2-Methylphenanthrene	NA		NA		22.4		NA		NA	
2-Methylanthracene	NA		NA		25.8		NA		NA	
4/9-Methylphenanthrene	NA		NA		26.3		NA		NA	
1-Methylphenanthrene	NA		NA		15.4		NA		NA	
3,6-Dimethylphenanthrene	NA		NA		6.04		NA		NA	
Retene	NA		NA		35.4		NA		NA	
2-Methylfluoranthene	NA		NA		36.1		NA		NA	
Benzo(b)fluorene	NA		NA		35.9		NA		NA	
C29-Hopane	NA		NA		<0.6	U	NA		NA	
18a-Oleanane	NA		NA		<0.6	U	NA		NA	
C30-Hopane	NA		NA		<0.6	U	NA		NA	
C20-TAS	NA		NA		<0.6	U	NA		NA	
C21-TAS	NA		NA		<0.6	U	NA		NA	
C26(20S)-TAS	NA		NA		<0.6	U	NA		NA	
C26(20R)/C27(20S)-TAS	NA		NA		<0.6	U	NA		NA	
C28(20S)-TAS	NA		NA		<0.6	U	NA		NA	
C27(20R)-TAS	NA		NA		<0.6	U	NA		NA	
C28(20R)-TAS	NA		NA		<0.6	U	NA		NA	
Surrogate Recovery										
Naphthalene-d8	74		75		86		78		75	
Acenaphthene-d10	83		80		79		81		82	
Phenanthrene-d10	72		73		85		77		74	
Chrysene-d12	107		98		76		105		114	
Perylene-d12	44		50		79		66		54	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1579.D	ARC1580.D
Client Name	SED-DA-027 (0-0.5)	SED-DA-027 (0.5-1.0)
Matrix	Sediment	Sediment
Collection Date	07/29/13	07/29/13
Received Date	07/31/13	07/31/13
Extraction Date	08/08/13	08/08/13
Extraction Batch	ENV 3076	ENV 3076
Date Acquired	8/15/13 2:34	8/15/13 3:43
Method	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.0
% Dry	43	26
% Moisture	57	74
Dilution	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q
cis/trans Decalin	23.56		NA	
C1-Decalins	<0.3	U	NA	
C2-Decalins	<0.3	U	NA	
C3-Decalins	<0.3	U	NA	
C4-Decalins	<0.3	U	NA	
Naphthalene	4.11		8.16	
C1-Naphthalenes	3.45		8.16	
C2-Naphthalenes	9.11		20.76	
C3-Naphthalenes	16.36		25.64	
C4-Naphthalenes	10.79		22.78	
Benzothiophene	<0.1	U	NA	
C1-Benzothiophenes	<0.2	U	NA	
C2-Benzothiophenes	<0.2	U	NA	
C3-Benzothiophenes	<0.2	U	NA	
C4-Benzothiophenes	<0.2	U	NA	
Biphenyl	2.24		NA	
Acenaphthylene	3.48		5.02	
Acenaphthene	1.57		1.85	
Dibenzofuran	3.53		NA	
Fluorene	5.69		16.93	
C1-Fluorenes	5.05		10.49	
C2-Fluorenes	14.57		27.92	
C3-Fluorenes	14.81		40.28	
Carbazole	2.48		NA	
Anthracene	6.65		12.39	
Phenanthrene	20.68		47.19	
C1-Phenanthrenes/Anthracenes	20.06		46.64	
C2-Phenanthrenes/Anthracenes	24.56		70.25	
C3-Phenanthrenes/Anthracenes	31.30		92.92	
C4-Phenanthrenes/Anthracenes	33.85		72.06	
Dibenzothiophene	3.57		8.01	
C1-Dibenzothiophenes	5.75		16.81	
C2-Dibenzothiophenes	11.01		39.12	
C3-Dibenzothiophenes	14.42		66.25	
C4-Dibenzothiophenes	19.42		76.44	
Fluoranthene	20.72		42.44	
Pyrene	21.69		36.81	
C1-Fluoranthenes/Pyrenes	15.54		39.13	
C2-Fluoranthenes/Pyrenes	28.37		97.97	
C3-Fluoranthenes/Pyrenes	15.66		45.60	
C4-Fluoranthenes/Pyrenes	17.37		57.67	
Naphthobenzothiophene	11.61		NA	
C1-Naphthobenzothiophenes	24.33		NA	
C2-Naphthobenzothiophenes	38.50		NA	
C3-Naphthobenzothiophenes	37.05		NA	
C4-Naphthobenzothiophenes	21.24		NA	
Benz(a)anthracene	12.90		19.71	
Chrysene/Triphenylene	14.82		28.05	
C1-Chrysenes	42.17		101.16	
C2-Chrysenes	24.93		77.43	
C3-Chrysenes	15.08		53.31	
C4-Chrysenes	12.88		28.82	
Benzo(b)fluoranthene	25.15		66.37	
Benzo(k,j)fluoranthene	6.07		18.39	
Benzo(a)fluoranthene	<0.1	U	NA	
Benzo(e)pyrene	9.31		27.90	
Benzo(a)pyrene	7.12		13.44	
Perylene	292		374	
Indeno(1,2,3-c,d)pyrene	10.33		13.51	
Dibenzo(a,h)anthracene	28.39		48.84	
Benzo(g,h,i)perylene	16.86		36.40	
Total PAHs	1082		1963	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1579.D	ARC1580.D
Client Name	SED-DA-027 (0-0.5)	SED-DA-027 (0.5-1.0)
Matrix	Sediment	Sediment
Collection Date	07/29/13	07/29/13
Received Date	07/31/13	07/31/13
Extraction Date	08/08/13	08/08/13
Extraction Batch	ENV 3076	ENV 3076
Date Acquired	8/15/13 2:34	8/15/13 3:43
Method	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.0
% Dry	43	26
% Moisture	57	74
Dilution	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q
Individual Alkyl Isomers and Hopanes				
2-Methylnaphthalene	3.89		9.21	
1-Methylnaphthalene	1.68		3.97	
2,6-Dimethylnaphthalene	4.28		NA	
1,6,7-Trimethylnaphthalene	2.23		NA	
1-Methylfluorene	2.28		NA	
4-Methyldibenzothiophene	4.45		NA	
2/3-Methyldibenzothiophene	4.10		NA	
1-Methyldibenzothiophene	1.23		NA	
3-Methylphenanthrene	6.27		NA	
2-Methylphenanthrene	5.31		NA	
2-Methylanthracene	7.74		NA	
4/9-Methylphenanthrene	3.86		NA	
1-Methylphenanthrene	3.75		NA	
3,6-Dimethylphenanthrene	1.61		NA	
Retene	60.9		NA	
2-Methylfluoranthene	2.78		NA	
Benzo(b)fluorene	4.92		NA	
C29-Hopane	<0.6	U	NA	
18a-Oleanane	<0.6	U	NA	
C30-Hopane	<0.6	U	NA	
C20-TAS	<0.6	U	NA	
C21-TAS	<0.6	U	NA	
C26(20S)-TAS	<0.6	U	NA	
C26(20R)/C27(20S)-TAS	<0.6	U	NA	
C28(20S)-TAS	<0.6	U	NA	
C27(20R)-TAS	<0.6	U	NA	
C28(20R)-TAS	<0.6	U	NA	
Surrogate Recovery				
Naphthalene-d8	88		90	
Acenaphthene-d10	83		82	
Phenanthrene-d10	81		82	
Chrysene-d12	110		83	
Perylene-d12	65		77	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Procedural Blank Report

Sample Name	ENV3076A.D
Client Name	Procedural Blank
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	08/08/13
Extraction Batch	ENV 3076
Date Acquired	8/13/13 6:56
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	0.145	J	1.03	0.342
C1-Naphthalenes	0.039	J	3.09	1.03
C2-Naphthalenes	<0.7	U	2.05	0.684
C3-Naphthalenes	<0.7	U	2.05	0.684
C4-Naphthalenes	<0.7	U	2.05	0.684
Benzothiophene	<0.1	U	0.270	0.090
C1-Benzothiophenes	<0.2	U	0.540	0.180
C2-Benzothiophenes	<0.2	U	0.540	0.180
C3-Benzothiophenes	<0.2	U	0.540	0.180
C4-Benzothiophenes	<0.2	U	0.540	0.180
Biphenyl	0.149	J	0.881	0.294
Acenaphthylene	<0.04	U	0.122	0.041
Acenaphthene	<0.1	U	0.308	0.103
Dibenzofuran	0.070	J	0.613	0.204
Fluorene	0.016	J	0.550	0.183
C1-Fluorenes	<0.4	U	1.10	0.367
C2-Fluorenes	<0.4	U	1.10	0.367
C3-Fluorenes	<0.4	U	1.10	0.367
Carbazole	0.031	J	0.449	0.150
Anthracene	<0.1	U	0.346	0.115
Phenanthrene	0.056	J	0.624	0.208
C1-Phenanthrenes/Anthracenes	<0.1	U	0.232	0.077
C2-Phenanthrenes/Anthracenes	<0.3	U	0.855	0.285
C3-Phenanthrenes/Anthracenes	<0.3	U	0.855	0.285
C4-Phenanthrenes/Anthracenes	<0.3	U	0.855	0.285
Dibenzothiophene	<0.1	U	0.348	0.116
C1-Dibenzothiophenes	<0.1	U	0.191	0.064
C2-Dibenzothiophenes	<0.2	U	0.696	0.232
C3-Dibenzothiophenes	<0.2	U	0.696	0.232
C4-Dibenzothiophenes	<0.2	U	0.696	0.232
Fluoranthene	<0.3	U	1.00	0.333
Pyrene	<0.1	U	0.408	0.136
C1-Fluoranthenes/Pyrenes	<0.5	U	1.41	0.469
C2-Fluoranthenes/Pyrenes	<0.5	U	1.41	0.469
C3-Fluoranthenes/Pyrenes	<0.5	U	1.41	0.469
C4-Fluoranthenes/Pyrenes	<0.5	U	1.41	0.469
Naphthobenzothiophene	<0.1	U	0.383	0.128
C1-Naphthobenzothiophenes	<0.3	U	0.767	0.256
C2-Naphthobenzothiophenes	<0.3	U	0.767	0.256
C3-Naphthobenzothiophenes	<0.3	U	0.767	0.256
C4-Naphthobenzothiophenes	<0.3	U	0.767	0.256
Benz(a)anthracene	<0.2	U	0.577	0.192
Chrysene/Triphenylene	<0.1	U	0.347	0.116
C1-Chrysenes	<0.2	U	0.695	0.232
C2-Chrysenes	<0.2	U	0.695	0.232
C3-Chrysenes	<0.2	U	0.695	0.232
C4-Chrysenes	<0.2	U	0.695	0.232
Benzo(b)fluoranthene	<0.2	U	0.609	0.203
Benzo(k,j)fluoranthene	<0.1	U	0.294	0.098
Benzo(a)fluoranthene	<0.1	U	0.294	0.098
Benzo(e)pyrene	<0.2	U	0.530	0.177
Benzo(a)pyrene	<0.1	U	0.304	0.101
Perylene	<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	0.030	J	0.264	0.088
Total PAHs	0.537			

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Procedural Blank Report

Sample Name	ENV3076A.D
Client Name	Procedural Blank
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	08/08/13
Extraction Batch	ENV 3076
Date Acquired	8/13/13 6:56
Method	PAH-2012.M
Sample Dry Weight (g)	15.0
% Dry	NA
% Moisture	NA
Dilution	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	3X MDL	Actual MDL
Individual Alkyl Isomers and Hopanes				
2-Methylnaphthalene	0.043	J	3.89	1.30
1-Methylnaphthalene	0.020	J	1.64	0.546
2,6-Dimethylnaphthalene	<0.3	U	0.782	0.261
1,6,7-Trimethylnaphthalene	<0.1	U	0.382	0.127
1-Methylfluorene	<0.2	U	0.574	0.191
4-Methyldibenzothiophene	<0.1	U	0.274	0.091
2/3-Methyldibenzothiophene	<0.1	U	0.274	0.091
1-Methyldibenzothiophene	<0.1	U	0.274	0.091
3-Methylphenanthrene	<0.1	U	0.291	0.097
2-Methylphenanthrene	<0.1	U	0.291	0.097
2-Methylanthracene	<0.1	U	0.291	0.097
4/9-Methylphenanthrene	<0.1	U	0.291	0.097
1-Methylphenanthrene	<0.1	U	0.291	0.097
3,6-Dimethylphenanthrene	<0.1	U	0.329	0.110
Retene	<0.2	U	0.694	0.231
2-Methylfluoranthene	<0.2	U	0.668	0.223
Benzo(b)fluorene	<0.1	U	0.374	0.125
C29-Hopane	<0.6	U	1.72	0.575
18a-Oleanane	<0.6	U	1.72	0.575
C30-Hopane	<0.6	U	1.72	0.575
C20-TAS	<0.6	U	1.72	0.575
C21-TAS	<0.6	U	1.72	0.575
C26(20S)-TAS	<0.6	U	1.72	0.575
C26(20R)/C27(20S)-TAS	<0.6	U	1.72	0.575
C28(20S)-TAS	<0.6	U	1.72	0.575
C27(20R)-TAS	<0.6	U	1.72	0.575
C28(20R)-TAS	<0.6	U	1.72	0.575

Surrogate Recovery	
Naphthalene-d8	79
Acenaphthene-d10	79
Phenanthrene-d10	74
Chrysene-d12	69
Perylene-d12	85

B&B Laboratories
Project J13034
Report 13-3089

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Matrix Spike Report

Client Project #B0086003.1301/1302

Sample Name	ARC1574.D	ENV3076C.D	ENV3076D.D
Client Name	SED-DA-028 (0-0.5)	MS (SED-DA-028 (0-0.5) MS/MSD)	MSD (SED-DA-028 (0-0.5) MS/MSD)
Matrix	Sediment	Sediment	Sediment
Collection Date	07/29/13	07/29/13	07/29/13
Received Date	07/31/13	07/31/13	07/31/13
Extraction Date	08/08/13	08/08/13	08/08/13
Extraction Batch	ENV 3076	ENV 3076	ENV 3076
Date Acquired	8/14/13 23:06	8/13/13 9:15	8/13/13 10:24
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.1	15.0
% Dry	14	15	15
% Moisture	86	85	85
Dilution	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Recovery (%)	Q	Q1	Su. Corrected Conc. (ng/dry g)	Q	Recovery (%)	Q	Q1	RPD (%)	Q	Spike Amount (ng)
cis/trans Decalin	46.6		49.3		43		Y	50.9		66		Y	3		98.9
C1-Decalins	<0.3	U	NA					NA							
C2-Decalins	<0.3	U	NA					NA							
C3-Decalins	<0.3	U	NA					NA							
C4-Decalins	<0.3	U	NA					NA							
Naphthalene	11.1		18.2		107			18.4		110			1		100
C1-Naphthalenes	11.2		NA					NA							
C2-Naphthalenes	29.4		NA					NA							
C3-Naphthalenes	<0.7	U	NA					NA							
C4-Naphthalenes	<0.7	U	NA					NA							
Benzothiophene	1.23		6.58		81			6.12		74			7		99.4
C1-Benzothiophenes	2.00		NA					NA							
C2-Benzothiophenes	21.9		NA					NA							
C3-Benzothiophenes	17.4		NA					NA							
C4-Benzothiophenes	7.57		NA					NA							
Biphenyl	6.21		14.1		120			13.6		112			3		99.1
Acenaphthylene	65.2		75.0		151		Y	57.3		-119		Y	27		99.2
Acenaphthene	7.58		14.7		107			14.6		106			0		100
Dibenzofuran	14.8		24.7		151		Y	24.6		148		Y	1		100
Fluorene	20.9		30.5		145		Y	24.2		50		Y	23		100
C1-Fluorenes	10.7		NA					NA							
C2-Fluorenes	48.2		NA					NA							
C3-Fluorenes	26.5		NA					NA							
Carbazole	14.2		24.5		158		Y	19.9		86		Y	21		99.1
Anthracene	116		144		432		Y	108		-123		Y	29		100
Phenanthrene	104		135		478		Y	144		606		Y	6		99.1
C1-Phenanthrenes/Anthracenes	80.2		NA					NA							
C2-Phenanthrenes/Anthracenes	84.7		NA					NA							
C3-Phenanthrenes/Anthracenes	83.4		NA					NA							
C4-Phenanthrenes/Anthracenes	57.3		NA					NA							
Dibenzothiophene	13.1		18.9		89			18.3		79			3		98.6
C1-Dibenzothiophenes	19.6		NA					NA							
C2-Dibenzothiophenes	34.5		NA					NA							
C3-Dibenzothiophenes	43.2		NA					NA							
C4-Dibenzothiophenes	38.2		NA					NA							
Fluoranthene	253		339		1307		Y	282		445		Y	18		100
Pyrene	199		282		1253		Y	242		642		Y	15		100
C1-Fluoranthenes/Pyrenes	146		NA					NA							
C2-Fluoranthenes/Pyrenes	119		NA					NA							
C3-Fluoranthenes/Pyrenes	79.0		NA					NA							
C4-Fluoranthenes/Pyrenes	57.5		NA					NA							
Naphthobenzothiophene	64.5		NA					NA							
C1-Naphthobenzothiophenes	58.0		NA					NA							
C2-Naphthobenzothiophenes	63.1		NA					NA							
C3-Naphthobenzothiophenes	46.0		NA					NA							
C4-Naphthobenzothiophenes	30.1		NA					NA							
Benz(a)anthracene	172		323		2283		Y	194		334		Y	50		100
Chrysene/Triphenylene	191		230		590		Y	150		-627		Y	42		99.4
C1-Chrysenes	164		NA					NA							
C2-Chrysenes	88.0		NA					NA							
C3-Chrysenes	34.7		NA					NA							
C4-Chrysenes	24.2		NA					NA							
Benzo(b)fluoranthene	386		479		1408		Y	321		-973		Y	39		100
Benzo(k,j)fluoranthene	142		176		524		Y	114		-425		Y	43		100
Benzo(a)fluoranthene	47.2		NA					NA							
Benzo(e)pyrene	152		168		259		Y	117		-523		Y	36		100
Benzo(a)pyrene	124		175		782		Y	107		-253		Y	48		100
Perylene	440		500		929		Y	476		545		Y	5		100
Indeno(1,2,3-c,d)pyrene	93.7		98.8		81		Y	72.5		-324		Y	31		98.3
Dibenzo(a,h)anthracene	29.0		36.2		110		Y	28.2		-13		Y	25		99.1
Benzo(g,h,i)perylene	87.7		100		193		Y	77.7		-152		Y	25		99.1
Average % Recovery					963	*				188	*				

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Matrix Spike Report

Sample Name	ARC1574.D	ENV3076C.D	ENV3076D.D
Client Name	SED-DA-028 (0-0.5)	MS (SED-DA-028 (0-0.5) MS/MSD)	MSD (SED-DA-028 (0-0.5) MS/MSD)
Matrix	Sediment	Sediment	Sediment
Collection Date	07/29/13	07/29/13	07/29/13
Received Date	07/31/13	07/31/13	07/31/13
Extraction Date	08/08/13	08/08/13	08/08/13
Extraction Batch	ENV 3076	ENV 3076	ENV 3076
Date Acquired	8/14/13 23:06	8/13/13 9:15	8/13/13 10:24
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.1	15.0
% Dry	14	15	15
% Moisture	86	85	85
Dilution	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Recovery (%)	Q	Q1	Su. Corrected Conc. (ng/dry g)	Q	Recovery (%)	Q	Q1	RPD (%)	Q	Spike Amount (ng)
Individual Alkyl Isomers and Hopanes															
2-Methylnaphthalene	12.2		18.1		89			17.6		81			3		100
1-Methylnaphthalene	5.93		11.4		83			11.4		83			0		100
2,6-Dimethylnaphthalene	15.2		28.6		203		Y	27.3		182		Y	5		100
1,6,7-Trimethylnaphthalene	3.87		9.64		87			9.99		92			4		100
1-Methylfluorene	6.64		13.7		106			14.1		111			3		101
4-Methyldibenzothiophene	14.7		22.2		112		Y	24.3		142		Y	9		101
2/3-Methyldibenzothiophene	12.4		NA					NA							
1-Methyldibenzothiophene	6.26		NA					NA							
3-Methylphenanthrene	17.9		NA					NA							
2-Methylphenanthrene	22.4		NA					NA							
2-Methylanthracene	25.8		NA					NA							
4/9-Methylphenanthrene	26.3		NA					NA							
1-Methylphenanthrene	15.4		32.5		262		Y	27.6		186		Y	16		98.9
3,6-Dimethylphenanthrene	6.04		12.8		103			12.6		99			2		100
Retene	35.4		1280		20977		Y	360		5466		Y	112		89.4
2-Methylfluoranthene	36.1		68.0		478		Y	48.2		180		Y	34		101
Benzo(b)fluorene	35.9		57.4		321		Y	50.6		219		Y	12		101
C29-Hopane	<0.6	U	NA					NA							
18a-Oleanane	<0.6	U	NA					NA							
C30-Hopane	<0.6	U	NA					NA							
C20-TAS	<0.6	U	NA					NA							
C21-TAS	<0.6	U	NA					NA							
C26(20S)-TAS	<0.6	U	NA					NA							
C26(20R)/C27(20S)-TAS	<0.6	U	4.20		63			4.82		72			14		100
C28(20S)-TAS	<0.6	U	NA					NA							
C27(20R)-TAS	<0.6	U	NA					NA							
C28(20R)-TAS	<0.6	U	NA					NA							

Surrogate Recovery			
Naphthalene-d8	86	90	87
Acenaphthene-d10	79	76	74
Phenanthrene-d10	85	91	89
Chrysene-d12	76	90	87
Perylene-d12	79	79	77

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Duplicate Report

Sample Name	ARC1560.D	ENV3076E.D
Client Name	SED-DA-032 (1.0-1.5)	Dupl. (SED-DA-032 (1.0-1.5))
Matrix	Sediment	Sediment
Collection Date	07/28/13	07/28/13
Received Date	07/30/13	07/30/13
Extraction Date	08/08/13	08/08/13
Extraction Batch	ENV 3076	ENV 3076
Date Acquired	8/13/13 15:01	8/13/13 11:33
Method	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.0
% Dry	77	77
% Moisture	23	23
Dilution	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	RPD %	Q	Q1	3X MDL	MDL
cis/trans Decalin	NA		NA					0.395	0.132
C1-Decalins	NA		NA					0.790	0.263
C2-Decalins	NA		NA					0.790	0.263
C3-Decalins	NA		NA					0.790	0.263
C4-Decalins	NA		NA					0.790	0.263
Naphthalene	1.17		1.25		7			1.03	0.342
C1-Naphthalenes	0.764	J	0.768	J	0		X	3.09	1.03
C2-Naphthalenes	3.17		3.48		9			2.05	0.684
C3-Naphthalenes	4.69		4.29		9			2.05	0.684
C4-Naphthalenes	5.65		5.55		2			2.05	0.684
Benzothiophene	NA		NA					0.270	0.090
C1-Benzothiophenes	NA		NA					0.540	0.180
C2-Benzothiophenes	NA		NA					0.540	0.180
C3-Benzothiophenes	NA		NA					0.540	0.180
C4-Benzothiophenes	NA		NA					0.540	0.180
Biphenyl	NA		NA					0.881	0.294
Acenaphthylene	<0.04	U	<0.04	U				0.122	0.041
Acenaphthene	<0.1	U	<0.1	U				0.308	0.103
Dibenzofuran	NA		<0.2	U				0.613	0.204
Fluorene	2.56		2.60		2			0.55	0.183
C1-Fluorenes	0.854		0.853		0		X	1.10	0.367
C2-Fluorenes	<0.4	U	<0.4	U				1.10	0.367
C3-Fluorenes	<0.4	U	<0.4	U				1.10	0.367
Carbazole	NA		NA					0.449	0.150
Anthracene	<0.1	U	<0.1	U				0.346	0.115
Phenanthrene	6.23		6.07		3			0.624	0.208
C1-Phenanthrenes/Anthracenes	3.98		3.69		8			0.232	0.077
C2-Phenanthrenes/Anthracenes	<0.3	U	<0.3	U				0.855	0.285
C3-Phenanthrenes/Anthracenes	<0.3	U	<0.3	U				0.855	0.285
C4-Phenanthrenes/Anthracenes	<0.3	U	<0.3	U				0.855	0.285
Dibenzothiophene	0.214		0.178		18		X	0.348	0.116
C1-Dibenzothiophenes	<0.1	U	<0.1	U				0.191	0.064
C2-Dibenzothiophenes	<0.2	U	<0.2	U				0.696	0.232
C3-Dibenzothiophenes	<0.2	U	<0.2	U				0.696	0.232
C4-Dibenzothiophenes	<0.2	U	<0.2	U				0.696	0.232
Fluoranthene	1.35		1.29		4			1.00	0.333
Pyrene	0.621		0.590		5			0.408	0.136
C1-Fluoranthenes/Pyrenes	0.403	J	0.456	J	12		X	1.41	0.469
C2-Fluoranthenes/Pyrenes	<0.5	U	<0.5	U				1.41	0.469
C3-Fluoranthenes/Pyrenes	<0.5	U	<0.5	U				1.41	0.469
C4-Fluoranthenes/Pyrenes	<0.5	U	<0.5	U				1.41	0.469
Naphthobenzothiophene	NA		NA					0.383	0.128
C1-Naphthobenzothiophenes	NA		NA					0.767	0.256
C2-Naphthobenzothiophenes	NA		NA					0.767	0.256
C3-Naphthobenzothiophenes	NA		NA					0.767	0.256
C4-Naphthobenzothiophenes	NA		NA					0.767	0.256
Benz(a)anthracene	0.181	J	0.171	J	5		X	0.577	0.192
Chrysene/Triphenylene	0.324		0.326		0		X	0.347	0.116
C1-Chrysenes	<0.2	U	<0.2	U				0.695	0.232
C2-Chrysenes	<0.2	U	<0.2	U				0.695	0.232
C3-Chrysenes	<0.2	U	<0.2	U				0.695	0.232
C4-Chrysenes	<0.2	U	<0.2	U				0.695	0.232
Benzo(b)fluoranthene	0.419		0.392		7		X	0.609	0.203
Benzo(k,j)fluoranthene	0.099		0.113		13		X	0.294	0.098
Benzo(a)fluoranthene	NA		<0.1	U				0.294	0.098
Benzo(e)pyrene	<0.2	U	<0.2	U				0.530	0.177
Benzo(a)pyrene	<0.1	U	<0.1	U				0.304	0.101
Perylene	264		242		9			3.80	1.27
Indeno(1,2,3-c,d)pyrene	<0.1	U	<0.1	U				0.151	0.050
Dibenzo(a,h)anthracene	<0.1	U	<0.1	U				0.193	0.064
Benzo(g,h,i)perylene	<0.1	U	<0.1	U				0.264	0.088
Total PAHs	297		274		8				

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Duplicate Report

Sample Name	ARC1560.D	ENV3076E.D
Client Name	SED-DA-032 (1.0-1.5)	Dupl. (SED-DA-032 (1.0-1.5))
Matrix	Sediment	Sediment
Collection Date	07/28/13	07/28/13
Received Date	07/30/13	07/30/13
Extraction Date	08/08/13	08/08/13
Extraction Batch	ENV 3076	ENV 3076
Date Acquired	8/13/13 15:01	8/13/13 11:33
Method	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.0
% Dry	77	77
% Moisture	23	23
Dilution	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	RPD %	Q Q1	3X MDL	MDL
Individual Alkyl Isomers and Hopanes								
2-Methylnaphthalene	0.860	J	0.857	J	0	X	3.89	1.30
1-Methylnaphthalene	0.376	J	0.385	J	2	X	1.64	0.546
2,6-Dimethylnaphthalene	NA		NA				0.782	0.261
1,6,7-Trimethylnaphthalene	NA		NA				0.382	0.127
1-Methylfluorene	NA		NA				0.574	0.191
4-Methyldibenzothiophene	NA		NA				0.274	0.091
2/3-Methyldibenzothiophene	NA		NA				0.274	0.091
1-Methyldibenzothiophene	NA		NA				0.274	0.091
3-Methylphenanthrene	NA		NA				0.291	0.097
2-Methylphenanthrene	NA		NA				0.291	0.097
2-Methylanthracene	NA		NA				0.291	0.097
4/9-Methylphenanthrene	NA		NA				0.291	0.097
1-Methylphenanthrene	NA		NA				0.291	0.097
3,6-Dimethylphenanthrene	NA		NA				0.329	0.110
Retene	NA		NA				0.694	0.231
2-Methylfluoranthene	NA		NA				0.668	0.223
Benzo(b)fluorene	NA		NA				0.374	0.125
C29-Hopane	NA		NA				1.72	0.575
18a-Oleanane	NA		NA				1.72	0.575
C30-Hopane	NA		NA				1.72	0.575
C20-TAS	NA		NA				1.72	0.575
C21-TAS	NA		NA				1.72	0.575
C26(20S)-TAS	NA		NA				1.72	0.575
C26(20R)/C27(20S)-TAS	NA		NA				1.72	0.575
C28(20S)-TAS	NA		NA				1.72	0.575
C27(20R)-TAS	NA		NA				1.72	0.575
C28(20R)-TAS	NA		NA				1.72	0.575

Surrogate Recovery		
Naphthalene-d8	73	75
Acenaphthene-d10	85	85
Phenanthrene-d10	73	76
Chrysene-d12	93	84
Perylene-d12	58	59

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

Sample Name	ENV3076B.D
Client Name	SRM 1941b
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	08/08/13
Extraction Batch	ENV 3076
Date Acquired	8/13/13 8:05
Method	PAH-2012.M
Sample Dry Weight (g)	4.0
% Dry	98
% Moisture	2
Dilution	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	RPD (%)	SRM 1941b Certified Conc. (ng/dry g)	-30% Certified Conc. (ng/dry g)	+30% Certified Conc. (ng/dry g)
cis/trans Decalin	53.3					
C1-Decalins	15.3					
C2-Decalins	17.8					
C3-Decalins	30.0					
C4-Decalins	51.8					
Naphthalene	1015		18	848 ± 95	527	1226
C1-Naphthalenes	291					
C2-Naphthalenes	249					
C3-Naphthalenes	169					
C4-Naphthalenes	110					
Benzothiophene	39.2					
C1-Benzothiophenes	20.4					
C2-Benzothiophenes	17.3					
C3-Benzothiophenes	23.8					
C4-Benzothiophenes	18.6					
Biphenyl	86.7					
Acenaphthylene	62.2					
Acenaphthene	37.5					
Dibenzofuran	108					
Fluorene	66.0		25	85 ± 15	49.0	130
C1-Fluorenes	61.1					
C2-Fluorenes	165					
C3-Fluorenes	262					
Carbazole	27.0					
Anthracene	270	*	38	184 ± 18	116	263
Phenanthrene	544		29	406 ± 44	253	585
C1-Phenanthrenes/Anthracenes	384					
C2-Phenanthrenes/Anthracenes	372					
C3-Phenanthrenes/Anthracenes	277					
C4-Phenanthrenes/Anthracenes	221					
Dibenzothiophene	65.3					
C1-Dibenzothiophenes	71.3					
C2-Dibenzothiophenes	132					
C3-Dibenzothiophenes	160					
C4-Dibenzothiophenes	90.2					
Fluoranthene	870		29	651 ± 50	421	911
Pyrene	678		15	581 ± 39	379	806
C1-Fluoranthenes/Pyrenes	454					
C2-Fluoranthenes/Pyrenes	495					
C3-Fluoranthenes/Pyrenes	240					
C4-Fluoranthenes/Pyrenes	188					
Naphthobenzothiophene	215					
C1-Naphthobenzothiophenes	193					
C2-Naphthobenzothiophenes	208					
C3-Naphthobenzothiophenes	170					
C4-Naphthobenzothiophenes	63.9					
Benz(a)anthracene	342		2	335 ± 25	217	468
Chrysene/Triphenylene	408		2	399 ± 36	254	566
C1-Chrysenes	408					
C2-Chrysenes	244					
C3-Chrysenes	121					
C4-Chrysenes	59.4					
Benzo(b)fluoranthene	585		25	453 ± 21	302	616
Benzo(k,j)fluoranthene	562		24	442 ± 23	293	605
Benzo(a)fluoranthene	85.9					
Benzo(e)pyrene	392		19	325 ± 25	210	455
Benzo(a)pyrene	322		11	358 ± 17	239	488
Perylene	415		4	397 ± 45	246	575
Indeno(1,2,3-c,d)pyrene	343		0	341 ± 57	199	517
Dibenzo(a,h)anthracene	73.8		33	53 ± 10	30.1	81.9
Benzo(g,h,i)perylene	321		4	307 ± 45	183	458
Total PAHs	14040					

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

Sample Name	ENV3076B.D
Client Name	SRM 1941b
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	08/08/13
Extraction Batch	ENV 3076
Date Acquired	8/13/13 8:05
Method	PAH-2012.M
Sample Dry Weight (g)	4.0
% Dry	98
% Moisture	2
Dilution	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	RPD (%)	SRM 1941b Certified Conc. (ng/dry g)	-30% Certified Conc. (ng/dry g)	+30% Certified Conc. (ng/dry g)
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	320					
1-Methylnaphthalene	151					
2,6-Dimethylnaphthalene	86.9					
1,6,7-Trimethylnaphthalene	27.5					
1-Methylfluorene	44.0					
4-Methyldibenzothiophene	59.2					
2/3-Methyldibenzothiophene	43.7					
1-Methyldibenzothiophene	18.4					
3-Methylphenanthrene	113		8	105 ± 13	64.4	153
2-Methylphenanthrene	167					
2-Methylanthracene	51.9					
4/9-Methylphenanthrene	108					
1-Methylphenanthrene	76.3		4	73.2 ± 5.9	47.1	103
3,6-Dimethylphenanthrene	6.7					
Retene	51.7					
2-Methylfluoranthene	105					
Benzo(b)fluorene	117					
C29-Hopane	345					
18a-Oleanane	52.0					
C30-Hopane	436					
C20-TAS	4.12					
C21-TAS	5.20					
C26(20S)-TAS	2.48					
C26(20R)/C27(20S)-TAS	10.7					
C28(20S)-TAS	6.51					
C27(20R)-TAS	8.39					
C28(20R)-TAS	5.46					

Surrogate Recovery	
Naphthalene-d8	56
Acenaphthene-d10	59
Phenanthrene-d10	62
Chrysene-d12	64
Perylene-d12	53

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

Sample Name	MS60140K.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 3076
Date Acquired	8/13/13 5:47
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	741						
C1-Decalins	1004						
C2-Decalins	773						
C3-Decalins	712						
C4-Decalins	585						
Naphthalene	713			18	855 ± 46	647	1081
C1-Naphthalenes	1512						
C2-Naphthalenes	1834						
C3-Naphthalenes	1233						
C4-Naphthalenes	669						
Benzothiophene	8.4	J					
C1-Benzothiophenes	34.2						
C2-Benzothiophenes	30.4						
C3-Benzothiophenes	33.7						
C4-Benzothiophenes	27.5						
Biphenyl	167						
Acenaphthylene	8.45	J					
Acenaphthene	12.3						
Dibenzofuran	33.1						
Fluorene	122						
C1-Fluorenes	253						
C2-Fluorenes	386						
C3-Fluorenes	324						
Carbazole	4.5	J					
Anthracene	3.0	J		15	3.42 ± 0.59	2.26	4.81
Phenanthrene	214			19	258 ± 27	185	342
C1-Phenanthrenes/Anthracenes	557						
C2-Phenanthrenes/Anthracenes	635						
C3-Phenanthrenes/Anthracenes	445						
C4-Phenanthrenes/Anthracenes	255						
Dibenzothiophene	40.2						
C1-Dibenzothiophenes	102						
C2-Dibenzothiophenes	143						
C3-Dibenzothiophenes	137						
C4-Dibenzothiophenes	63.6						
Fluoranthene	5.66	J		26	4.36 ± 0.40	3.17	5.71
Pyrene	13.2			11	14.81 ± 0.39	11.5	18.2
C1-Fluoranthenes/Pyrenes	83.0						
C2-Fluoranthenes/Pyrenes	113						
C3-Fluoranthenes/Pyrenes	148						
C4-Fluoranthenes/Pyrenes	119						
Naphthobenzothiophene	34.0						
C1-Naphthobenzothiophenes	67.2						
C2-Naphthobenzothiophenes	104						
C3-Naphthobenzothiophenes	65.3						
C4-Naphthobenzothiophenes	29.8						
Benz(a)anthracene	5.53	J		24	7.03 ± 0.85	4.94	9.5
Chrysene/Triphenylene	44.7						
C1-Chrysenes	110						
C2-Chrysenes	141						
C3-Chrysenes	98.2						
C4-Chrysenes	62.6						
Benzo(b)fluoranthene	4.98	J		12	5.62 ± 0.34	4.22	7.15
Benzo(k,j)fluoranthene	0.879	J					
Benzo(a)fluoranthene	<10	U					
Benzo(e)pyrene	8.5	J		23	10.78 ± 0.60	8.14	13.7
Benzo(a)pyrene	1.56	J					
Perylene	0.522	J					
Indeno(1,2,3-c,d)pyrene	0.574	J					
Dibenzo(a,h)anthracene	0.549	J		5	0.574 ± 0.091	0.386	0.798
Benzo(g,h,i)perylene	1.72	J		20	2.11 ± 0.26	1.48	2.84
Total PAHs	15078						

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

Sample Name	MS60140K.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 3076
Date Acquired	8/13/13 5:47
Method	PAH-2012.M
Sample Weight (mg)	4.1

Target Compounds **Individual Alkyl Isomers and Hopanes**	Su. Corrected Conc. (ng/mg)	Q	RPD (%)	SRM 2779 Certified Value (ug/g)	-20% Certified Value (ug/g)	+20% Certified Value (ug/g)
2-Methylnaphthalene	1471		10	1630 ± 50	1264	2016
1-Methylnaphthalene	988		14	1140 ± 20	896	1392
2,6-Dimethylnaphthalene	962					
1,6,7-Trimethylnaphthalene	198					
1-Methylfluorene	233					
4-Methyldibenzothiophene	95.1					
2/3-Methyldibenzothiophene	44.8					
1-Methyldibenzothiophene	34.1					
3-Methylphenanthrene	163		23	206 ± 32	139	286
2-Methylphenanthrene	192		18	230 ± 14	173	293
2-Methylanthracene	9.44	J				
4/9-Methylphenanthrene	222		4	232 ± 19	170	301
1-Methylphenanthrene	161		5	169 ± 10	127	215
3,6-Dimethylphenanthrene	42.8					
Retene	24.5					
2-Methylfluoranthene	2.05	J				
Benzo(b)fluorene	15.6					
C29-Hopane	26.7					
18a-Oleanane	<10	U				
C30-Hopane	56.9					
C20-TAS	7.53	J				
C21-TAS	8.35	J				
C26(20S)-TAS	4.67	J				
C26(20R)/C27(20S)-TAS	12.9					
C28(20S)-TAS	8.67	J				
C27(20R)-TAS	7.82	J				
C28(20R)-TAS	7.58	J				

Surrogate Recovery	
Naphthalene-d8	86
Acenaphthene-d10	99
Phenanthrene-d10	81
Chrysene-d12	96
Perylene-d12	87

Peak Resolution	
4/9-Methylphenanthrene from 1-Methylyphenanthrene (m/z 192)	91%

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

Sample Name	MS60140J.D
Client Name	AR-WKCC-250-038
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3076
Date Acquired	8/13/13 4:38
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		1.0	247	210	284
C1-Decalins	NA					
C2-Decalins	NA					
C3-Decalins	NA					
C4-Decalins	NA					
Naphthalene	245		2.2	250	213	288
C1-Naphthalenes	NA					
C2-Naphthalenes	NA					
C3-Naphthalenes	NA					
C4-Naphthalenes	NA					
Benzothiophene	244		1.9	249	211	286
C1-Benzothiophenes	NA					
C2-Benzothiophenes	NA					
C3-Benzothiophenes	NA					
C4-Benzothiophenes	NA					
Biphenyl	242		2.4	248	211	285
Acenaphthylene	221		11.7	248	211	285
Acenaphthene	235		6.4	251	213	288
Dibenzofuran	241		3.2	249	211	286
Fluorene	232		7.9	251	213	288
C1-Fluorenes	NA					
C2-Fluorenes	NA					
C3-Fluorenes	NA					
Carbazole	230		7.4	248	211	285
Anthracene	256		1.9	251	213	288
Phenanthrene	268		7.8	248	211	285
C1-Phenanthrenes/Anthracenes	NA					
C2-Phenanthrenes/Anthracenes	NA					
C3-Phenanthrenes/Anthracenes	NA					
C4-Phenanthrenes/Anthracenes	NA					
Dibenzothiophene	252		2.1	247	210	283
C1-Dibenzothiophenes	NA					
C2-Dibenzothiophenes	NA					
C3-Dibenzothiophenes	NA					
C4-Dibenzothiophenes	NA					
Fluoranthene	248		0.9	250	213	288
Pyrene	248		0.7	250	213	288
C1-Fluoranthenes/Pyrenes	NA					
C2-Fluoranthenes/Pyrenes	NA					
C3-Fluoranthenes/Pyrenes	NA					
C4-Fluoranthenes/Pyrenes	NA					
Naphthobenzothiophene	238		5.4	252	214	289
C1-Naphthobenzothiophenes	NA					
C2-Naphthobenzothiophenes	NA					
C3-Naphthobenzothiophenes	NA					
C4-Naphthobenzothiophenes	NA					
Benz(a)anthracene	226		9.8	250	212	287
Chrysene/Triphenylene	234		6.0	249	211	286
C1-Chrysenes	NA					
C2-Chrysenes	NA					
C3-Chrysenes	NA					
C4-Chrysenes	NA					
Benzo(b)fluoranthene	257		2.5	251	213	288
Benzo(k,j)fluoranthene	260		4.2	249	212	286
Benzo(a)fluoranthene	NA					
Benzo(e)pyrene	267		6.8	249	212	286
Benzo(a)pyrene	258		3.2	250	212	287
Perylene	263		5.0	250	213	288
Indeno(1,2,3-c,d)pyrene	248		0.7	246	209	283
Dibenzo(a,h)anthracene	249		0.4	248	211	285
Benzo(g,h,i)perylene	255		3.0	248	211	285

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

Sample Name	MS60140J.D
Client Name	AR-WKCC-250-038
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3076
Date Acquired	8/13/13 4:38
Method	PAH-2012.M
Sample Volume (mL)	1.0

Target Compounds	Concentration (ng/mL)	Q	RPD (%)	LCM Certified Conc. (ng/mL)	-15% Certified Conc. (ng/mL)	+15% Certified Conc. (ng/mL)
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	238		5.0	250	213	288
1-Methylnaphthalene	242		3.3	250	212	287
2,6-Dimethylnaphthalene	238		5.0	250	213	288
1,6,7-Trimethylnaphthalene	229		8.6	250	213	288
1-Methylfluorene	226		10.7	252	214	290
4-Methyldibenzothiophene	256		1.7	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	244		1.4	247	210	284
3,6-Dimethylphenanthrene	241		3.6	250	213	288
Retene	213		4.7	223	190	257
2-Methylfluoranthene	243		3.5	252	214	289
Benzo(b)fluorene	245		2.8	252	214	290
C29-Hopane	NA					
18a-Oleanane	NA					
C30-Hopane	251		0.2	250	213	288
C20-TAS	NA					
C21-TAS	NA					
C26(20S)-TAS	NA					
C26(20R)/C27(20S)-TAS	236		5.9	250	213	288
C28(20S)-TAS	NA					
C27(20R)-TAS	NA					
C28(20R)-TAS	NA					

Surrogate Recovery	
Naphthalene-d8	97
Acenaphthene-d10	93
Phenanthrene-d10	104
Chrysene-d12	92
Perylene-d12	107

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

Sample Name	MS60140I.D
Client Name	AR-WKICV-250-004
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3076
Date Acquired	8/13/13 3:29
Method	PAH-2012.M
Sample Volume (mL)	1.0

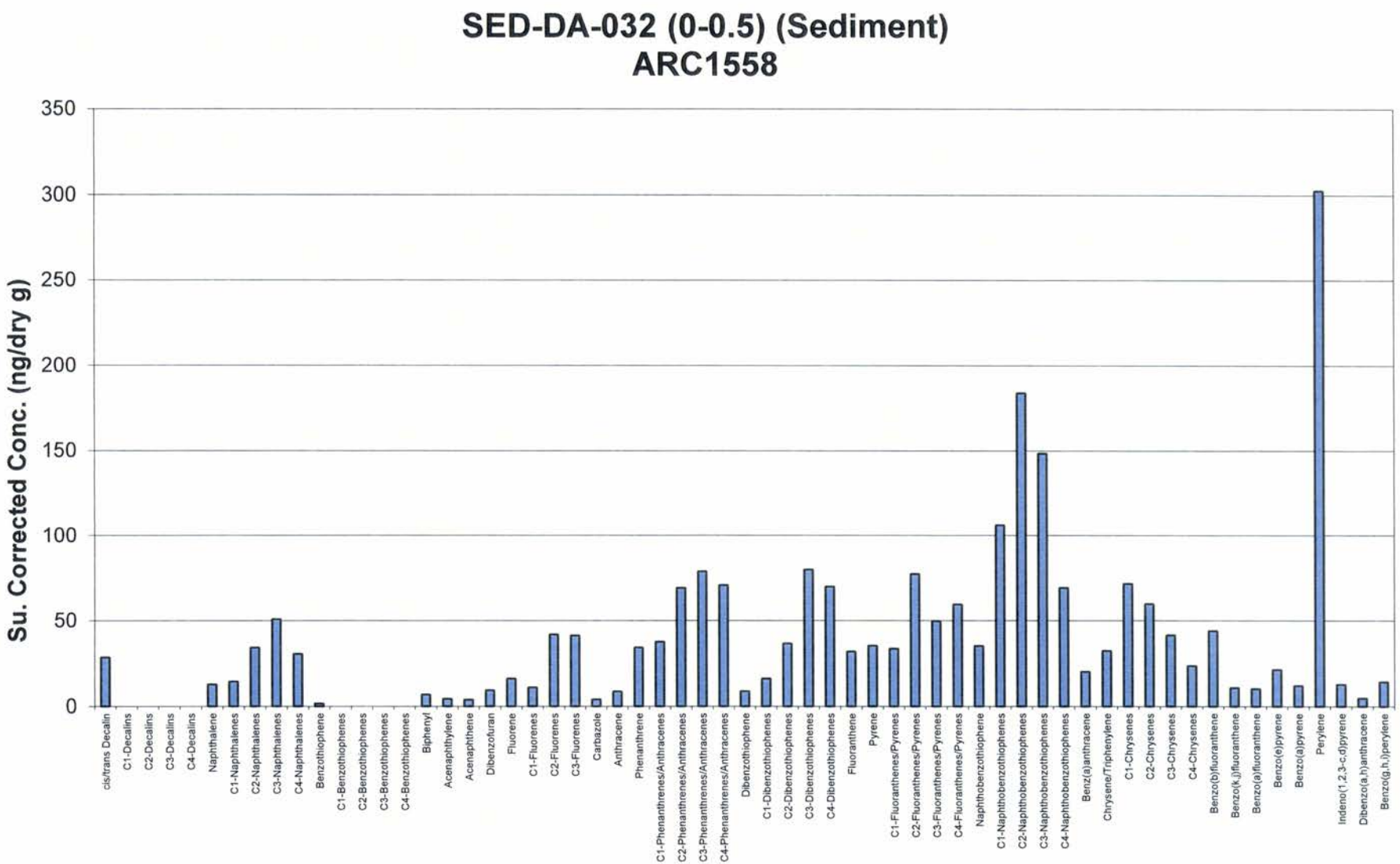
Target Compounds	Concentration (ng/mL)	Q	RPD (%)	ICV Certified Conc. (ng/mL)	-20% Certified Conc. (ng/mL)	+20% Certified Conc. (ng/mL)
cis/trans Decalin	280		11.4	250	200	300
C1-Decalins	NA					
C2-Decalins	NA					
C3-Decalins	NA					
C4-Decalins	NA					
Naphthalene	279		10.8	250	200	300
C1-Naphthalenes	NA					
C2-Naphthalenes	NA					
C3-Naphthalenes	NA					
C4-Naphthalenes	NA					
Benzothiophene	283		12.3	250	200	300
C1-Benzothiophenes	NA					
C2-Benzothiophenes	NA					
C3-Benzothiophenes	NA					
C4-Benzothiophenes	NA					
Biphenyl	277		10.0	251	201	301
Acenaphthylene	257					
Acenaphthene	280		11.1	250	200	300
Dibenzofuran	280		11.2	250	200	300
Fluorene	266		6.0	250	200	300
C1-Fluorenes	NA					
C2-Fluorenes	NA					
C3-Fluorenes	NA					
Carbazole	265		5.8	250	200	300
Anthracene	289		14.3	250	200	300
Phenanthrene	299		17.8	250	200	300
C1-Phenanthrenes/Anthracenes	NA					
C2-Phenanthrenes/Anthracenes	NA					
C3-Phenanthrenes/Anthracenes	NA					
C4-Phenanthrenes/Anthracenes	NA					
Dibenzothiophene	286		13.3	250	200	300
C1-Dibenzothiophenes	NA					
C2-Dibenzothiophenes	NA					
C3-Dibenzothiophenes	NA					
C4-Dibenzothiophenes	NA					
Fluoranthene	279		11.0	250	200	300
Pyrene	277		10.1	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	267		6.7	250	200	300
Chrysene/Triphenylene	259		3.3	250	200	300
C1-Chrysenes	NA					
C2-Chrysenes	NA					
C3-Chrysenes	NA					
C4-Chrysenes	NA					
Benzo(b)fluoranthene	287		13.7	250	200	300
Benzo(k,j)fluoranthene	278		10.5	250	200	300
Benzo(a)fluoranthene	NA					
Benzo(e)pyrene	283		12.2	250	200	300
Benzo(a)pyrene	267		6.6	250	200	300
Perylene	277		10.0	251	200	301
Indeno(1,2,3-c,d)pyrene	266		6.1	250	200	300
Dibenzo(a,h)anthracene	277		10.0	250	200	300
Benzo(g,h,i)perylene	274		9.1	250	200	300

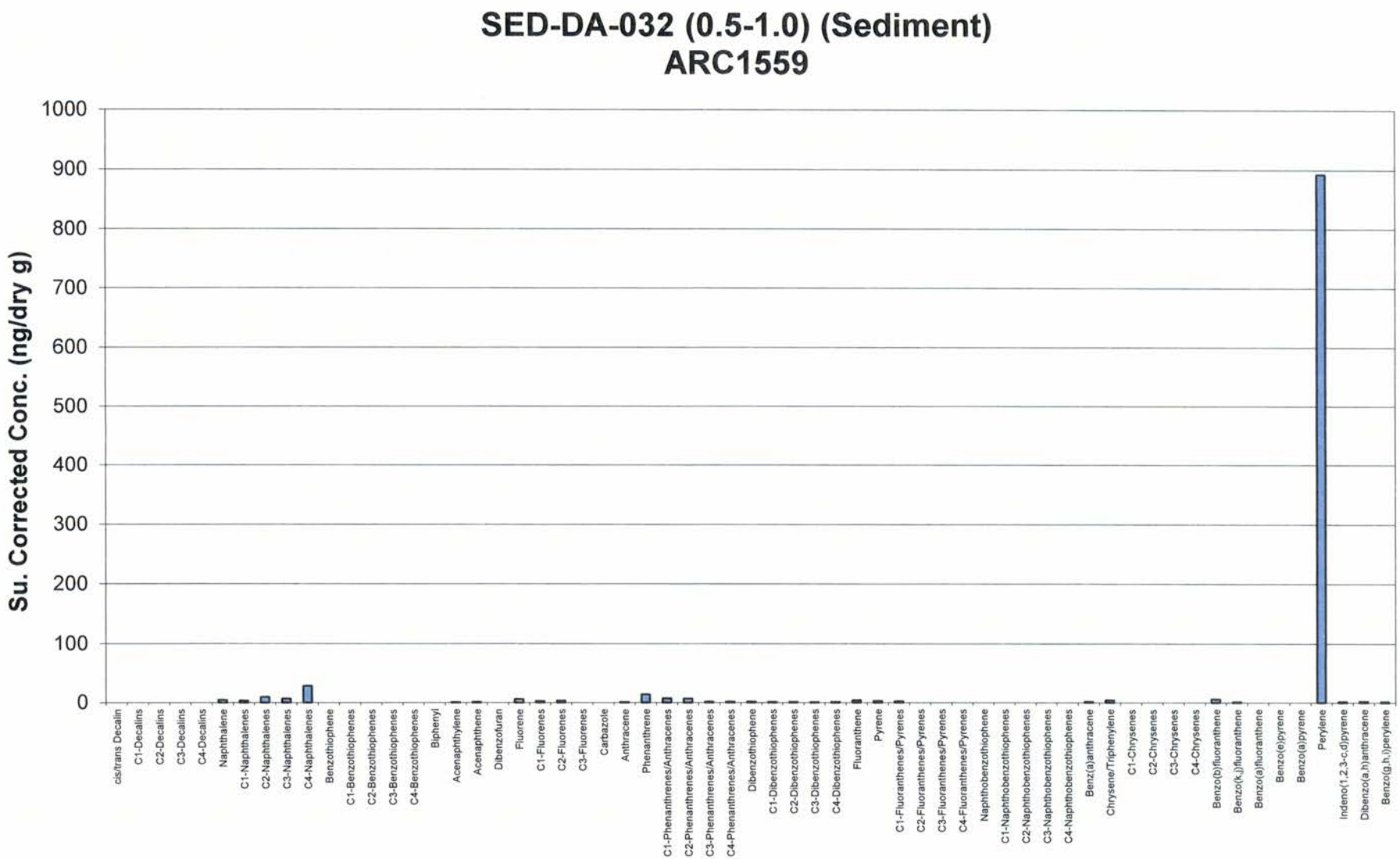
Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Control Material Report

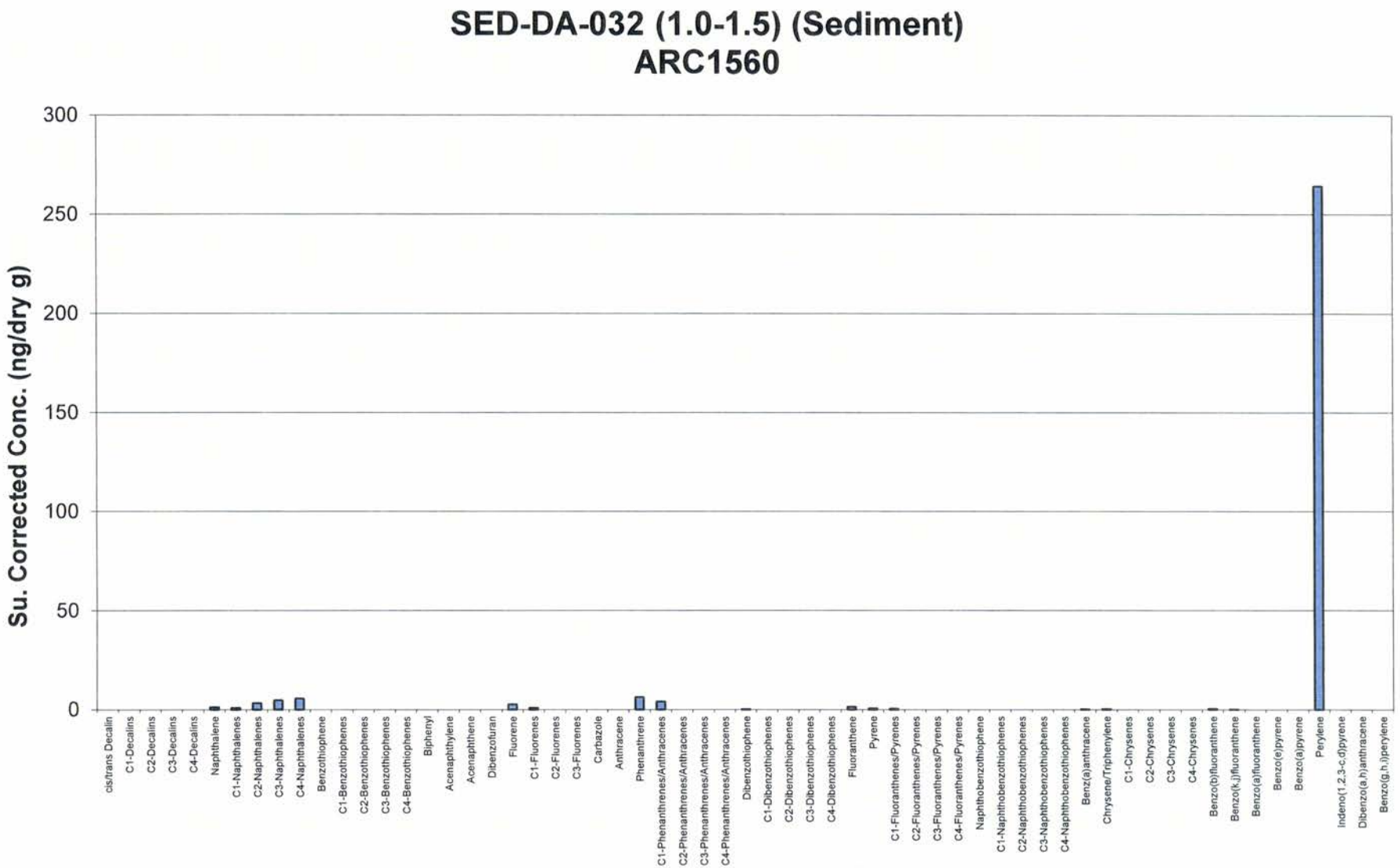
Sample Name	MS60140I.D
Client Name	AR-WKICV-250-004
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3076
Date Acquired	8/13/13 3:29
Method	PAH-2012.M
Sample Volume (mL)	1.0

Target Compounds	Concentration (ng/mL)	Q	RPD (%)	ICV Certified Conc. (ng/mL)	-20% Certified Conc. (ng/mL)	+20% Certified Conc. (ng/mL)
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	285		13.0	250	200	301
1-Methylnaphthalene	288		14.1	251	200	301
2,6-Dimethylnaphthalene	275		9.5	250	200	300
1,6,7-Trimethylnaphthalene	286		13.1	250	200	301
1-Methylfluorene	NA					
4-Methyldibenzothiophene	NA					
2/3-Methyldibenzothiophene	NA					
1-Methyldibenzothiophene	NA					
3-Methylphenanthrene	NA					
2-Methylphenanthrene	NA					
2-Methylanthracene	NA					
4/9-Methylphenanthrene	NA					
1-Methylphenanthrene	270		7.6	250	200	300
3,6-Dimethylphenanthrene	NA					
Retene	NA					
2-Methylfluoranthene	NA					
Benzo(b)fluorene	NA					
C29-Hopane	NA					
18a-Oleanane	NA					
C30-Hopane	NA					
C20-TAS	NA					
C21-TAS	NA					
C26(20S)-TAS	NA					
C26(20R)/C27(20S)-TAS	NA					
C28(20S)-TAS	NA					
C27(20R)-TAS	NA					
C28(20R)-TAS	NA					
Surrogate Recovery						
Naphthalene-d8	226		10.2	250	200	300
Acenaphthene-d10	223		11.5	250	200	300
Phenanthrene-d10	242		3.5	250	200	300
Chrysene-d12	207		18.8	250	200	300
Perylene-d12	227		9.7	250	200	300

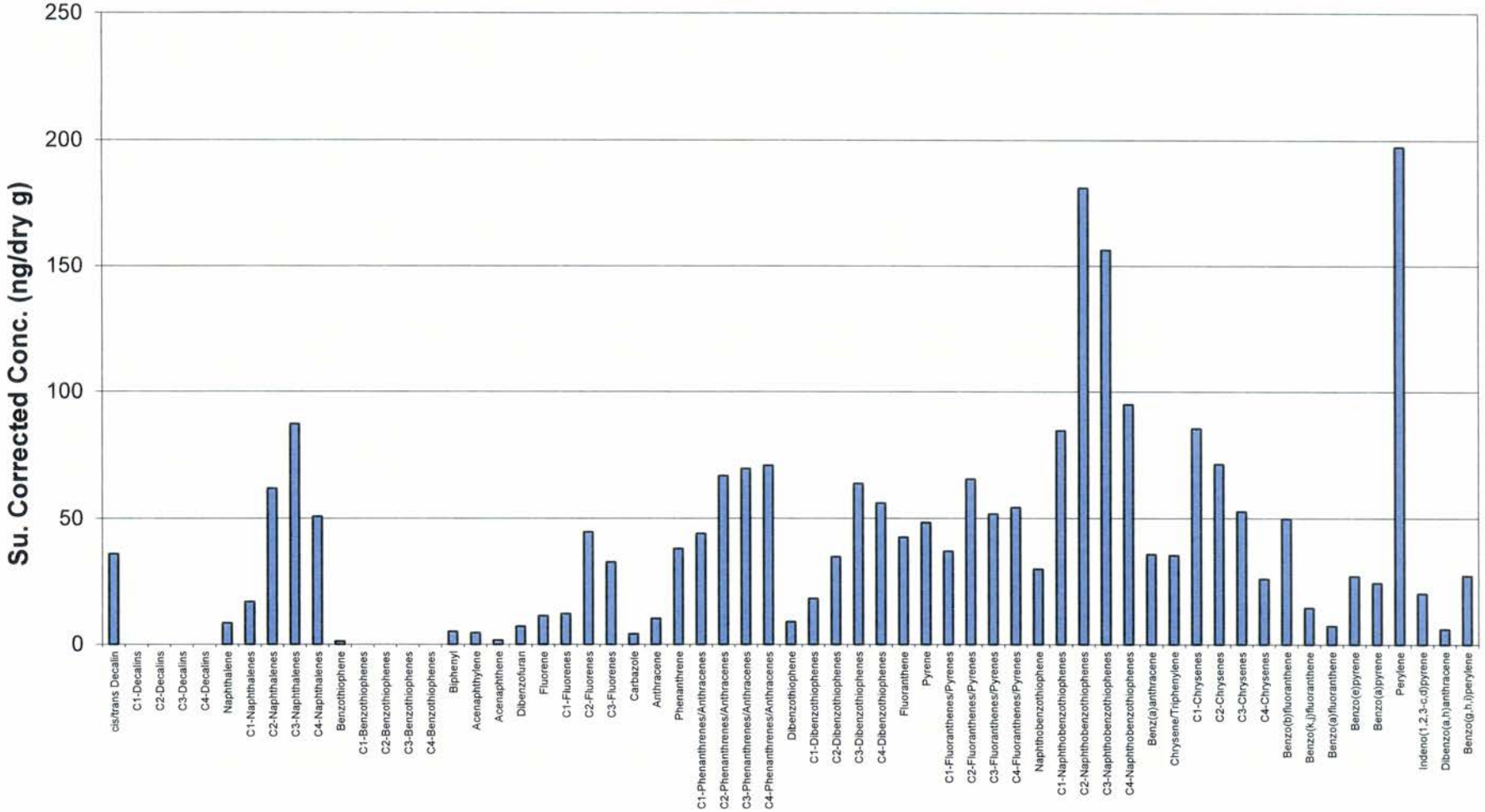
Polycyclic Aromatic Hydrocarbon Histograms

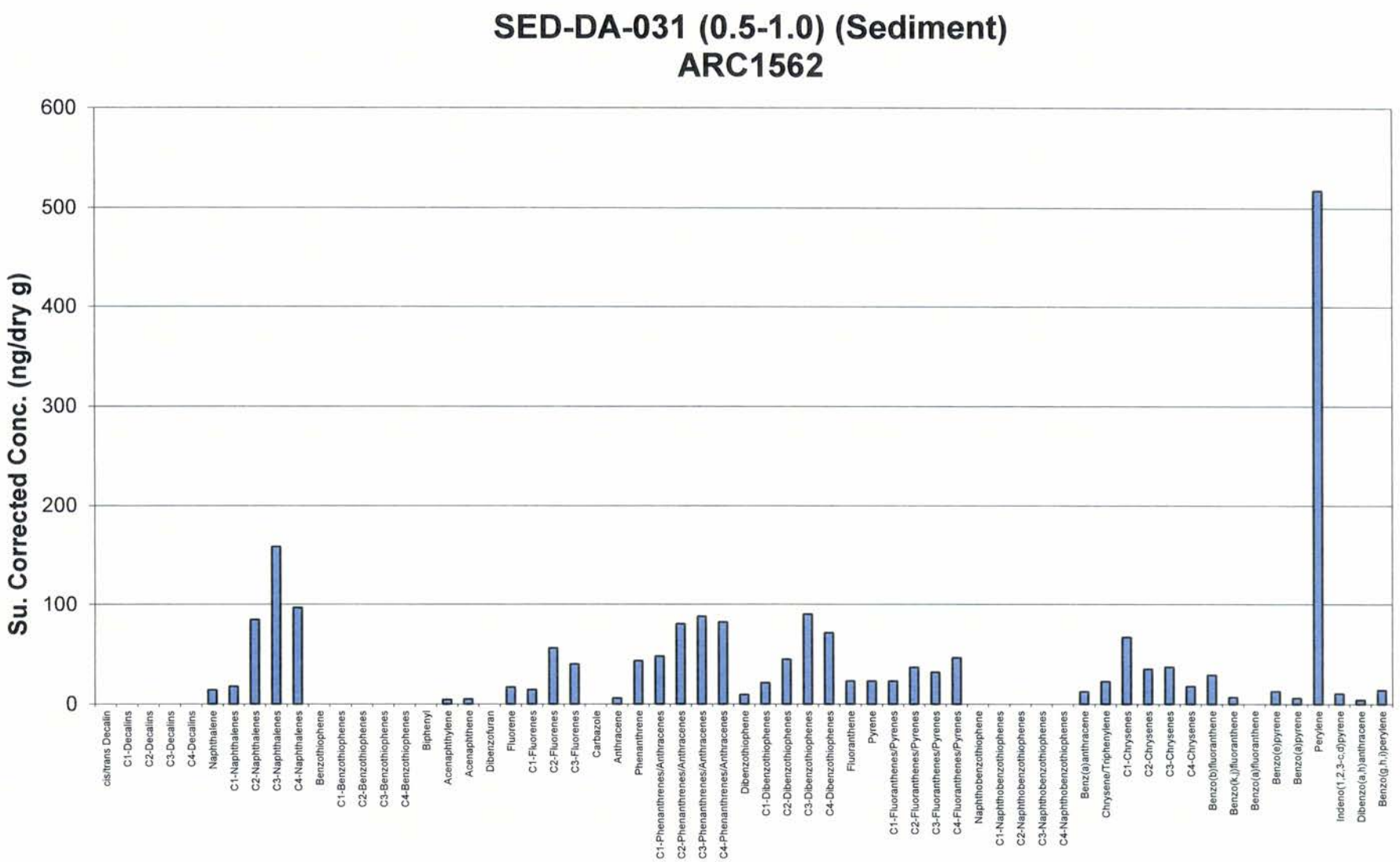

SED-DA-032 (0-0.5) (Sediment)
ARC1558
Su. Corrected Conc. (ng/dry g)
350
300
250
200
150
100
50
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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

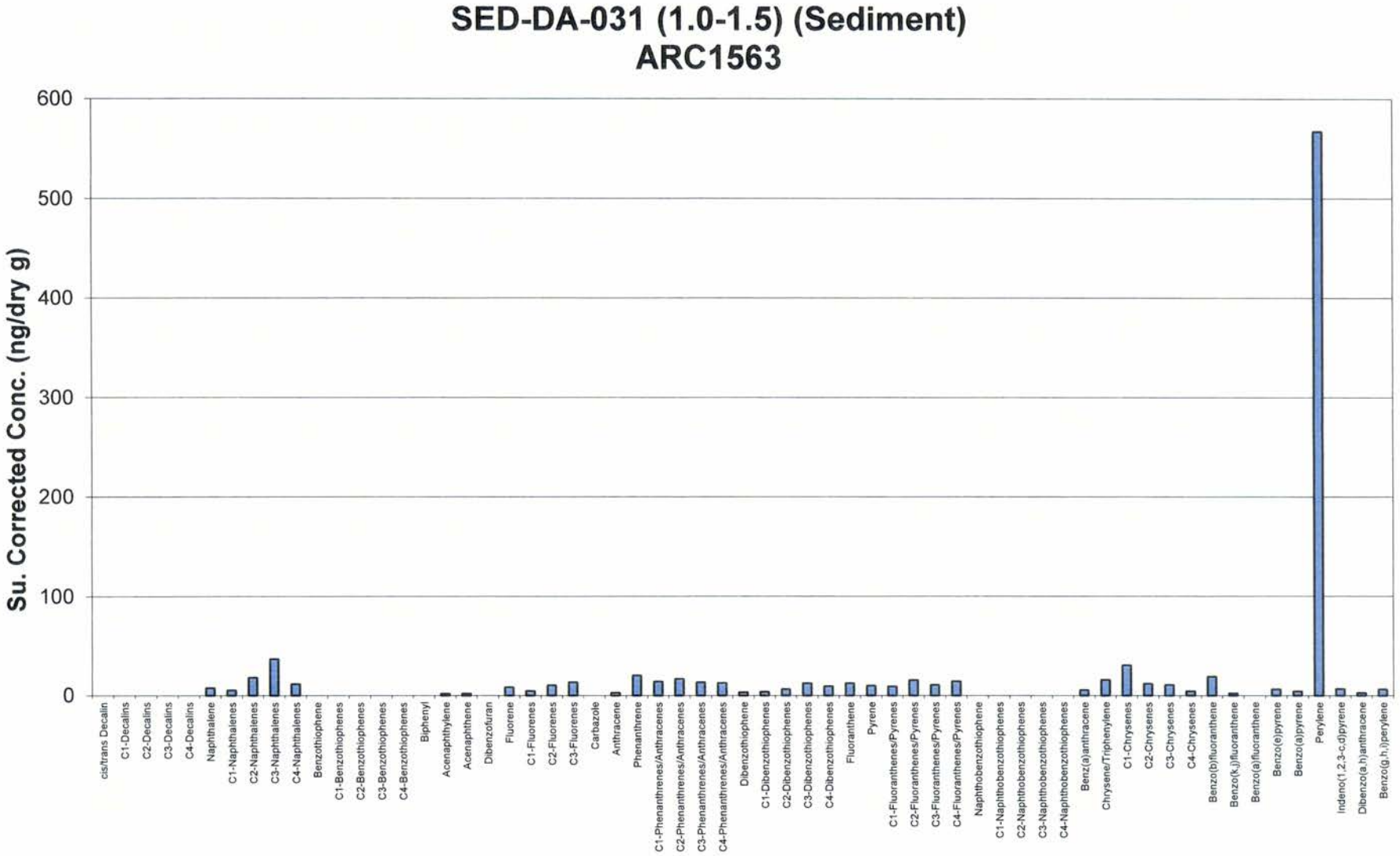

SED-DA-032 (0.5-1.0) (Sediment)
ARC1559
Su. Corrected Conc. (ng/dry g)
1000
900
800
700
600
500
400
300
200
100
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

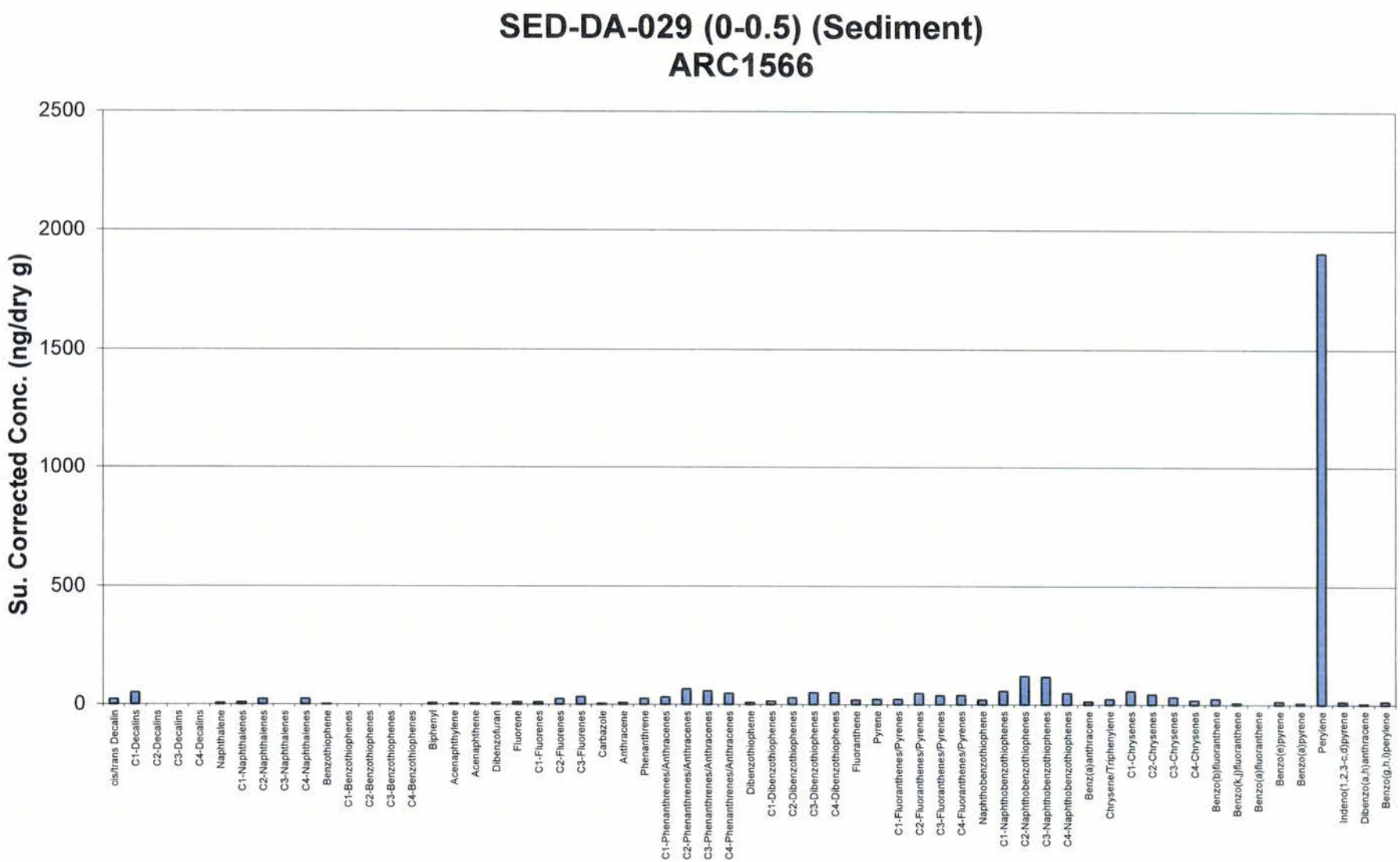

SED-DA-032 (1.0-1.5) (Sediment)
ARC1560
Su. Corrected Conc. (ng/dry g)
300
250
200
150
100
50
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

SED-DA-031 (0-0.5) (Sediment)
ARC1561

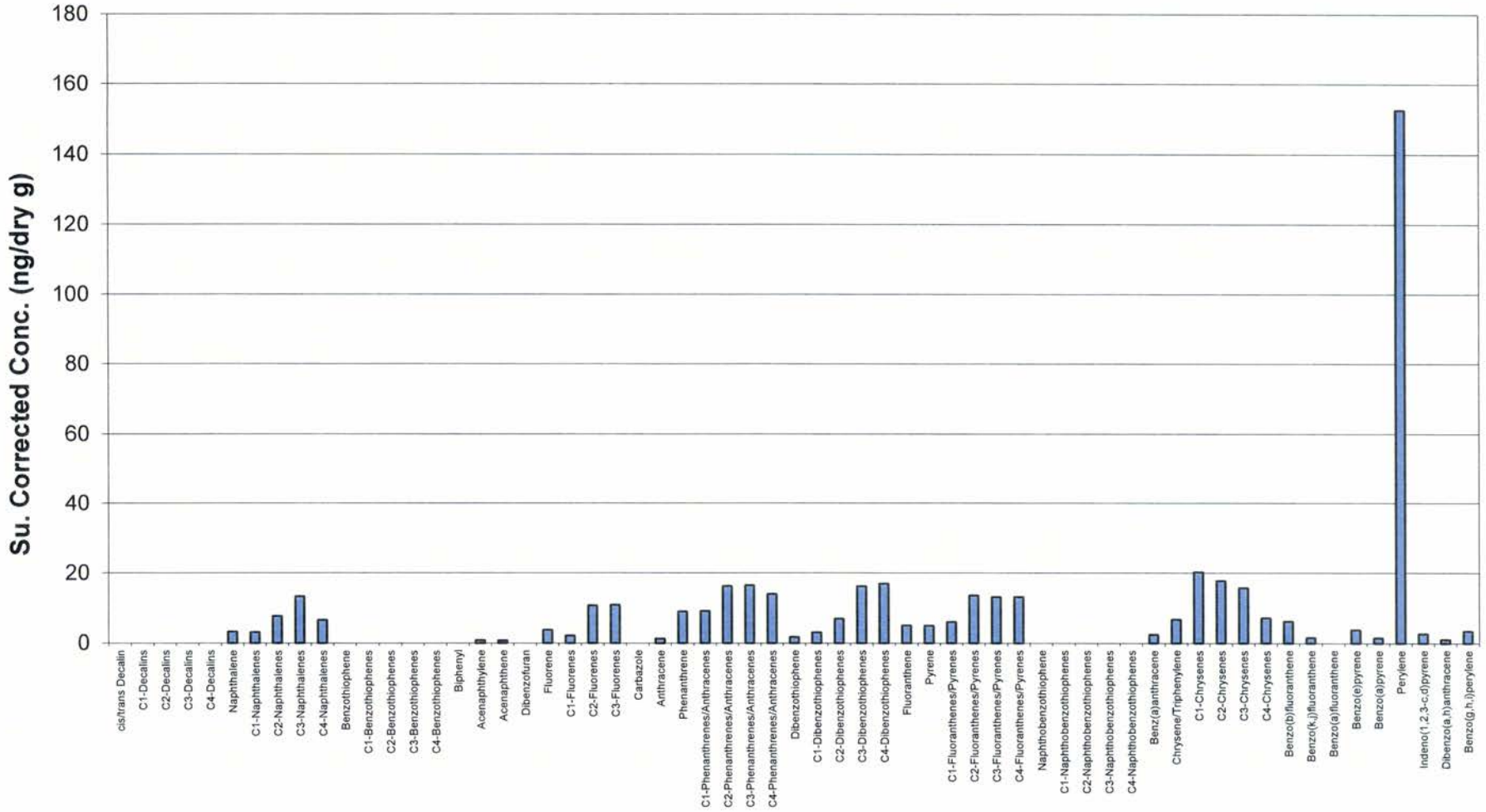


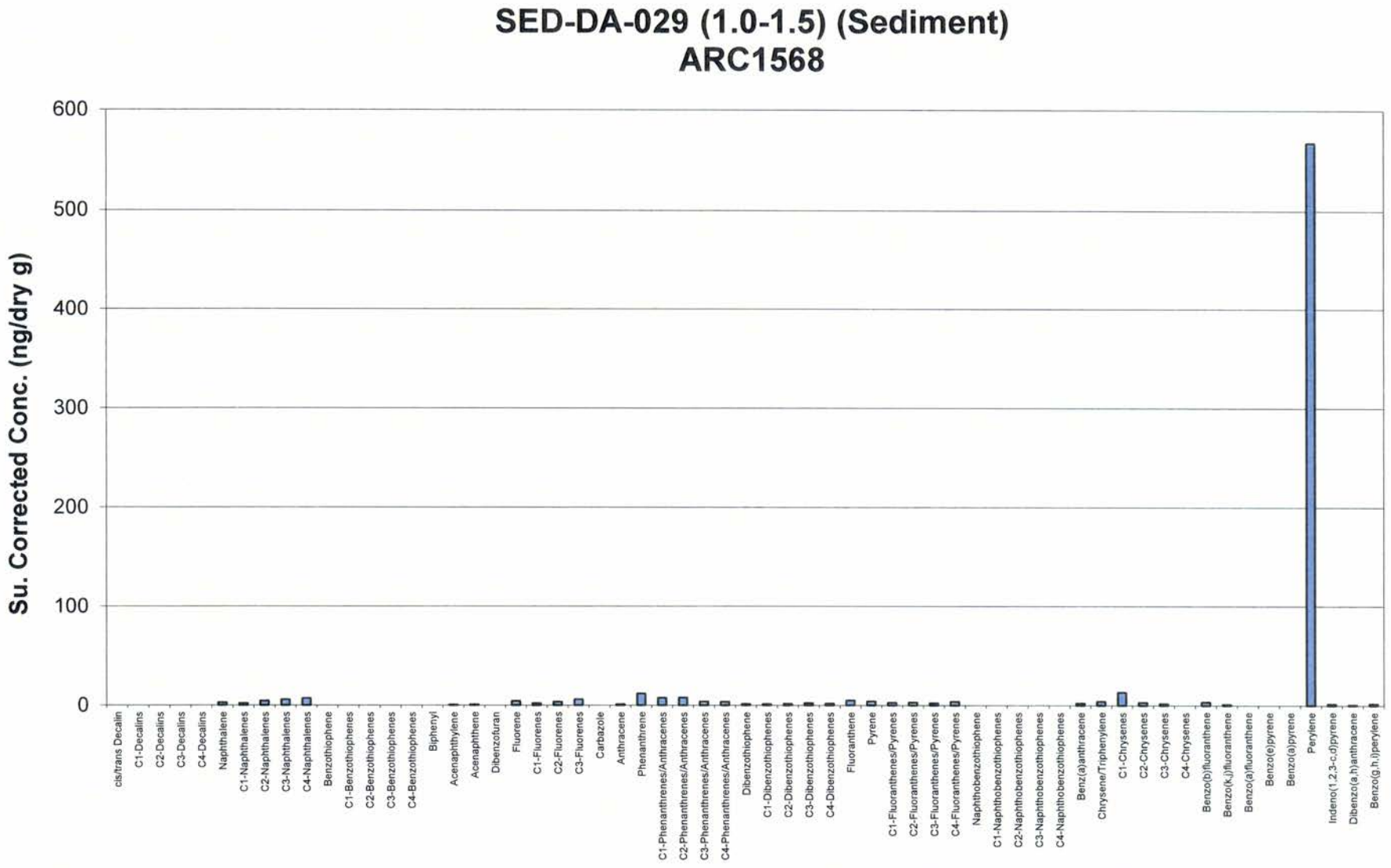

SED-DA-031 (0.5-1.0) (Sediment)
ARC1562
Su. Corrected Conc. (ng/dry g)
600
500
400
300
200
100
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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-031 (1.0-1.5) (Sediment)
ARC1563
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

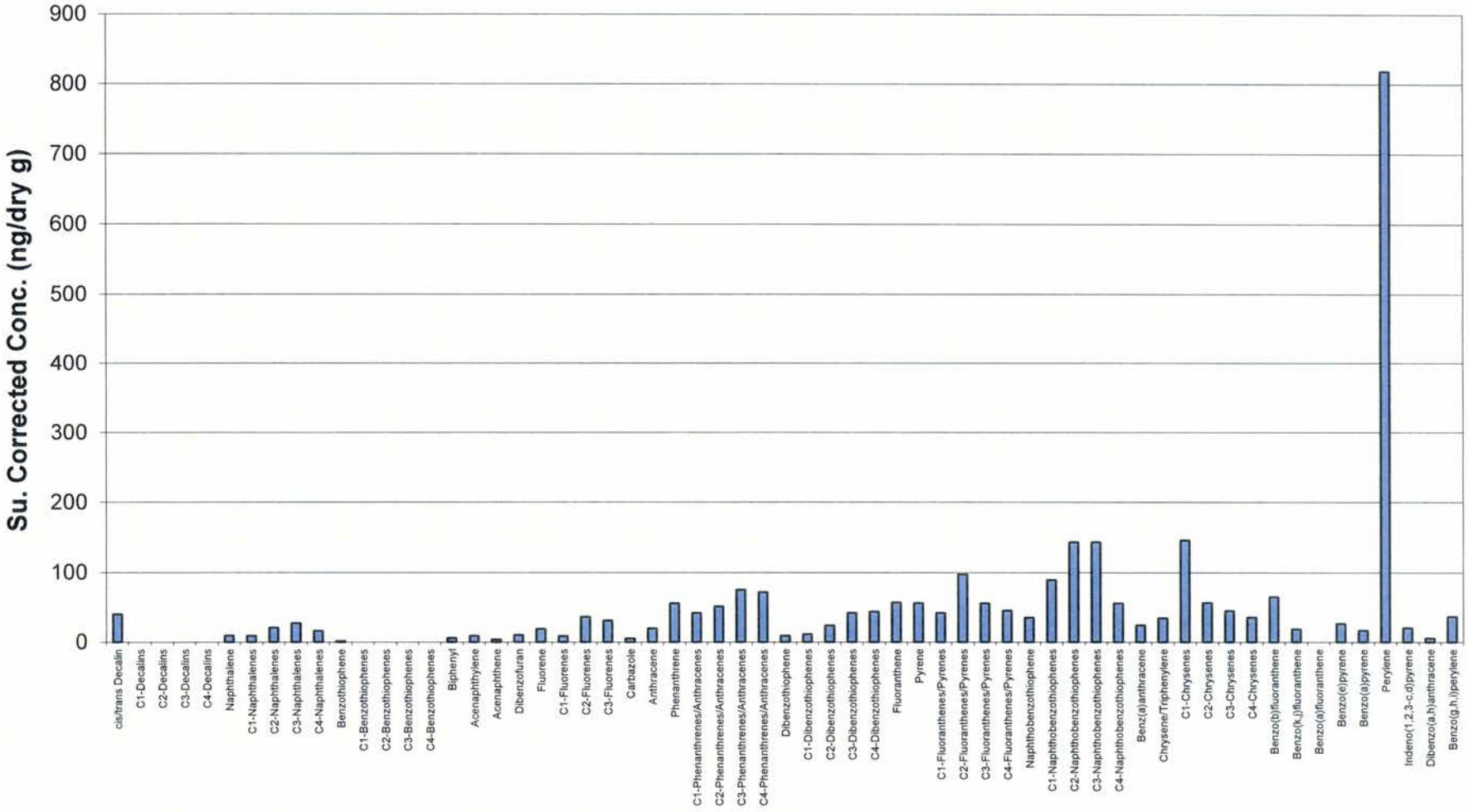

SED-DA-029 (0-0.5) (Sediment)
ARC1566
Su. Corrected Conc. (ng/dry g)
2500
2000
1500
1000
500
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

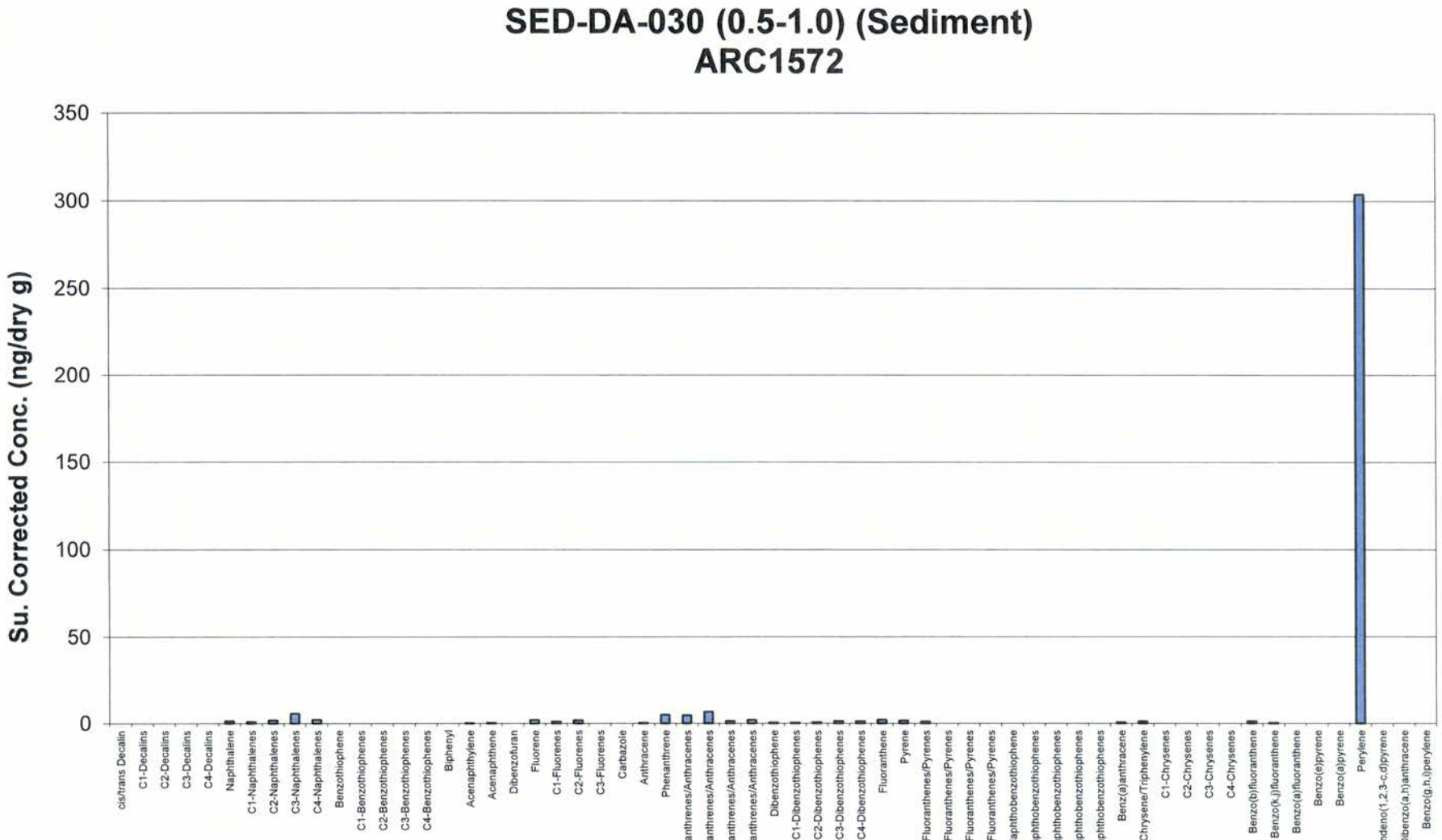
SED-DA-029 (0.5-1.0) (Sediment)
ARC1567

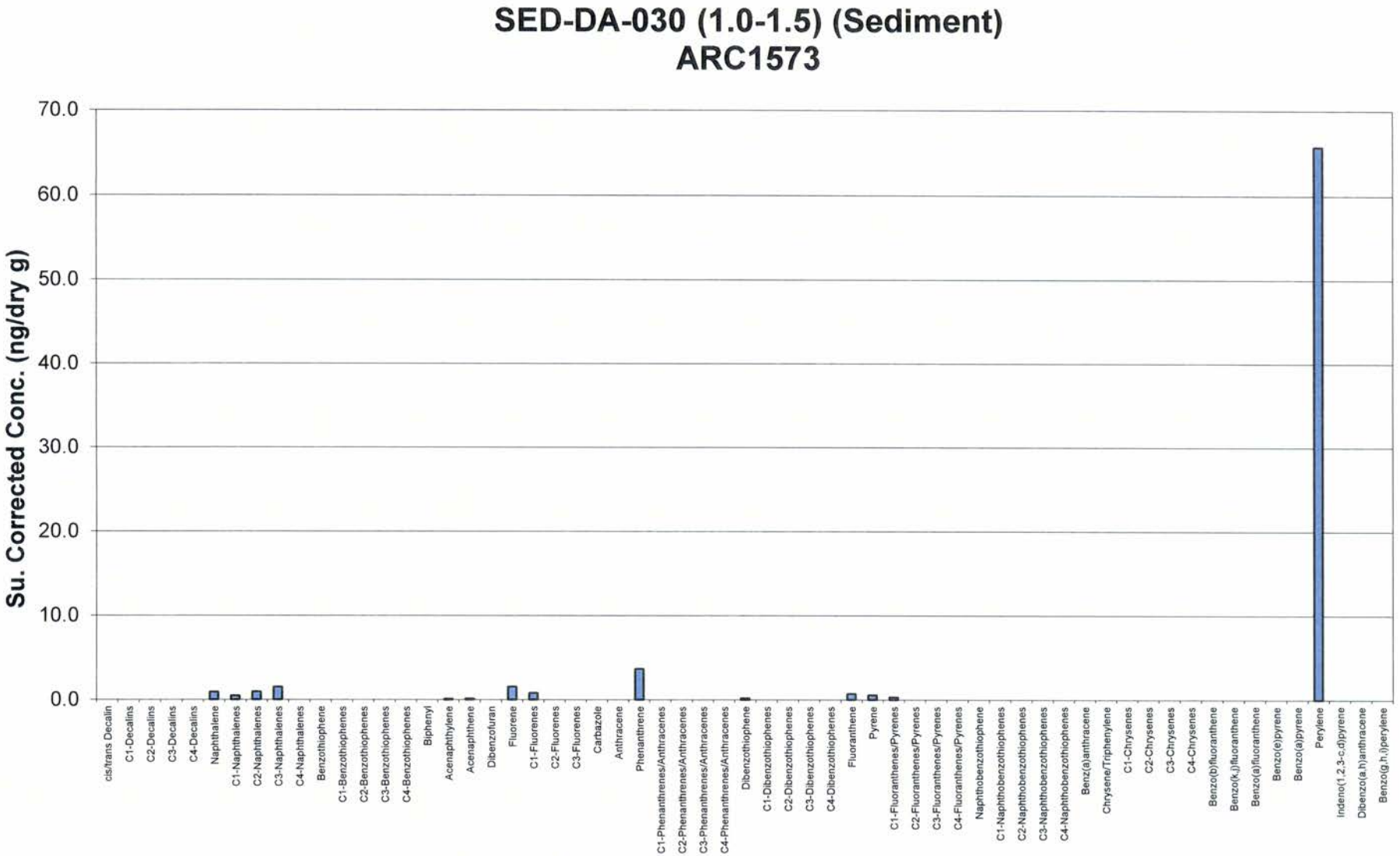



SED-DA-029 (1.0-1.5) (Sediment)
ARC1568
Su. Corrected Conc. (ng/dry g)
600
500
400
300
200
100
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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

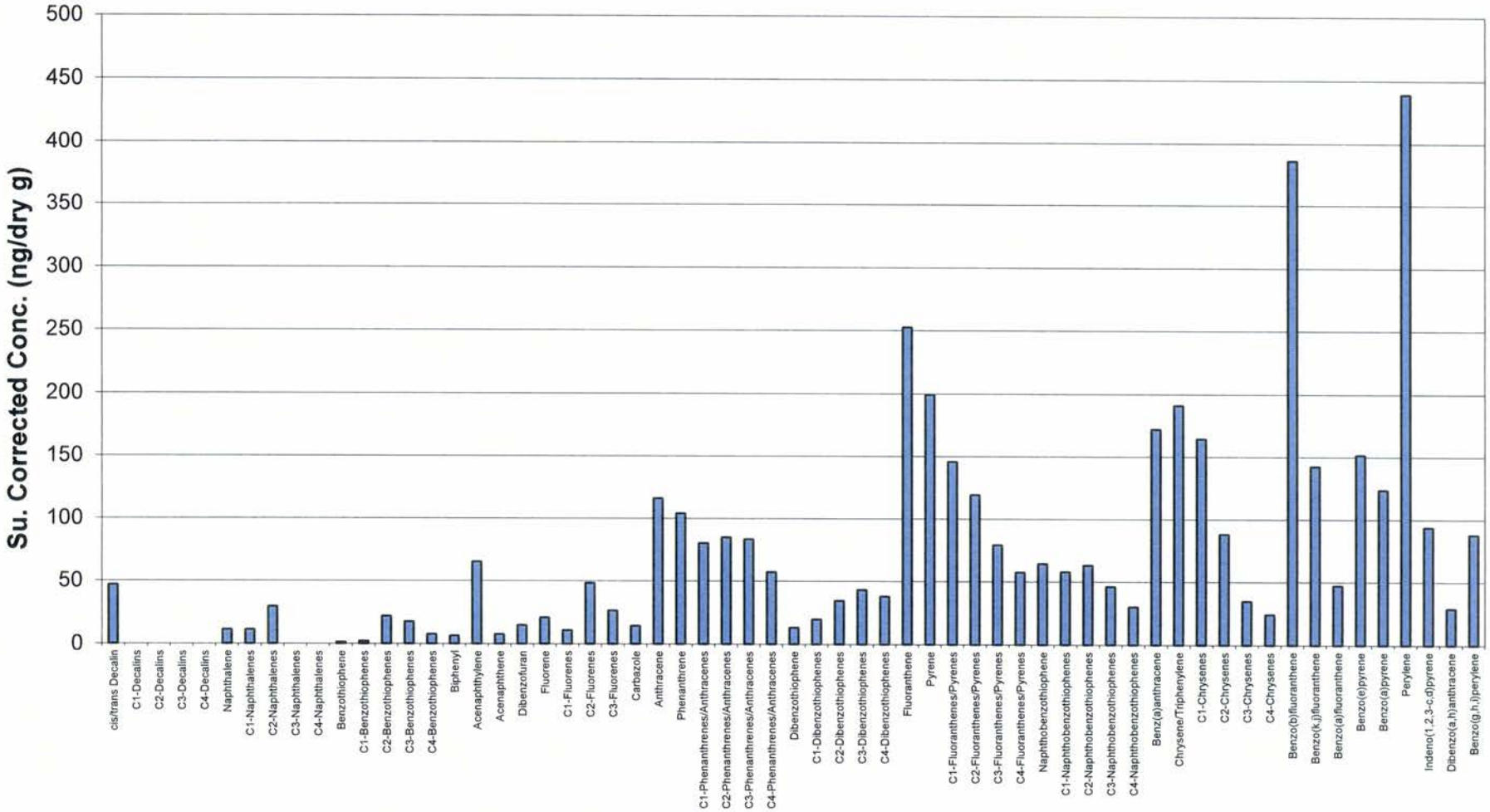
SED-DA-030 (0-0.5) (Sediment)
ARC1571



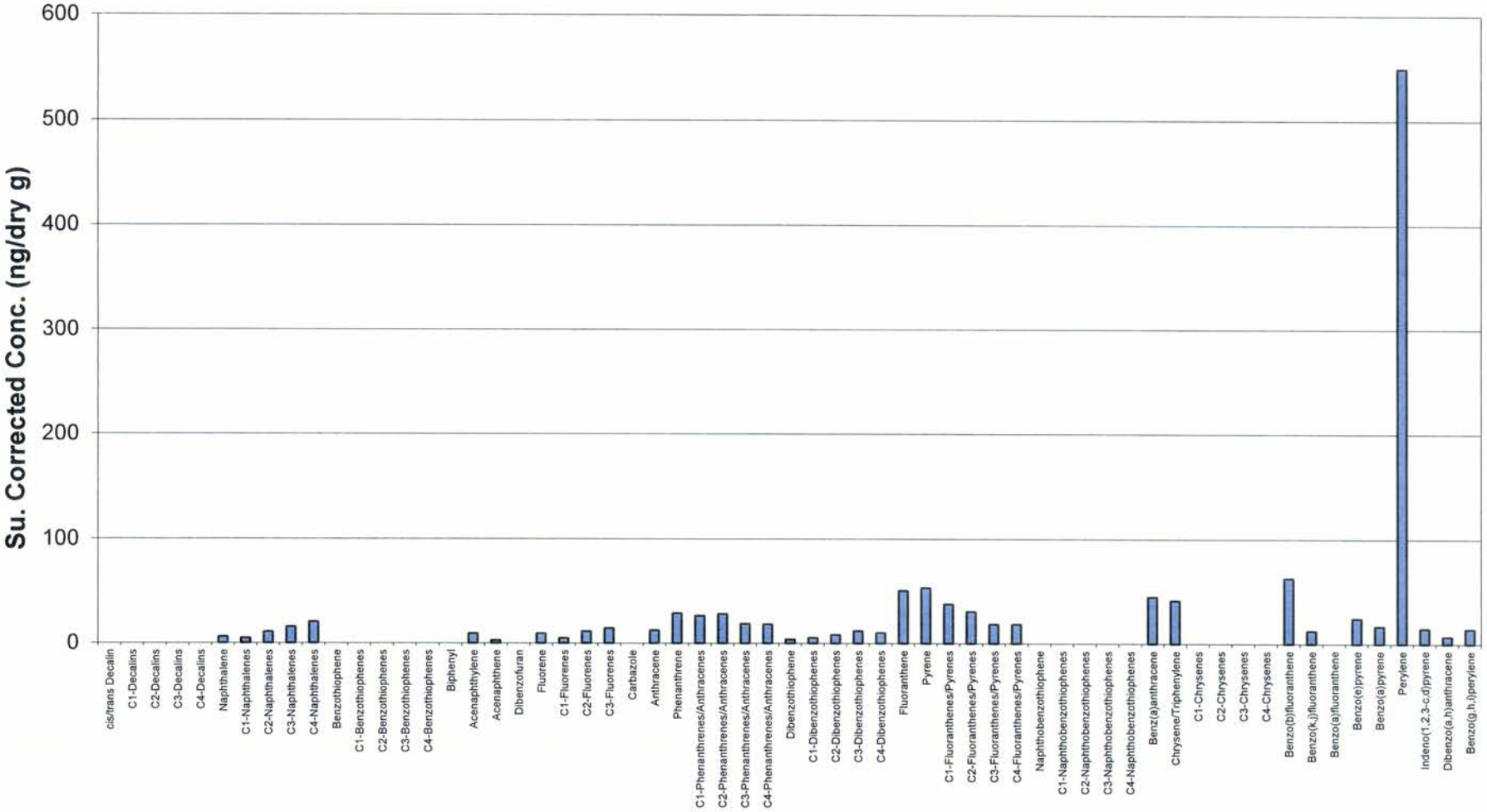

SED-DA-030 (0.5-1.0) (Sediment)
ARC1572
Su. Corrected Conc. (ng/dry g)
350
300
250
200
150
100
50
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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-030 (1.0-1.5) (Sediment)
ARC1573
Su. Corrected Conc. (ng/dry g)
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

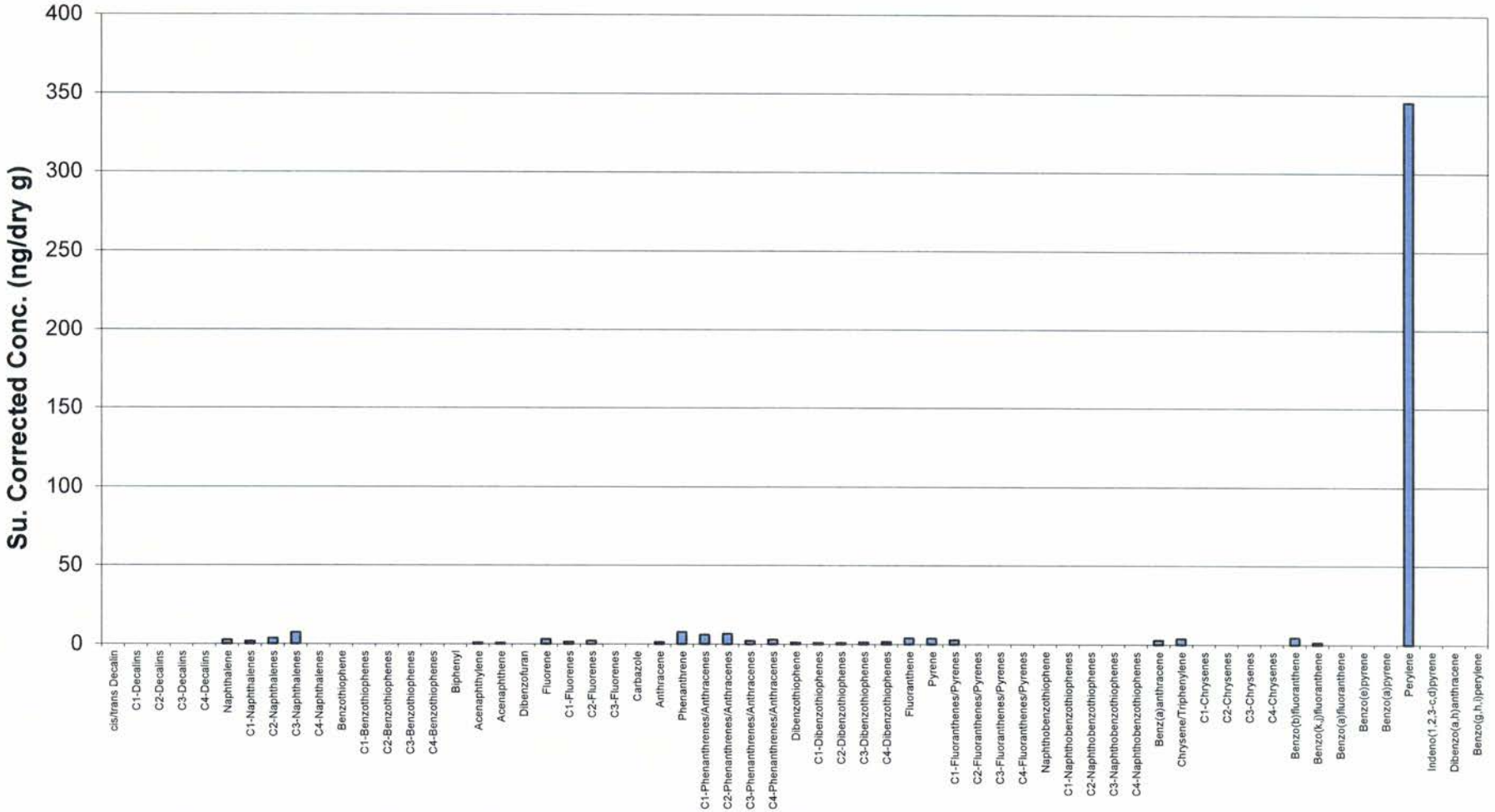
SED-DA-028 (0-0.5) (Sediment)
ARC1574

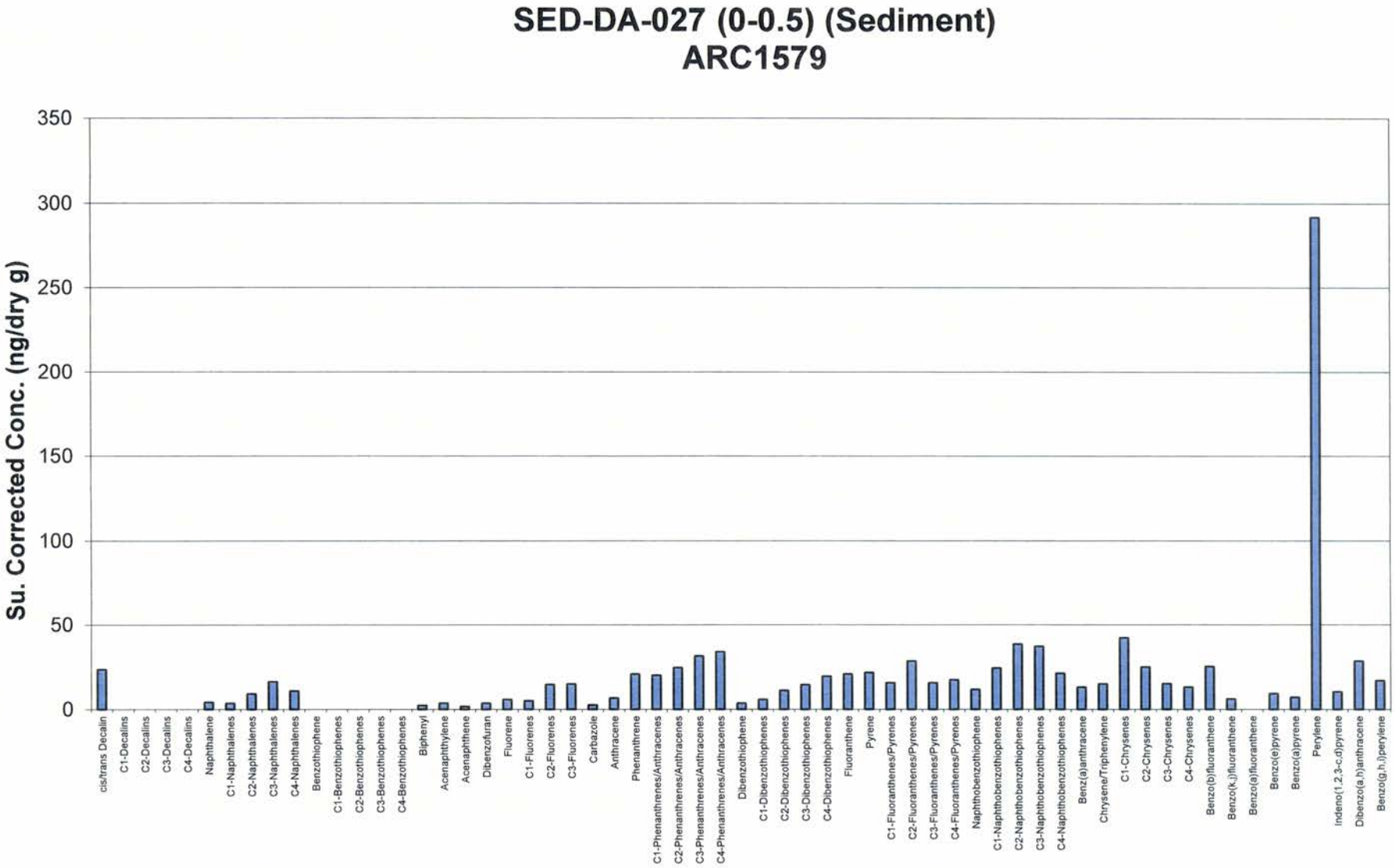


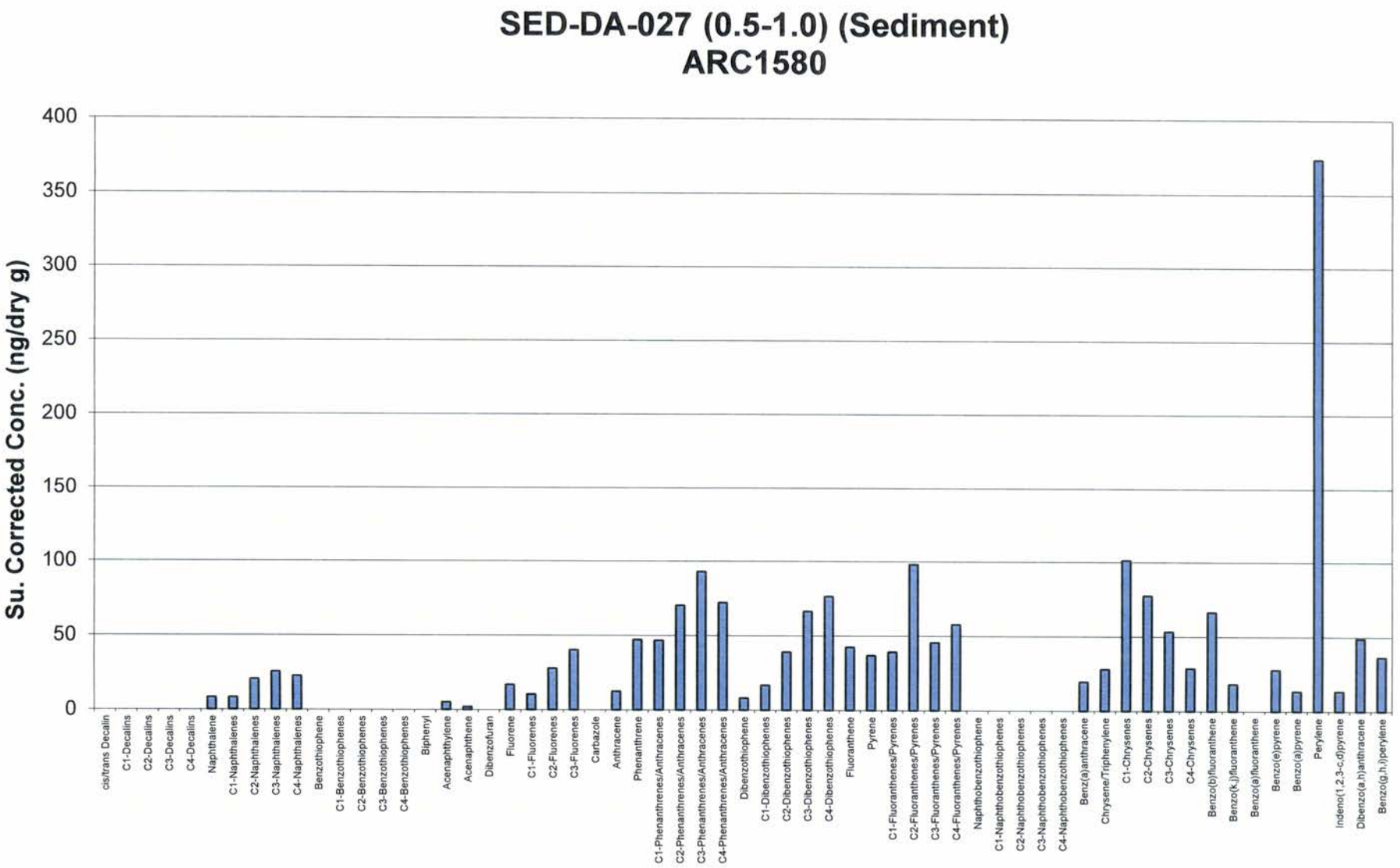
SED-DA-028 (0.5-1.0) (Sediment)
ARC1577



SED-DA-028 (1.0-1.5) (Sediment)
ARC1578

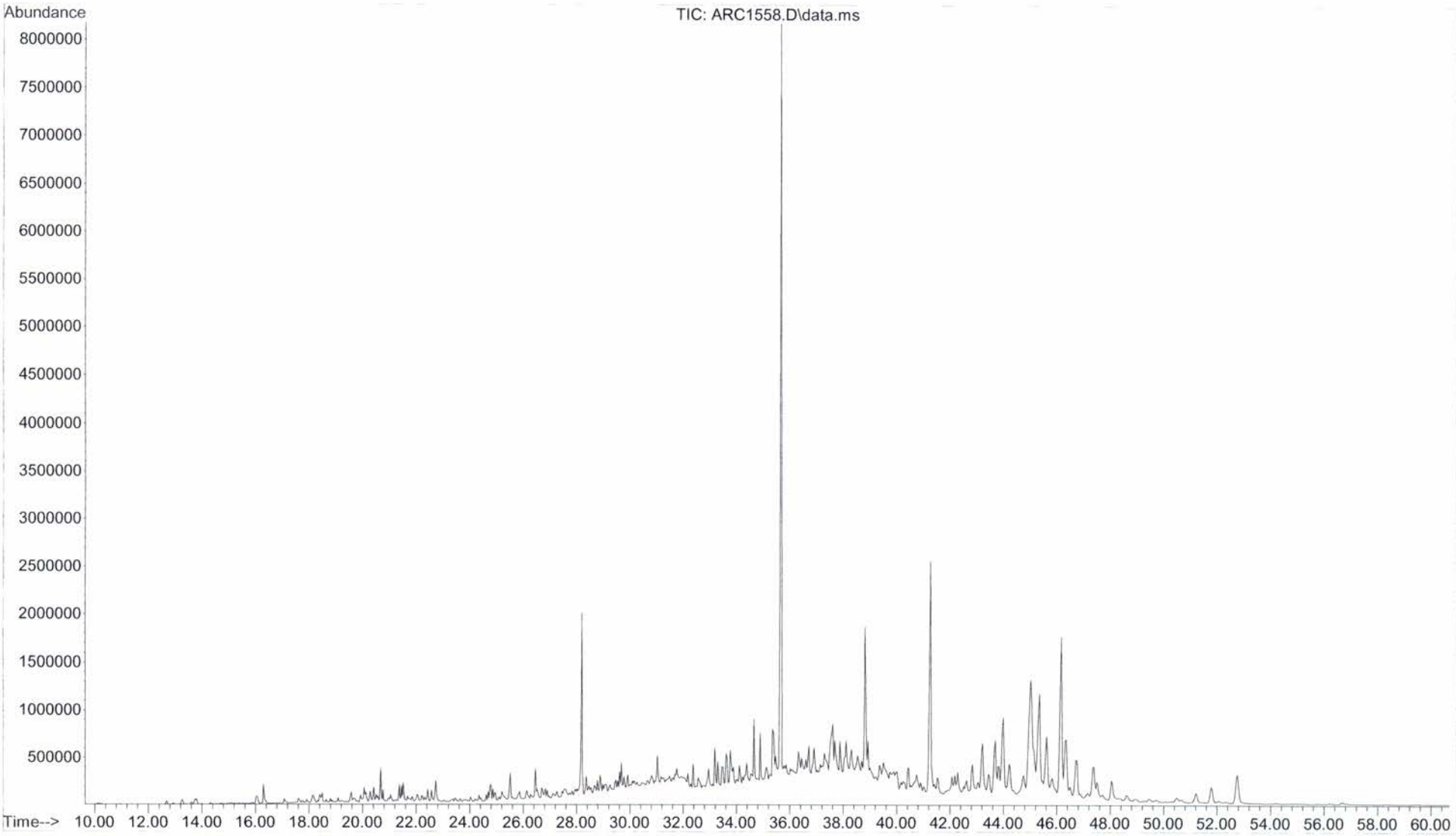



SED-DA-027 (0-0.5) (Sediment)
ARC1579
Su. Corrected Conc. (ng/dry g)
350
300
250
200
150
100
50
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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

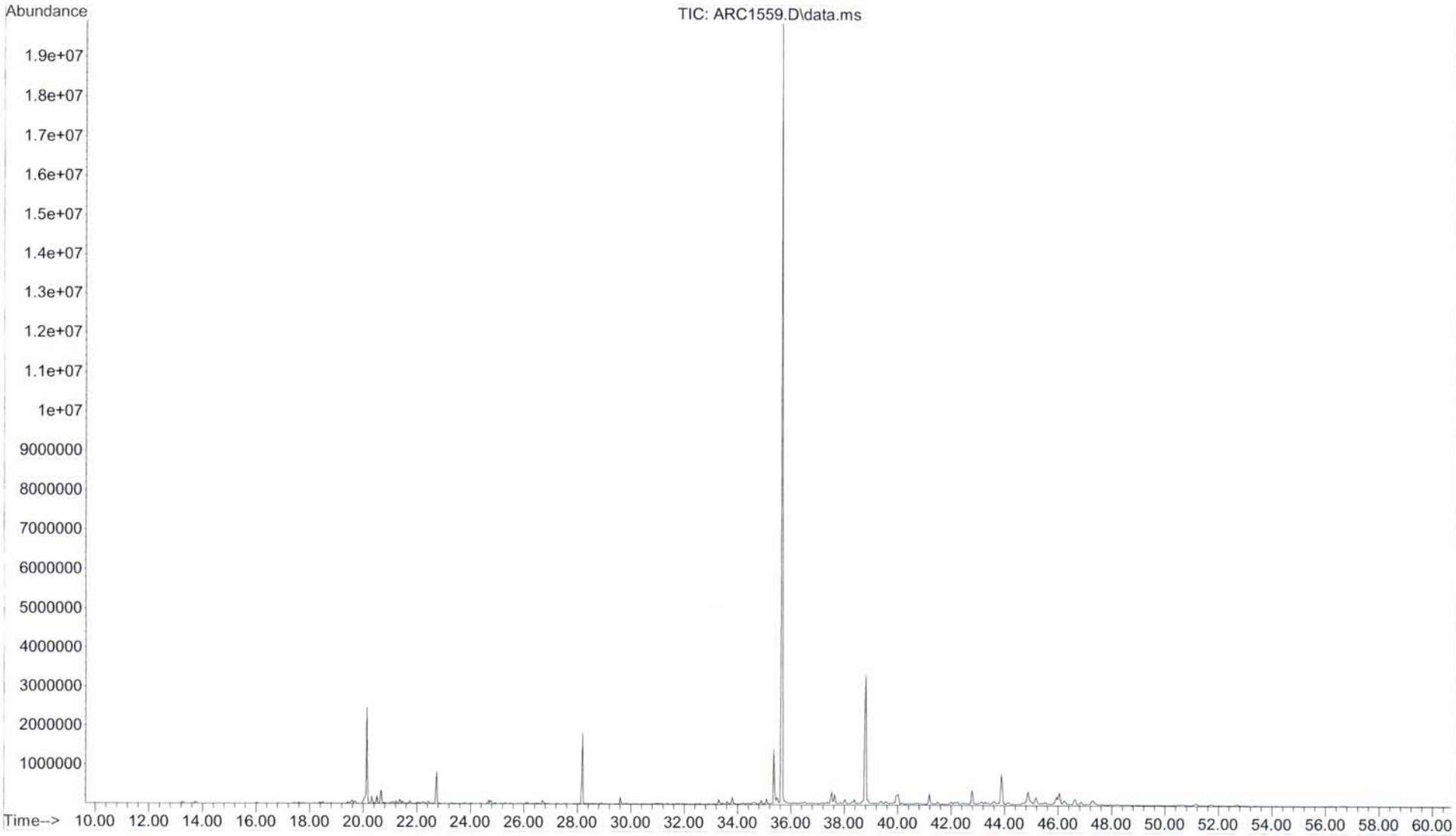

SED-DA-027 (0.5-1.0) (Sediment)
ARC1580
Su. Corrected Conc. (ng/dry g)
400
350
300
250
200
150
100
50
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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

Polycyclic Aromatic Hydrocarbon Total Ion Chromatograms

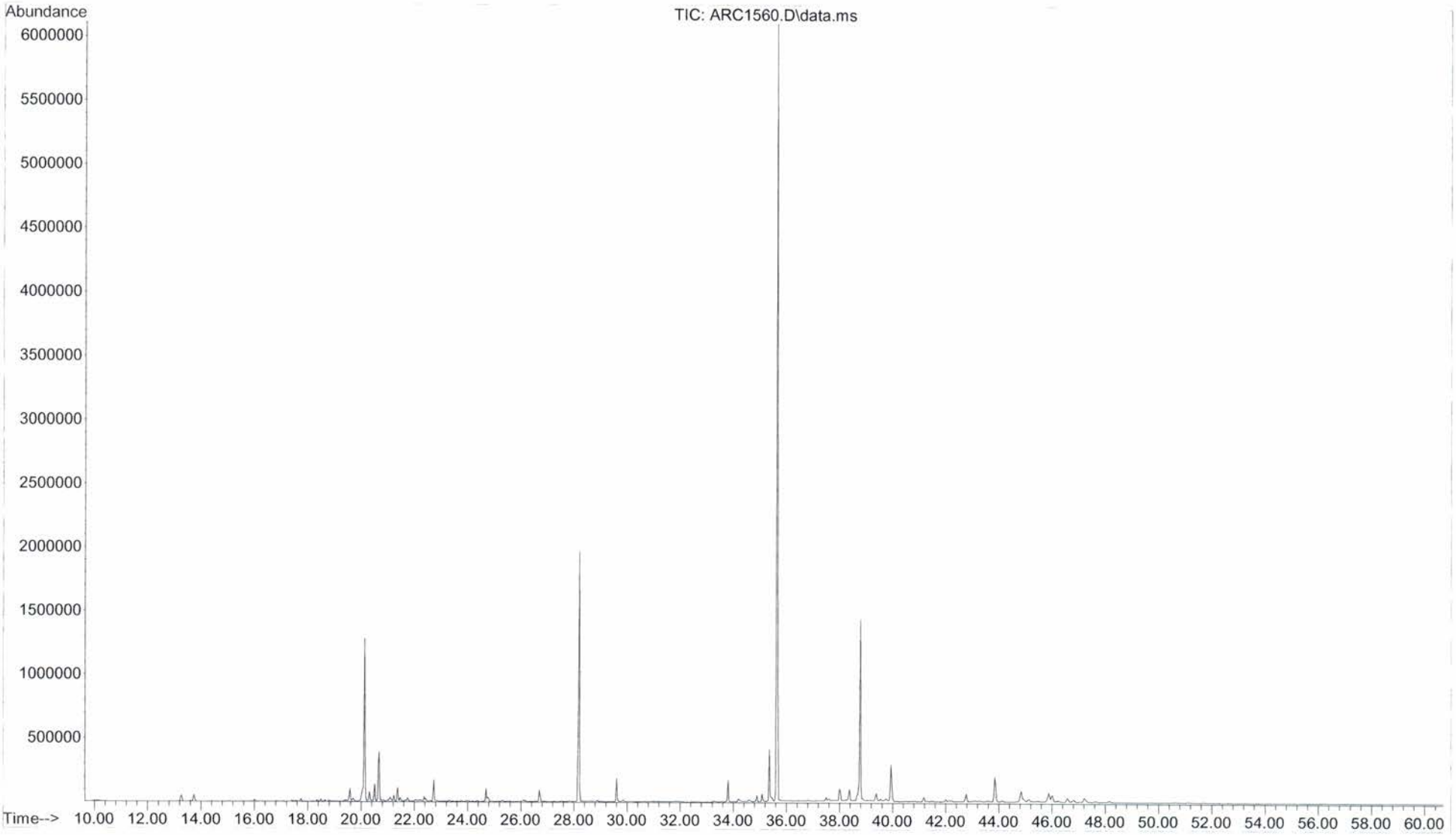
File :C:\GCMS6\MS60140\ARC1558.D
Operator : YM
Acquired : 13 Aug 2013 12:42 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-032 (0-0.5)
Misc Info :
Vial Number: 17



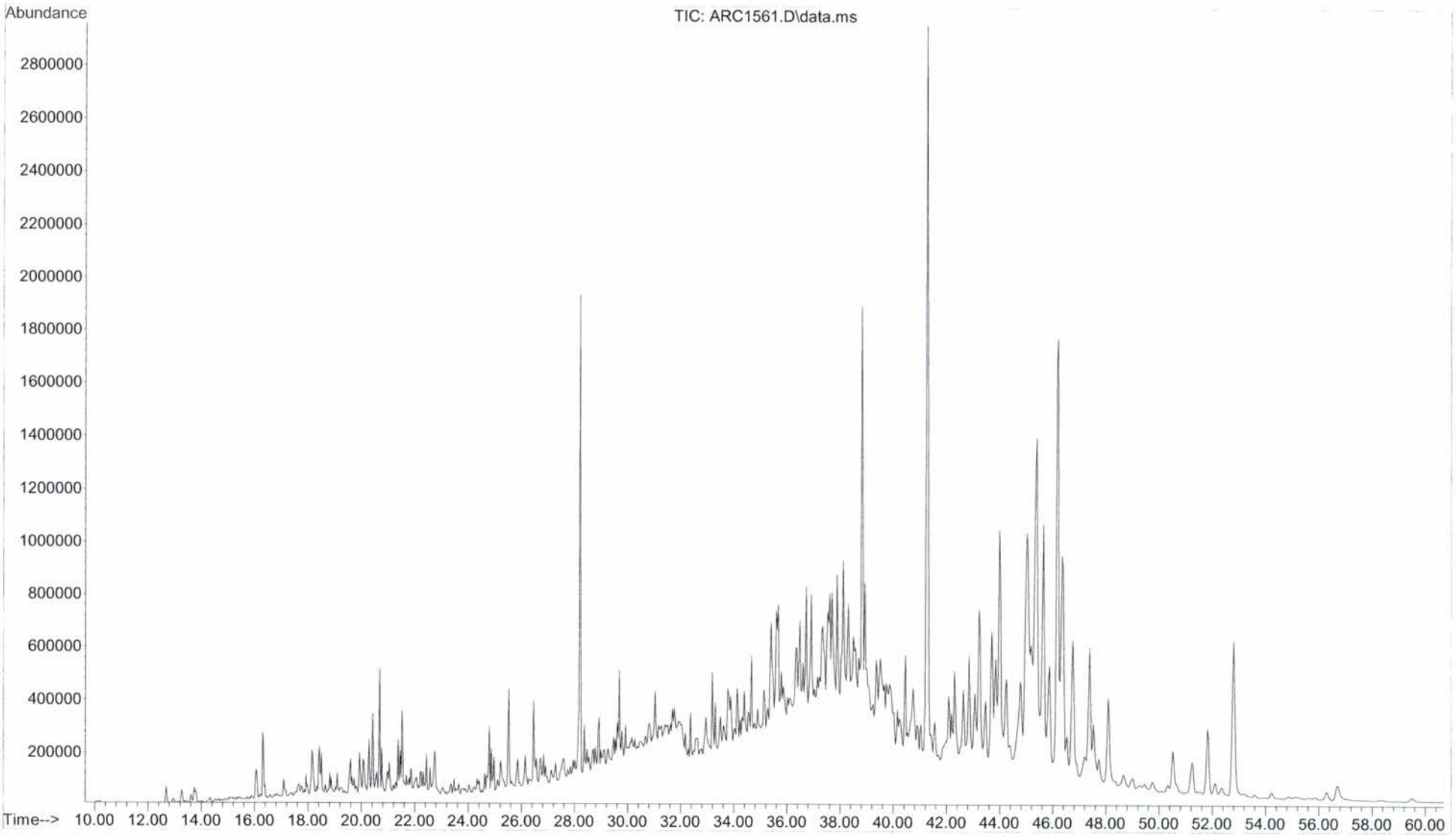
File :C:\GCMS6\MS60140\ARC1559.D
Operator : YM
Acquired : 13 Aug 2013 13:52 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-032 (0.5-1.0)
Misc Info :
Vial Number: 18



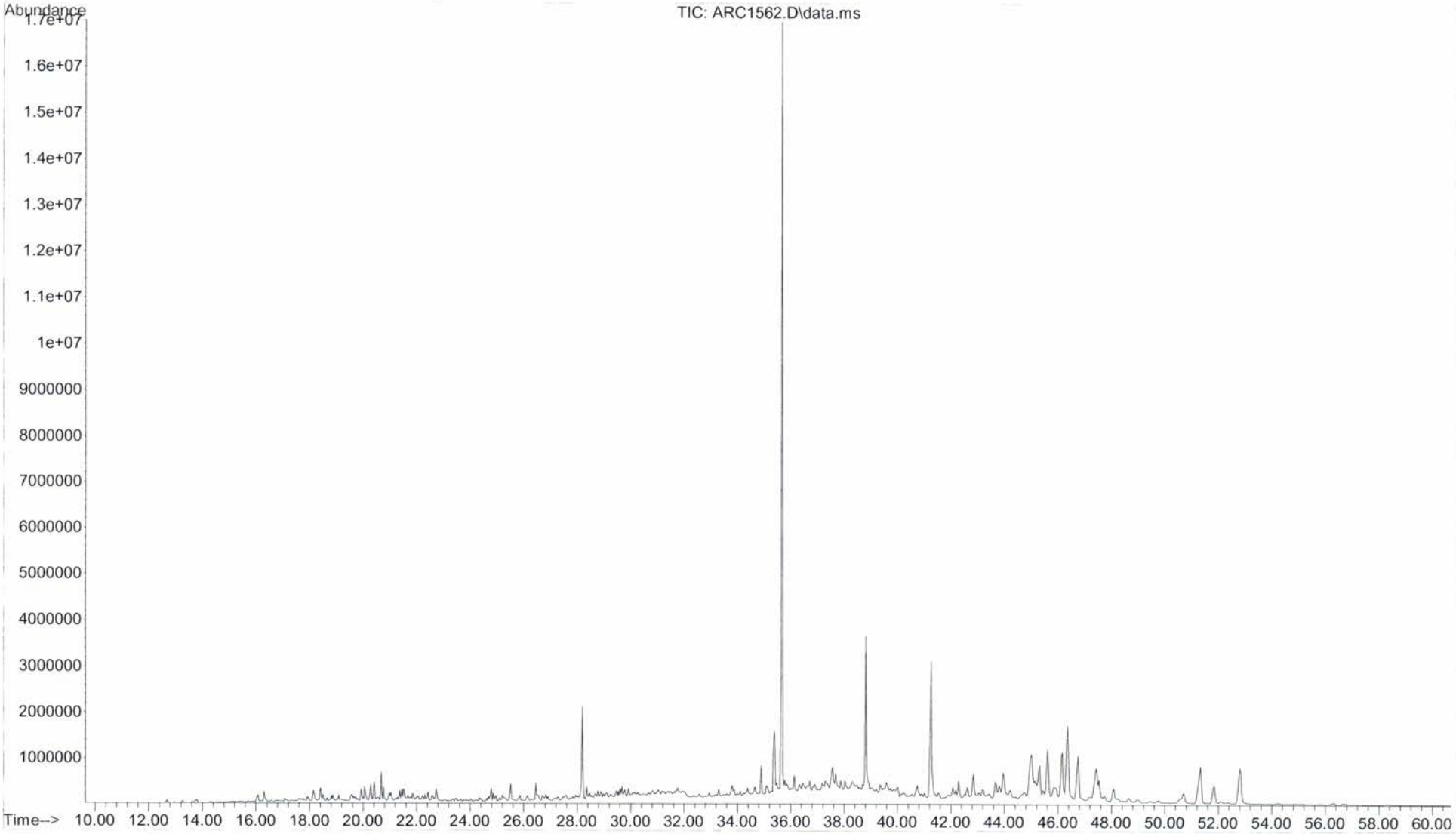
File :C:\GCMS6\MS60140\ARC1560.D
Operator : YM
Acquired : 13 Aug 2013 15:01 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-032 (1.0-1.5)
Misc Info :
Vial Number: 19



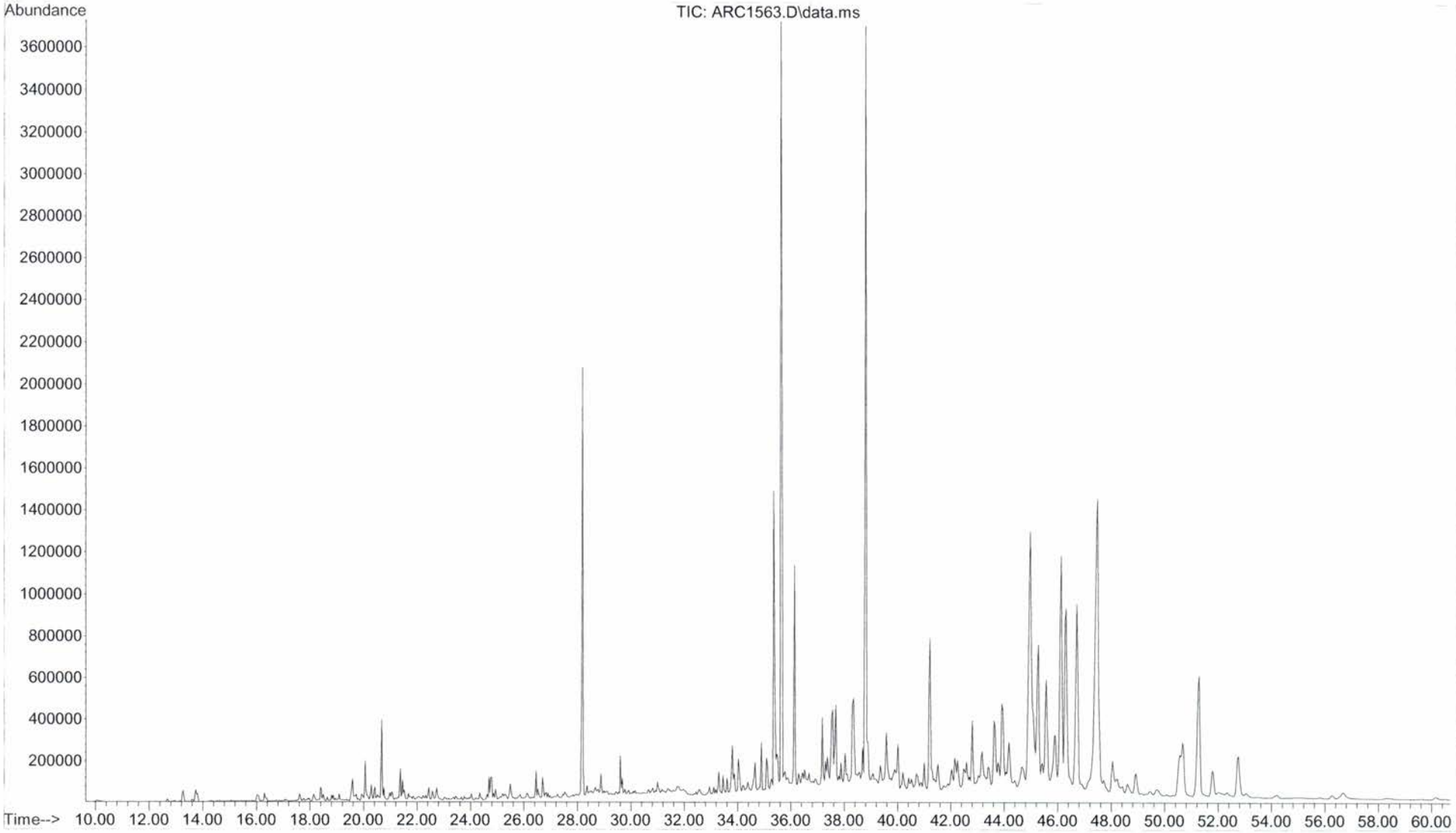
File :C:\GCMS6\MS60140\ARC1561.D
Operator : YM
Acquired : 14 Aug 2013 9:14 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-031 (0-0.5)
Misc Info :
Vial Number: 21



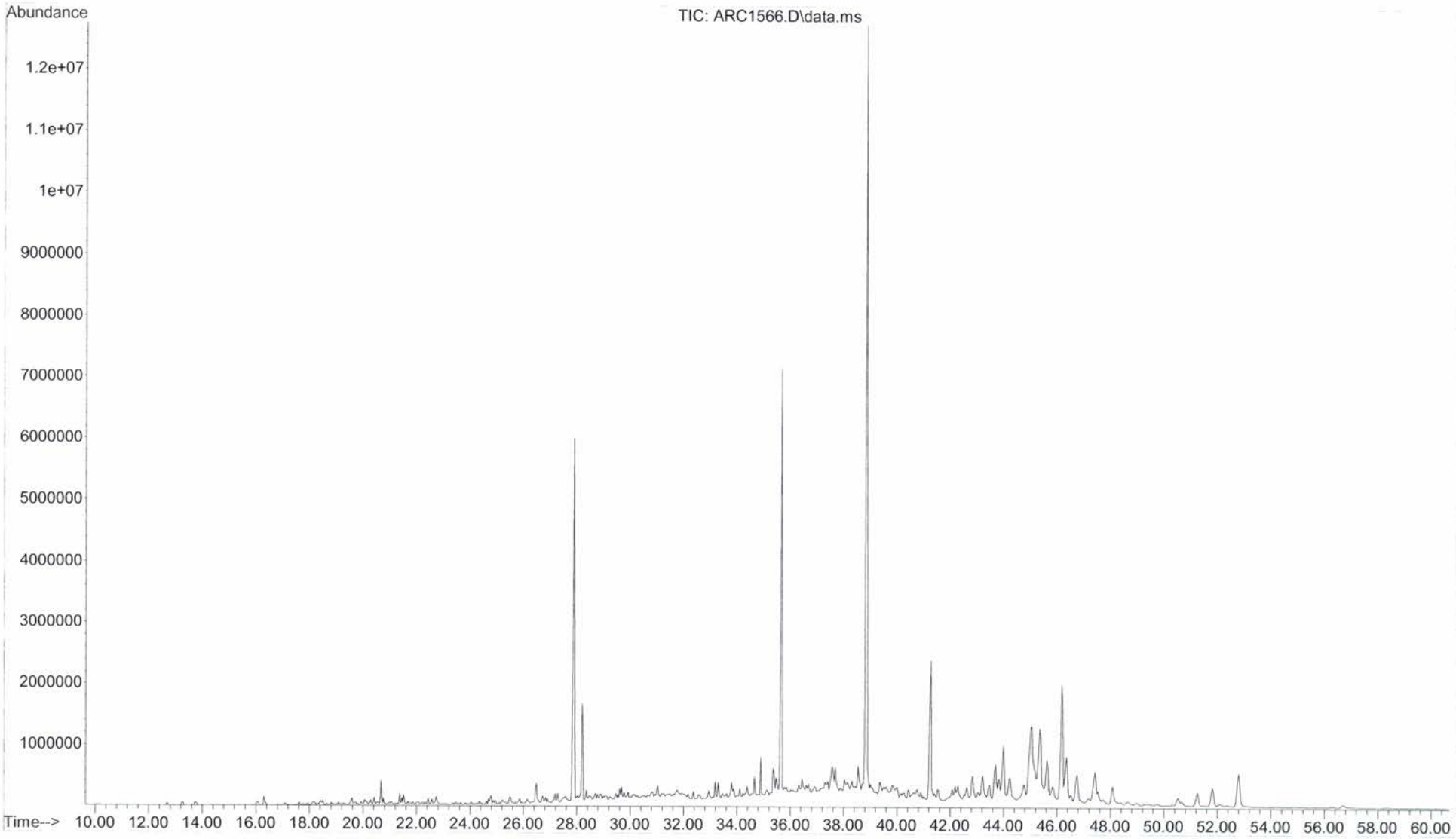
File :C:\GCMS6\MS60140\ARC1562.D
Operator : YM
Acquired : 14 Aug 2013 10:23 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-031 (0.5-1.0)
Misc Info :
Vial Number: 22



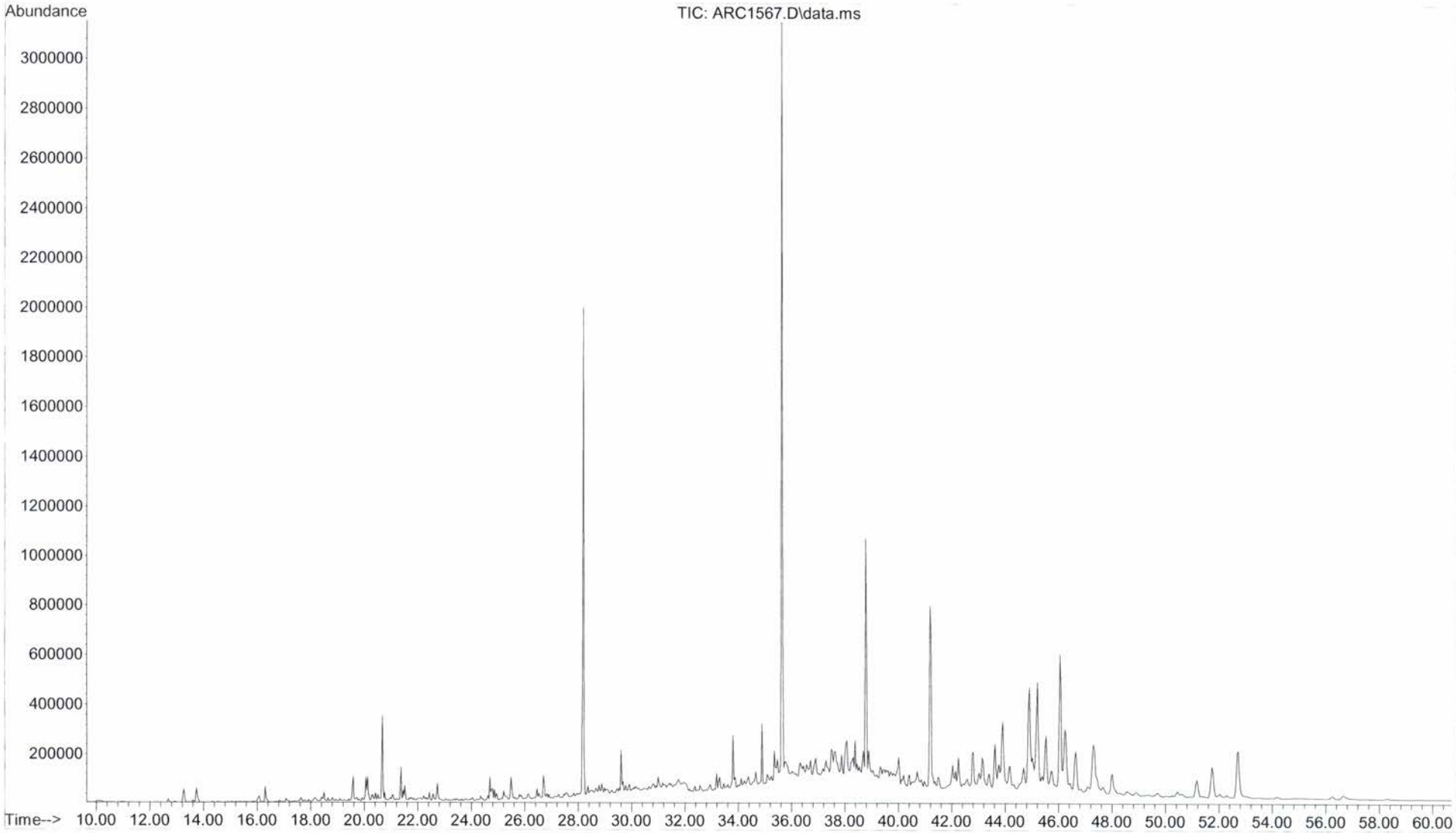
File :C:\GCMS6\MS60140\ARC1563.D
Operator : YM
Acquired : 14 Aug 2013 11:33 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-031 (1.0-1.5)
Misc Info :
Vial Number: 23



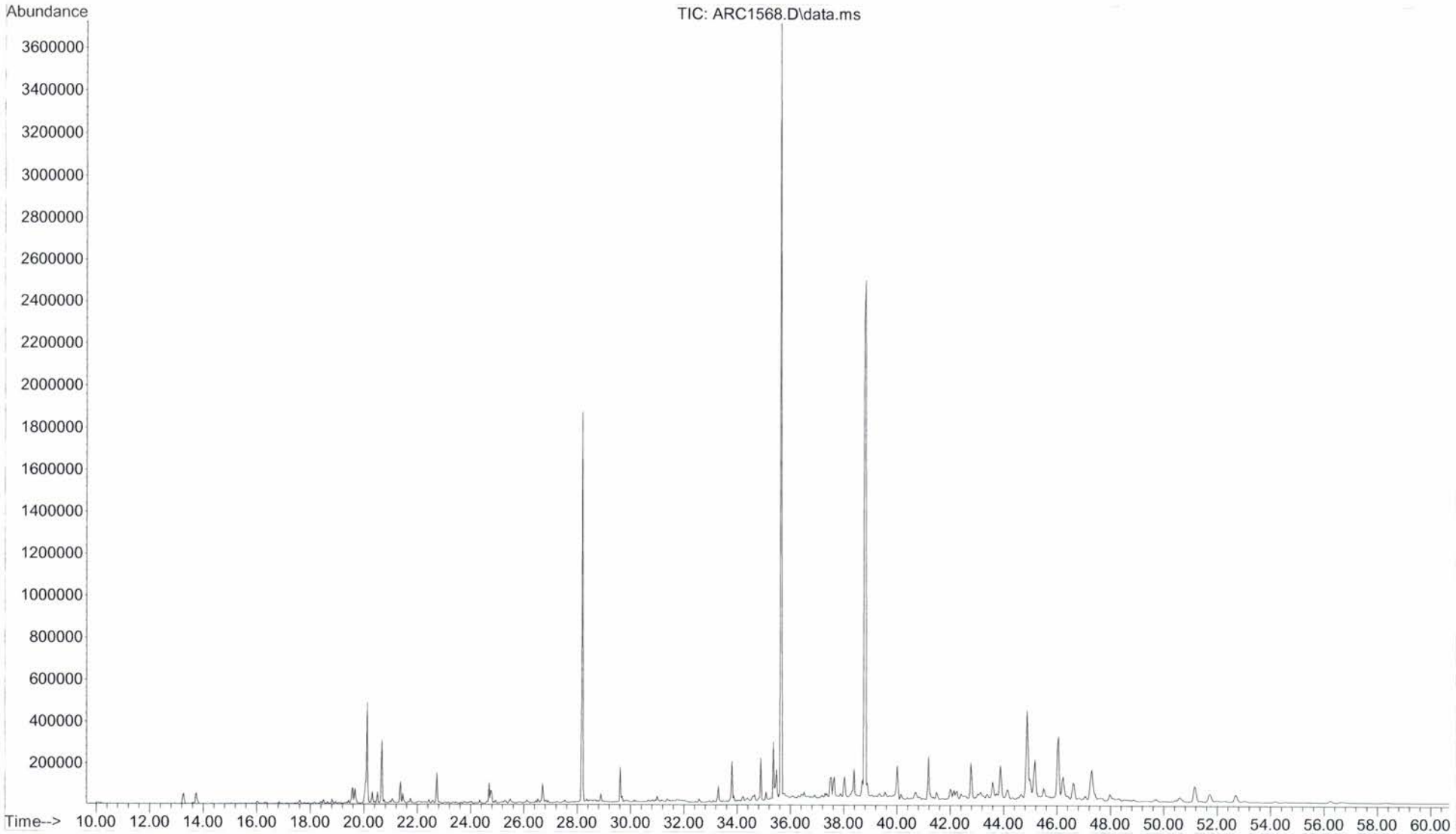
File :C:\GCMS6\MS60140\ARC1566.D
Operator : YM
Acquired : 14 Aug 2013 12:42 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-029 (0-0.5)
Misc Info :
Vial Number: 24



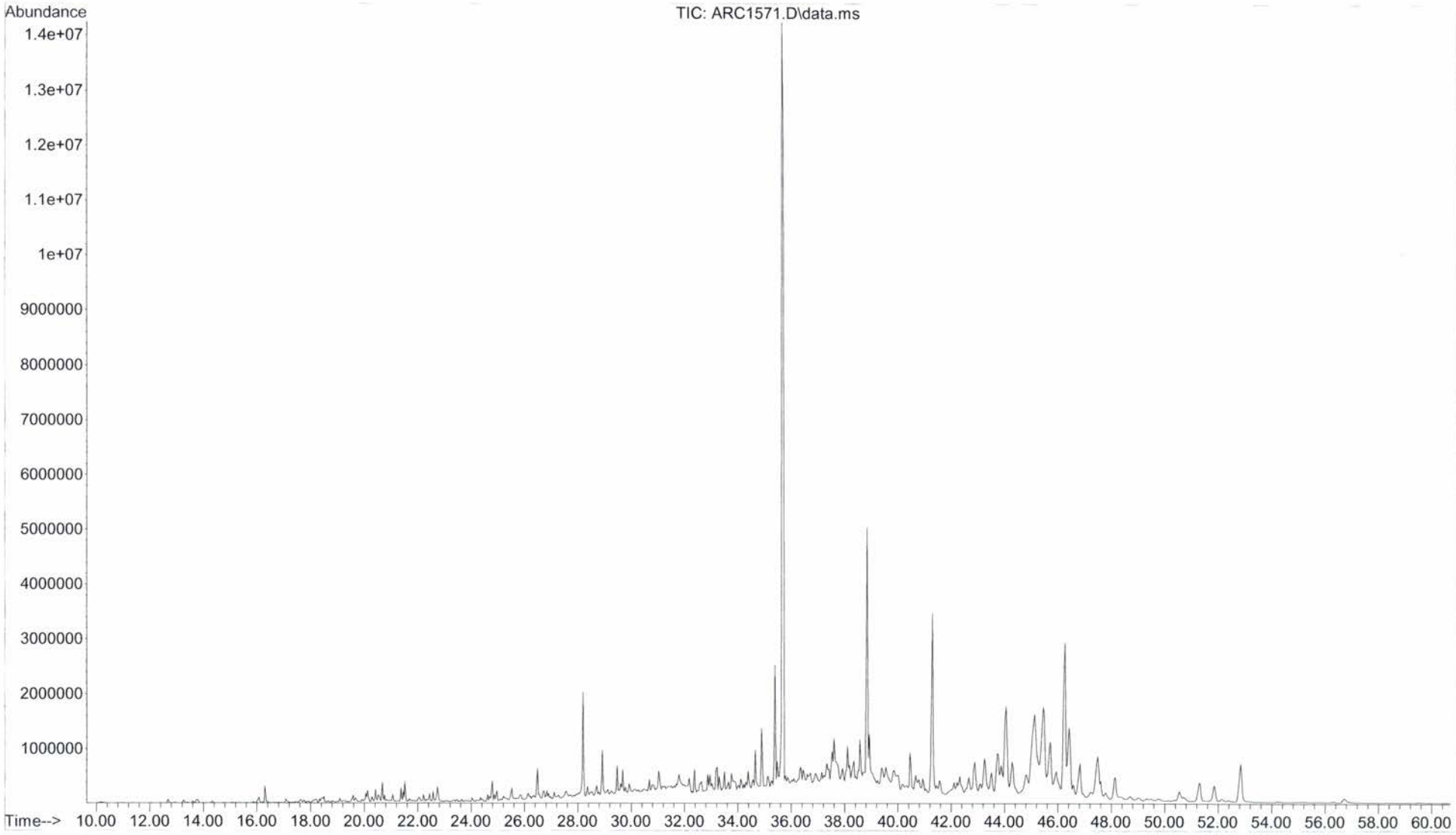
File :C:\GCMS6\MS60140\ARC1567.D
Operator : YM
Acquired : 14 Aug 2013 13:51 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-029 (0.5-1.0)
Misc Info :
Vial Number: 25



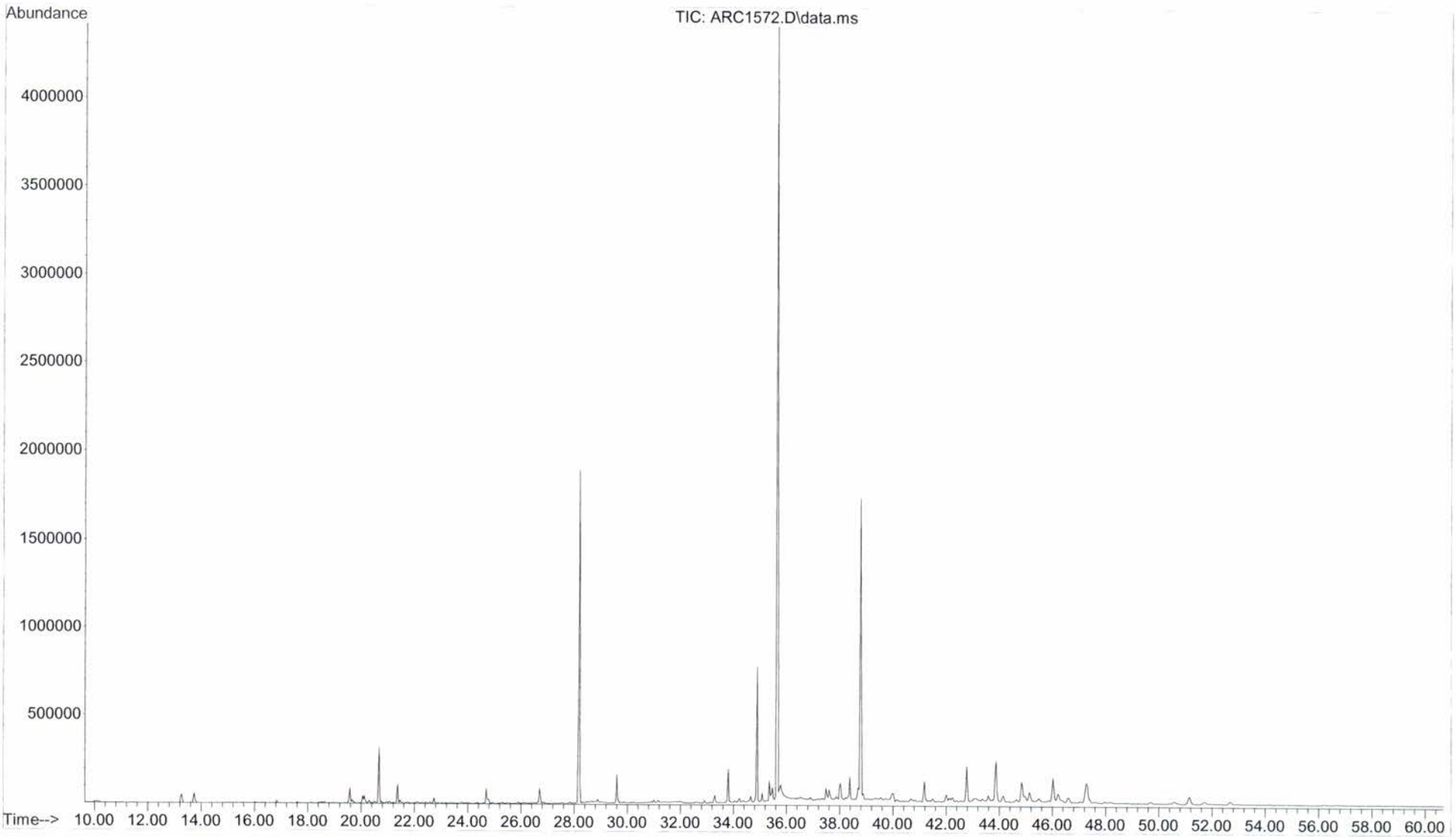
File :C:\GCMS6\MS60140\ARC1568.D
Operator : YM
Acquired : 14 Aug 2013 15:01 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-029 (1.0-1.5)
Misc Info :
Vial Number: 26



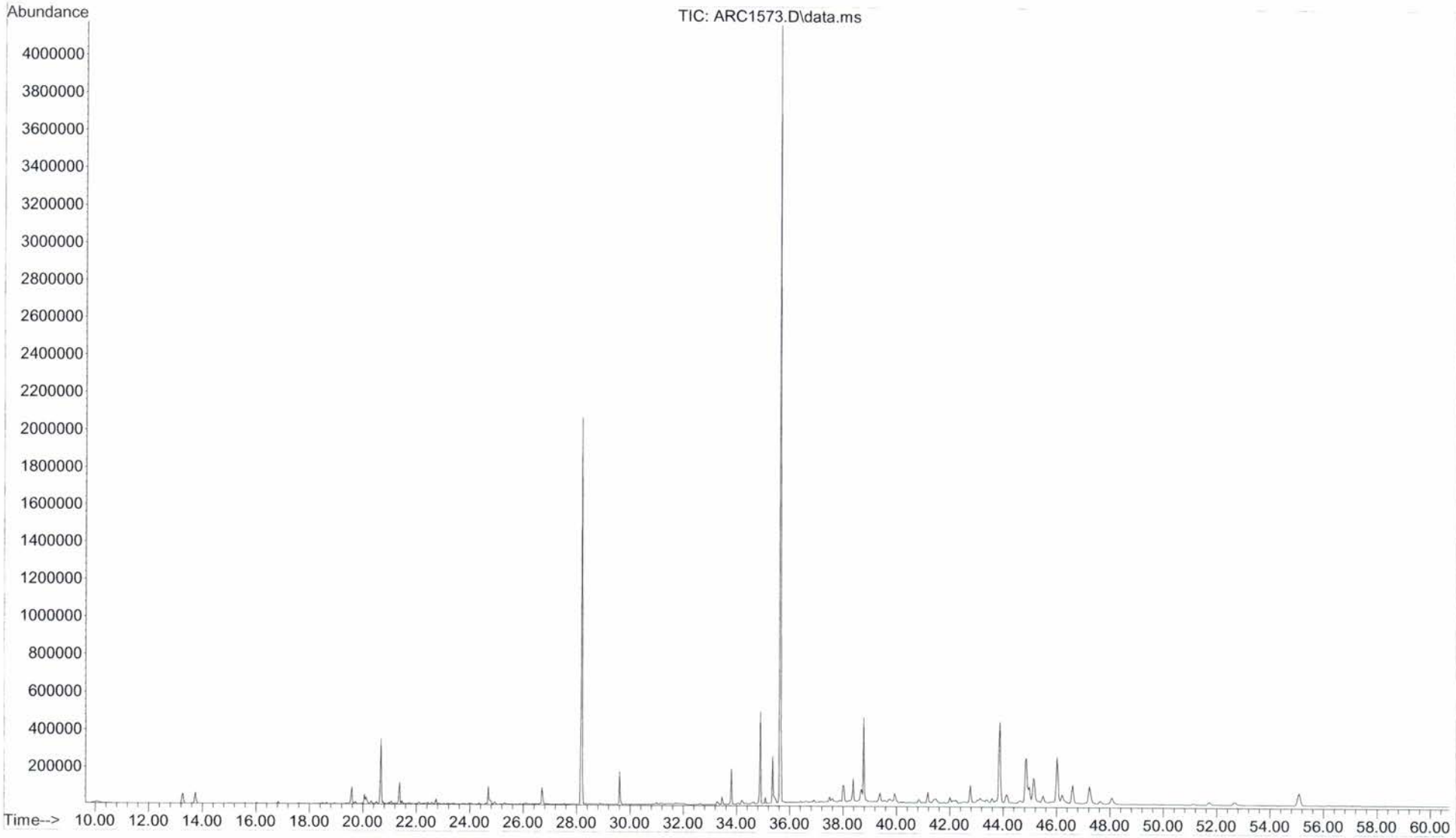
File :C:\GCMS6\MS60140\ARC1571.D
Operator : YM
Acquired : 14 Aug 2013 19:38 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-030 (0-0.5)
Misc Info :
Vial Number: 30



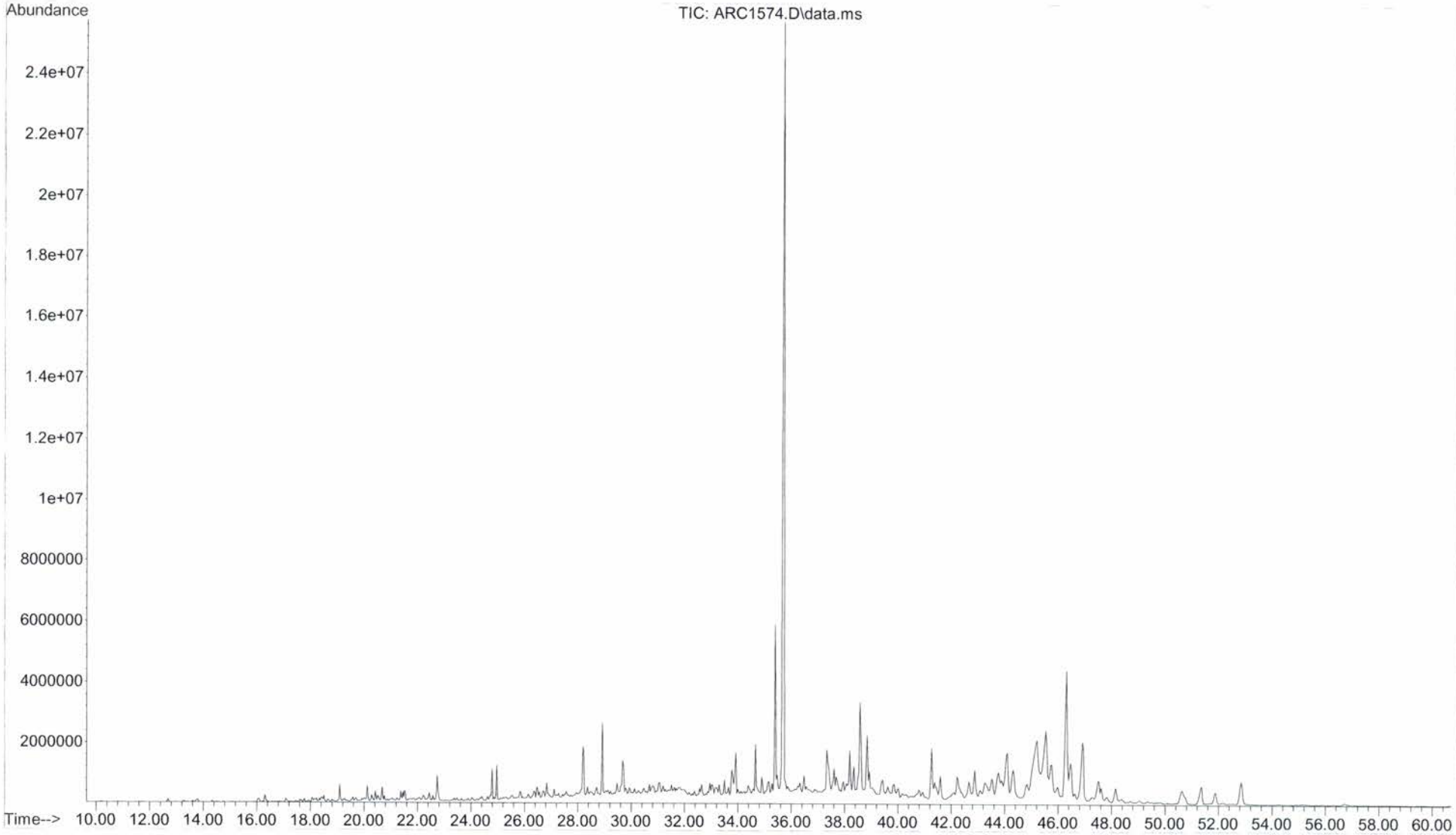
File :C:\GCMS6\MS60140\ARC1572.D
Operator : YM
Acquired : 14 Aug 2013 20:47 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-030 (0.5-1.0)
Misc Info :
Vial Number: 31



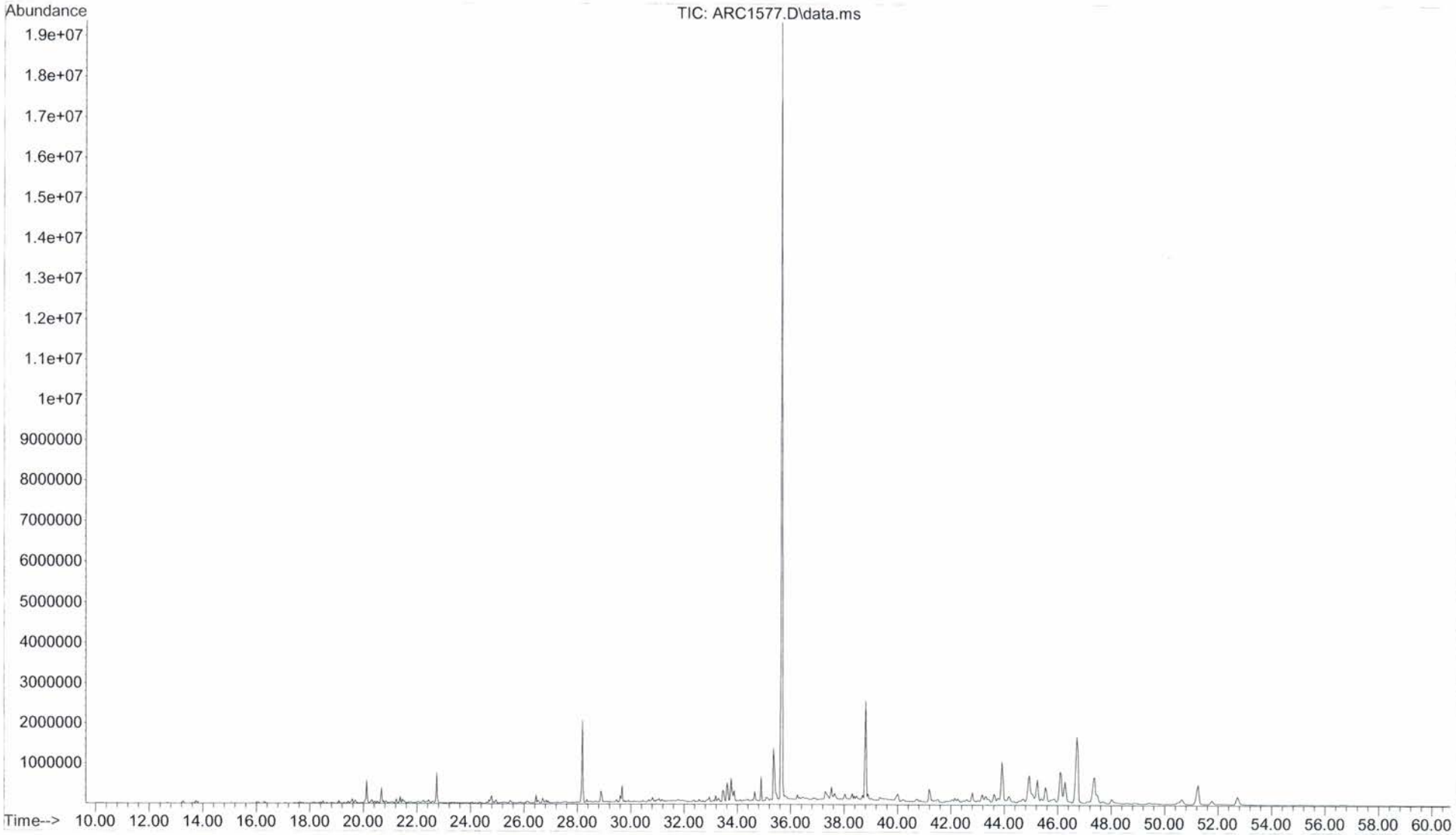
File :C:\GCMS6\MS60140\ARC1573.D
Operator : YM
Acquired : 14 Aug 2013 21:56 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-030 (1.0-1.5)
Misc Info :
Vial Number: 32



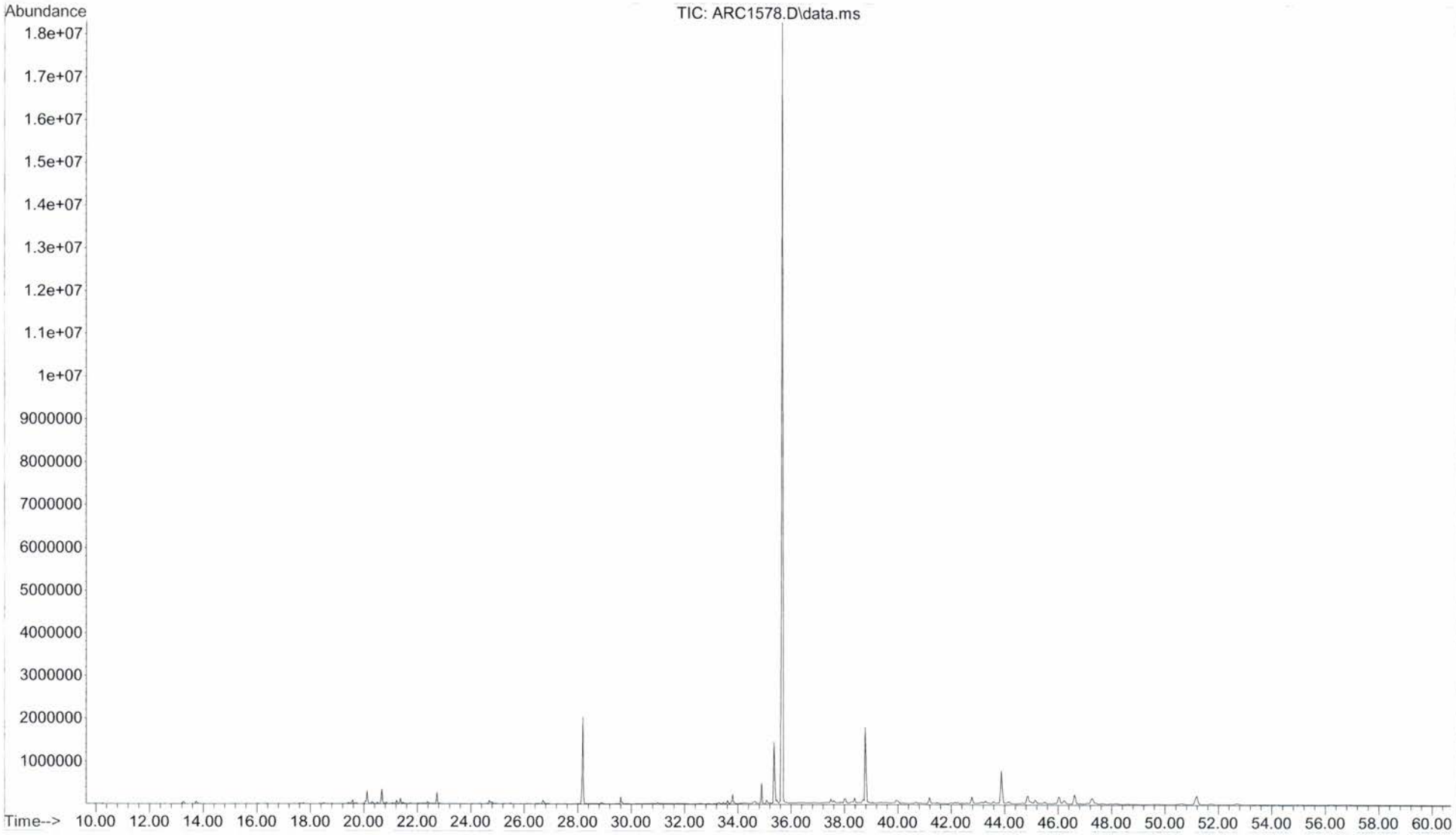
File :C:\GCMS6\MS60140\ARC1574.D
Operator : YM
Acquired : 14 Aug 2013 23:06 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-028 (0-0.5)
Misc Info :
Vial Number: 33



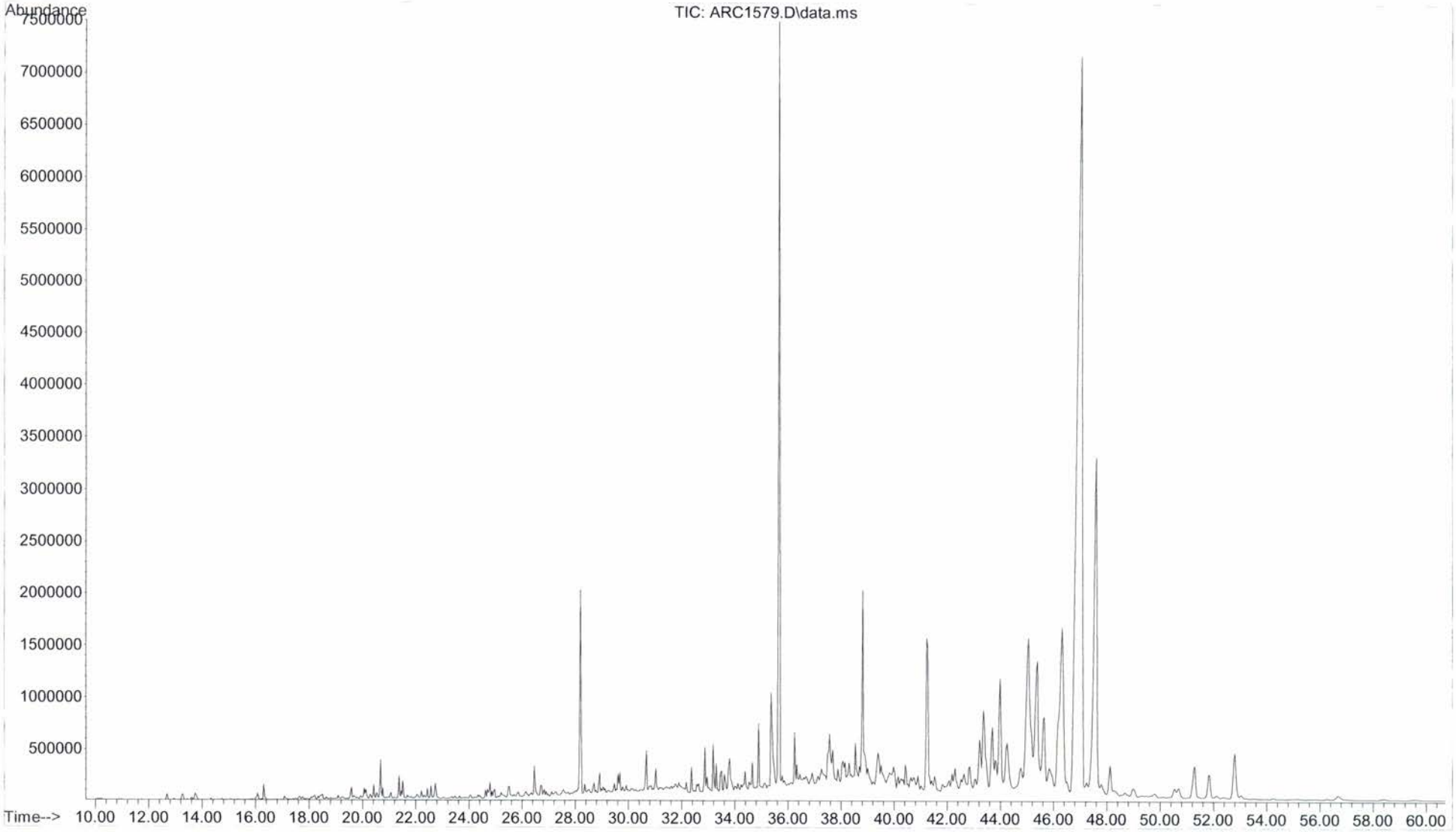
File :C:\GCMS6\MS60140\ARC1577.D
Operator : YM
Acquired : 15 Aug 2013 00:15 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-028 (0.5-1.0)
Misc Info :
Vial Number: 34



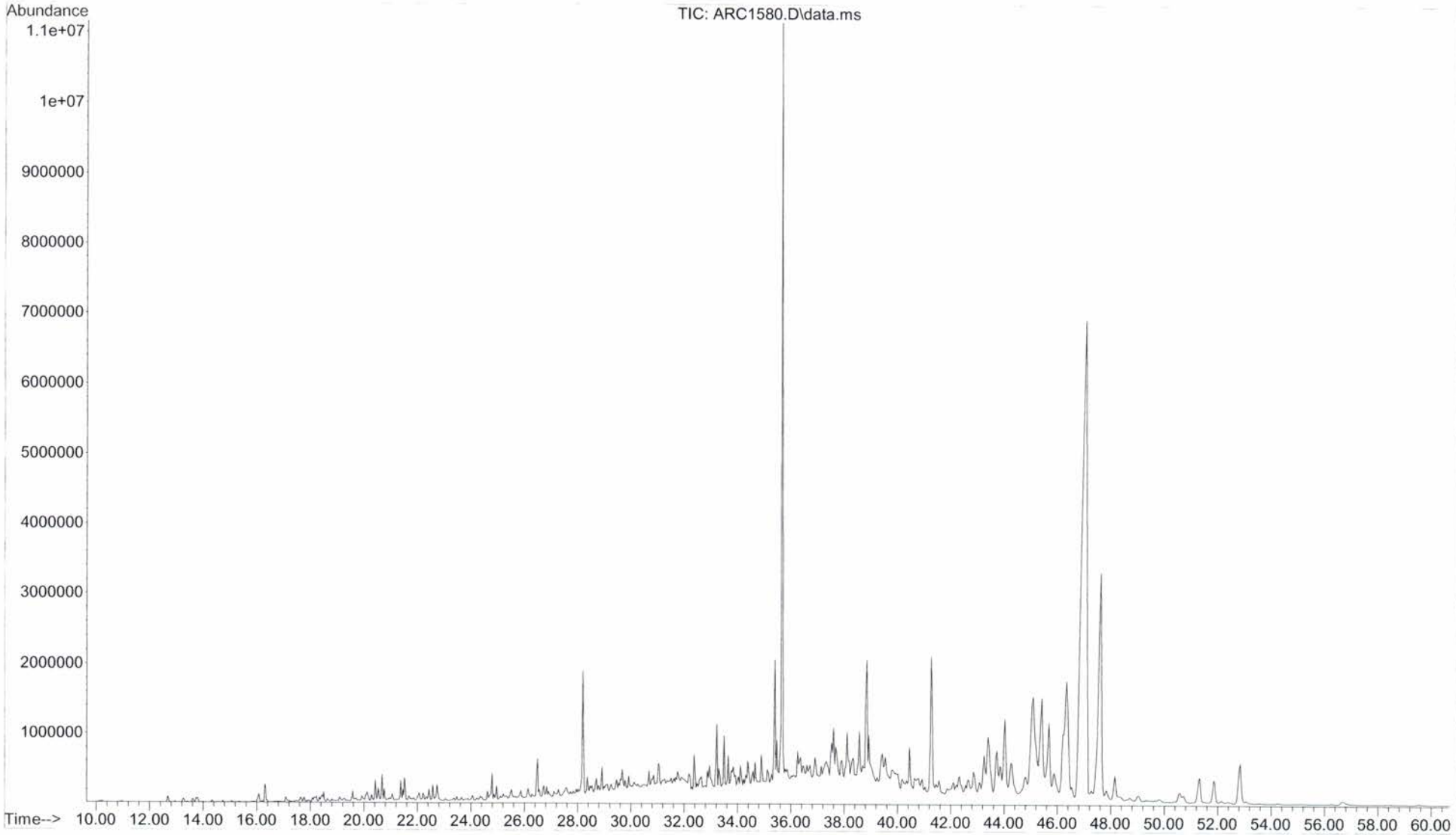
File :C:\GCMS6\MS60140\ARC1578.D
Operator : YM
Acquired : 15 Aug 2013 1:24 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-028 (1.0-1.5)
Misc Info :
Vial Number: 35



File :C:\GCMS6\MS60140\ARC1579.D
Operator : YM
Acquired : 15 Aug 2013 2:34 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-027 (0-0.5)
Misc Info :
Vial Number: 36



File :C:\GCMS6\MS60140\ARC1580.D
Operator : YM
Acquired : 15 Aug 2013 3:43 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-027 (0.5-1.0)
Misc Info :
Vial Number: 37



Total Petroleum Hydrocarbons/ Aliphatic Hydrocarbons Raw Data

B&B LABORATORIES ALIPHATICS/TEH QA FORM

Extraction Page: ENV 3076	Analyst: Meghan Dailey
Client: Arcadis Mayflower Porject	Date: September 2, 2013
Job: #: J13034	Project Quality Manager:
SDG #: 13073001 and 13073101	Date: 09/10/13

Initial Calibration: No failures	ICV No failures
Surrogate Recoveries: ARC1754, ENV3076C, and ENV3076D required dilution prior to analysis.	
Procedural Blank: No failures	
Blank Spike: NA	
Blank Spike Duplicate: NA	
Laboratory Duplicate: No failures	
Matrix Spike: No failures	
Matirx Spike Duplicate: No failures	
SRM 2779 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: FID10074 2013-08-13 08-19-45

Acquisition date: 8/13/2013 8:19:46 AM

Acquired by: Meghan Dailey

Data Directory C:\Chem32\3\DATA\FID10074 2013-08-13 08-19-45

Line	Location	Sample Name	Datafile	Method	Injection Date
4	Vial 51	Solvent Blank	FID10074A.D		08/13/2013 11:52:03
5	Vial 52	AL-WKCC-25-024	FID10074B.D		08/13/2013 13:02:44
6	Vial 53	AL-WKSRM2779-20-01	FID10074C.D		08/13/2013 14:14:25
7	Vial 51	Solvent Blank	FID10074D.D		08/13/2013 15:24:50
8	Vial 54	AL-WKRetWin-001	FID10074E.D		08/13/2013 16:35:04
9	Vial 55	AL-WKPem-001	FID10074F.D		08/13/2013 17:45:14
10	Vial 56		ENV3076A.D		08/13/2013 18:55:24
11	Vial 57		ENV3076C.D		08/13/2013 20:05:36
12	Vial 58		ENV3076D.D		08/13/2013 21:16:08
13	Vial 59		ENV3076E.D		08/13/2013 22:26:13
14	Vial 60	AL-WKCC-25-024	FID10074G.D		08/13/2013 23:36:20
15	Vial 61		ARC1558.D		08/14/2013 00:46:29
16	Vial 62		ARC1560.D		08/14/2013 01:56:37
17	Vial 63		ARC1561.D		08/14/2013 03:07:17
18	Vial 64		ARC1566.D		08/14/2013 04:17:27
19	Vial 65		ARC1571.D		08/14/2013 05:27:36
20	Vial 66		ARC1574.D		08/14/2013 06:37:43
21	Vial 67		ARC1579.D		08/14/2013 07:47:58
22	Vial 68	AL-WKCC-25-024	FID10074J.D		08/14/2013 08:58:16

~~IS area~~ MD 8/14/13

Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3076\FID10074\
Data File : FID10074B.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 13:02:44
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 14 09:08:39 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	n-hexadecane-d34	1.000	1.000	0.0	92	0.00
2		n-C8	0.962	1.022	-6.2	96	0.00
3		n-C9	1.011	1.072	-6.0	96	0.00
4		n-C10	1.064	1.130	-6.2	96	0.00
5		n-C11	1.069	1.129	-5.6	96	0.00
6	S	n-dodecane-d26	0.992	1.035	-4.3	95	0.00
7		n-C12	1.116	1.174	-5.2	95	0.00
10		n-C13	1.122	1.164	-3.7	94	0.00
12		n-C14	1.164	1.201	-3.2	93	0.00
14		n-C15	1.189	1.212	-1.9	93	0.00
15		n-C16	1.208	1.223	-1.2	92	0.00
16	I	5a-androstane	1.000	1.000	0.0	89	0.00
18		n-C17	0.952	0.994	-4.4	92	0.00
19		Pristane	0.949	0.987	-4.0	91	0.00
20		n-C18	0.944	0.979	-3.7	91	0.00
21		Phytane	0.962	0.998	-3.7	91	0.00
22		n-C19	0.948	0.979	-3.3	91	0.00
23	S	n-eicosane-d42	0.758	0.775	-2.2	90	0.00
24		n-C20	0.957	0.983	-2.7	90	0.00
25		n-C21	0.969	0.992	-2.4	90	0.00
26		n-C22	0.974	0.991	-1.7	90	0.00
27		n-C23	0.982	0.992	-1.0	89	0.00
28		n-C24	0.984	0.987	-0.3	88	0.00
29		n-C25	0.985	0.982	0.3	88	0.00
30		n-C26	0.989	0.976	1.3	87	0.00
31		n-C27	0.964	0.942	2.3	86	0.00
32		n-C28	0.976	0.944	3.3	85	0.00
33		n-C29	0.978	0.939	4.0	85	0.00
34	S	n-triacontane-d62	0.754	0.715	5.2	84	0.00
35		n-C30	0.964	0.925	4.0	84	0.00
36		n-C31	0.944	0.904	4.2	84	0.00
37		n-C32	0.929	0.891	4.1	83	0.00
38		n-C33	0.898	0.865	3.7	84	0.00
39		n-C34	0.903	0.866	4.1	83	0.00
40		n-C35	0.872	0.837	4.0	84	0.00
41		n-C36	0.935	0.904	3.3	84	0.00
42		n-C37	0.842	0.805	4.4	84	0.00
43		n-C38	0.827	0.773	6.5	82	0.00

44	n-C39	0.795	0.733	7.8	81	0.00
45	n-C40	0.722	0.698	3.3	83	0.00

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.017	0.000	100.0#	0# -8.92#
9	i-14	0.018	0.000	100.0#	0# -9.61#
11	i-15	0.018	0.000	100.0#	0# -10.75#
13	i-16	0.019	0.000	100.0#	0# -11.62#
17	i-18	0.019	0.000	100.0#	0# -13.55#
46	TPH	0.018	0.000	100.0#	0# -28.68#
47	TRH1	0.018	0.000	100.0#	0# -7.65#
48	TRH2	0.018	0.000	100.0#	0# -15.72#
49	TRH3	0.018	0.000	100.0#	0# -23.08#
50	TRH4	0.018	0.000	100.0#	0# -28.04#
51	TRH5	0.018	0.000	100.0#	0# -32.95#
52	TRH6	0.018	0.000	100.0#	0# -44.27#
53	GRO	0.018	0.000	100.0#	0# -5.20#
54	DRO	0.018	0.000	100.0#	0# -14.13#
55	RRO	0.018	0.000	100.0#	0# -32.59#

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

FID1C08BACK081213.M Wed Aug 14 09:09:24 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3076\FID10074\
Data File : FID10074B.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 13:02:44
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 14 09:08:39 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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	12.752	354101	50.000	ug/mlm
16) I	5a-androstane	17.916	446506	50.072	ug/mlm
	System Monitoring Compounds				
6) S	n-dodecane-d26	8.483	183271	26.079	ug/mlm
23) S	n-eicosane-d42	17.339	173941	25.726	ug/mlm
34) S	n-triacontane-d62	29.190	159608	23.743	ug/mlm
	Target Compounds				
2)	n-C8	3.353	181087	26.590	ug/mlm
3)	n-C9	4.664	189845	26.520	ug/mlm
4)	n-C10	6.075	200070	26.556	ug/mlm
5)	n-C11	7.429	200147	26.445	ug/mlm
7)	n-C12	8.689	204252	25.838	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	9.860	206353	25.979	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.954	211310	25.635	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.982	213559	25.372	ug/mlm
15)	n-C16	12.999	214379	25.061	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.084	218907	25.775	ug/mlm
19)	Pristane	14.199	218021	25.757	ug/mlm
20)	n-C18	15.243	218456	25.945	ug/mlm
21)	Phytane	15.404	221970	25.872	ug/mlm
22)	n-C19	16.467	218097	25.802	ug/mlm
24)	n-C20	17.733	219556	25.733	ug/mlm
25)	n-C21	19.024	219194	25.366	ug/mlm
26)	n-C22	20.318	221157	25.461	ug/mlm
27)	n-C23	21.599	219040	25.023	ug/mlm
28)	n-C24	22.859	217483	24.796	ug/mlm
29)	n-C25	24.088	218065	24.824	ug/mlm
30)	n-C26	25.284	217940	24.719	ug/mlm
31)	n-C27	26.445	210117	24.454	ug/mlm
32)	n-C28	27.573	210502	24.189	ug/mlm
33)	n-C29	28.664	209696	24.052	ug/mlm
35)	n-C30	29.724	205398	23.899	ug/mlm
36)	n-C31	30.749	201651	23.957	ug/mlm
37)	n-C32	31.744	196063	23.671	ug/mlm
38)	n-C33	32.710	192861	24.094	ug/mlm
39)	n-C34	33.650	192563	23.920	ug/mlm
40)	n-C35	34.612	186624	23.999	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3076\FID10074\
Data File : FID10074B.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 13:02:44
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 14 09:08:39 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.706	197505	23.700	ug/mlm
42)	n-C37	36.961	179662	23.929	ug/mlm
43)	n-C38	38.429	172504	23.403	ug/mlm
44)	n-C39	40.142	163558	23.081	ug/mlm
45)	n-C40	42.166	155391	24.122	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

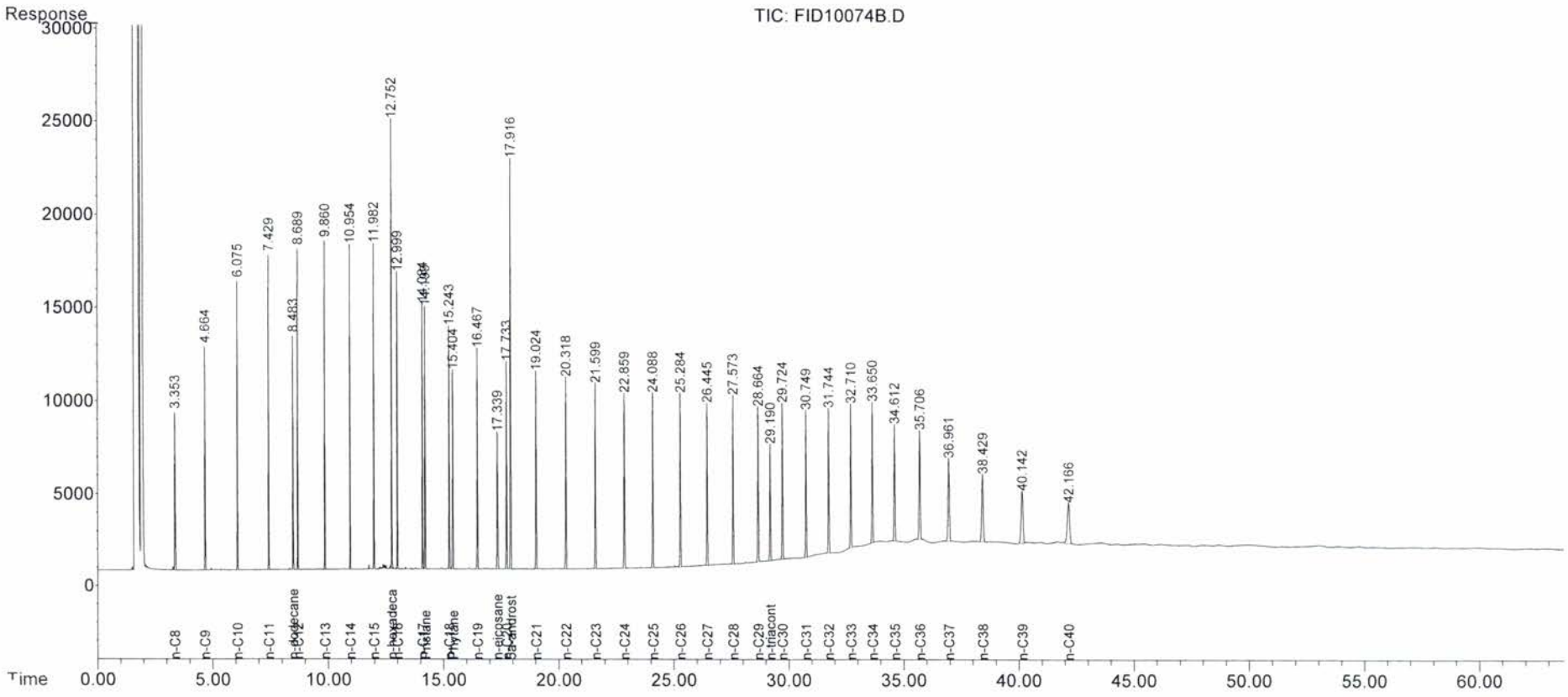
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3076\FID10074\
Data File : FID10074B.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 13:02:44
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 14 09:08:39 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3076\FID10074\
Data File : FID10074G.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 23:36:20
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 14 09:26:51 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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	89	0.00
2		n-C8	0.962	1.026	-6.7	93	0.00
3		n-C9	1.011	1.075	-6.3	93	0.00
4		n-C10	1.064	1.136	-6.8	93	0.00
5		n-C11	1.069	1.136	-6.3	93	0.00
6	S	n-dodecane-d26	0.992	1.040	-4.8	92	0.00
7		n-C12	1.116	1.180	-5.7	92	0.00
10		n-C13	1.122	1.170	-4.3	91	0.00
12		n-C14	1.164	1.202	-3.3	90	0.00
14		n-C15	1.189	1.211	-1.9	89	0.00
15		n-C16	1.208	1.223	-1.2	89	0.00
16	I	5a-androstane	1.000	1.000	0.0	86	0.00
18		n-C17	0.952	0.994	-4.4	88	0.00
19		Pristane	0.949	0.989	-4.2	88	0.00
20		n-C18	0.944	0.979	-3.7	88	0.00
21		Phytane	0.962	0.999	-3.8	88	0.00
22		n-C19	0.948	0.979	-3.3	87	0.00
23	S	n-eicosane-d42	0.758	0.773	-2.0	87	0.00
24		n-C20	0.957	0.984	-2.8	87	0.00
25		n-C21	0.969	0.993	-2.5	87	0.00
26		n-C22	0.974	0.989	-1.5	86	0.00
27		n-C23	0.982	0.992	-1.0	85	0.00
28		n-C24	0.984	0.987	-0.3	85	0.00
29		n-C25	0.985	0.981	0.4	84	0.00
30		n-C26	0.989	0.975	1.4	83	0.00
31		n-C27	0.964	0.942	2.3	83	0.00
32		n-C28	0.976	0.944	3.3	82	0.00
33		n-C29	0.978	0.940	3.9	81	0.00
34	S	n-triacontane-d62	0.754	0.715	5.2	81	0.00
35		n-C30	0.964	0.922	4.4	81	0.00
36		n-C31	0.944	0.913	3.3	81	0.00
37		n-C32	0.929	0.890	4.2	80	0.00
38		n-C33	0.898	0.863	3.9	80	0.00
39		n-C34	0.903	0.867	4.0	80	0.00
40		n-C35	0.872	0.843	3.3	81	0.00
41		n-C36	0.935	0.899	3.9	81	-0.01
42		n-C37	0.842	0.803	4.6	80	-0.01
43		n-C38	0.827	0.783	5.3	80	-0.02

44	n-C39	0.795	0.744	6.4	79	-0.02
45	n-C40	0.722	0.696	3.6	80	-0.02

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.017	0.000	100.0#	0#	-8.92#
9	i-14	0.018	0.000	100.0#	0#	-9.61#
11	i-15	0.018	0.000	100.0#	0#	-10.75#
13	i-16	0.019	0.000	100.0#	0#	-11.62#
17	i-18	0.019	0.000	100.0#	0#	-13.55#
46	TPH	0.018	0.000	100.0#	0#	-28.68#
47	TRH1	0.018	0.000	100.0#	0#	-7.65#
48	TRH2	0.018	0.000	100.0#	0#	-15.72#
49	TRH3	0.018	0.000	100.0#	0#	-23.08#
50	TRH4	0.018	0.000	100.0#	0#	-28.04#
51	TRH5	0.018	0.000	100.0#	0#	-32.95#
52	TRH6	0.018	0.000	100.0#	0#	-44.27#
53	GRO	0.018	0.000	100.0#	0#	-5.20#
54	DRO	0.018	0.000	100.0#	0#	-14.13#
55	RRO	0.018	0.000	100.0#	0#	-32.59#

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

FID1C08BACK081213.M Wed Aug 14 09:26:57 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3076\FID10074\
Data File : FID10074G.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 23:36:20
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 14 09:26:51 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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	12.749	341543	50.000	ug/mlm
16)	I	5a-androstane	17.911	429216	50.072	ug/mlm
System Monitoring Compounds						
6)	S	n-dodecane-d26	8.481	177681	26.213	ug/mlm
23)	S	n-eicosane-d42	17.334	166658	25.642	ug/mlm
34)	S	n-triacontane-d62	29.183	153473	23.750	ug/mlm
Target Compounds						
2)		n-C8	3.354	175414	26.704	ug/mlm
3)		n-C9	4.664	183526	26.580	ug/mlm
4)		n-C10	6.074	193991	26.696	ug/mlm
5)		n-C11	7.427	194200	26.603	ug/mlm
7)		n-C12	8.687	198013	25.970	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	9.858	200128	26.122	ug/mlm
11)		i-15	0.000	0	N.D.	ug/mld
12)		n-C14	10.952	203955	25.652	ug/mlm
13)		i-16	0.000	0	N.D.	ug/mld
14)		n-C15	11.980	205886	25.360	ug/mlm
15)		n-C16	12.996	206712	25.053	ug/mlm
17)		i-18	0.000	0	N.D.	ug/mld
18)		n-C17	14.080	210441	25.777	ug/mlm
19)		Pristane	14.195	210015	25.810	ug/mlm
20)		n-C18	15.239	209983	25.943	ug/mlm
21)		Phytane	15.400	213480	25.885	ug/mlm
22)		n-C19	16.463	209694	25.807	ug/mlm
24)		n-C20	17.730	211105	25.739	ug/mlm
25)		n-C21	19.021	210844	25.383	ug/mlm
26)		n-C22	20.313	212107	25.403	ug/mlm
27)		n-C23	21.595	210389	25.003	ug/mlm
28)		n-C24	22.852	209069	24.796	ug/mlm
29)		n-C25	24.083	209576	24.819	ug/mlm
30)		n-C26	25.280	209199	24.684	ug/mlm
31)		n-C27	26.440	202027	24.460	ug/mlm
32)		n-C28	27.564	202271	24.179	ug/mlm
33)		n-C29	28.659	201762	24.074	ug/mlm
35)		n-C30	29.718	196784	23.819	ug/mlm
36)		n-C31	30.744	195707	24.187	ug/mlm
37)		n-C32	31.739	188325	23.653	ug/mlm
38)		n-C33	32.705	184870	24.026	ug/mlm
39)		n-C34	33.643	185323	23.948	ug/mlm
40)		n-C35	34.605	180676	24.170	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3076\FID10074\
Data File : FID10074G.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 23:36:20
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 14 09:26:51 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.696	188907	23.581	ug/mlm
42)	n-C37	36.951	172119	23.848	ug/mlm
43)	n-C38	38.413	167991	23.709	ug/mlm
44)	n-C39	40.125	159589	23.428	ug/mlm
45)	n-C40	42.142	148775	24.025	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

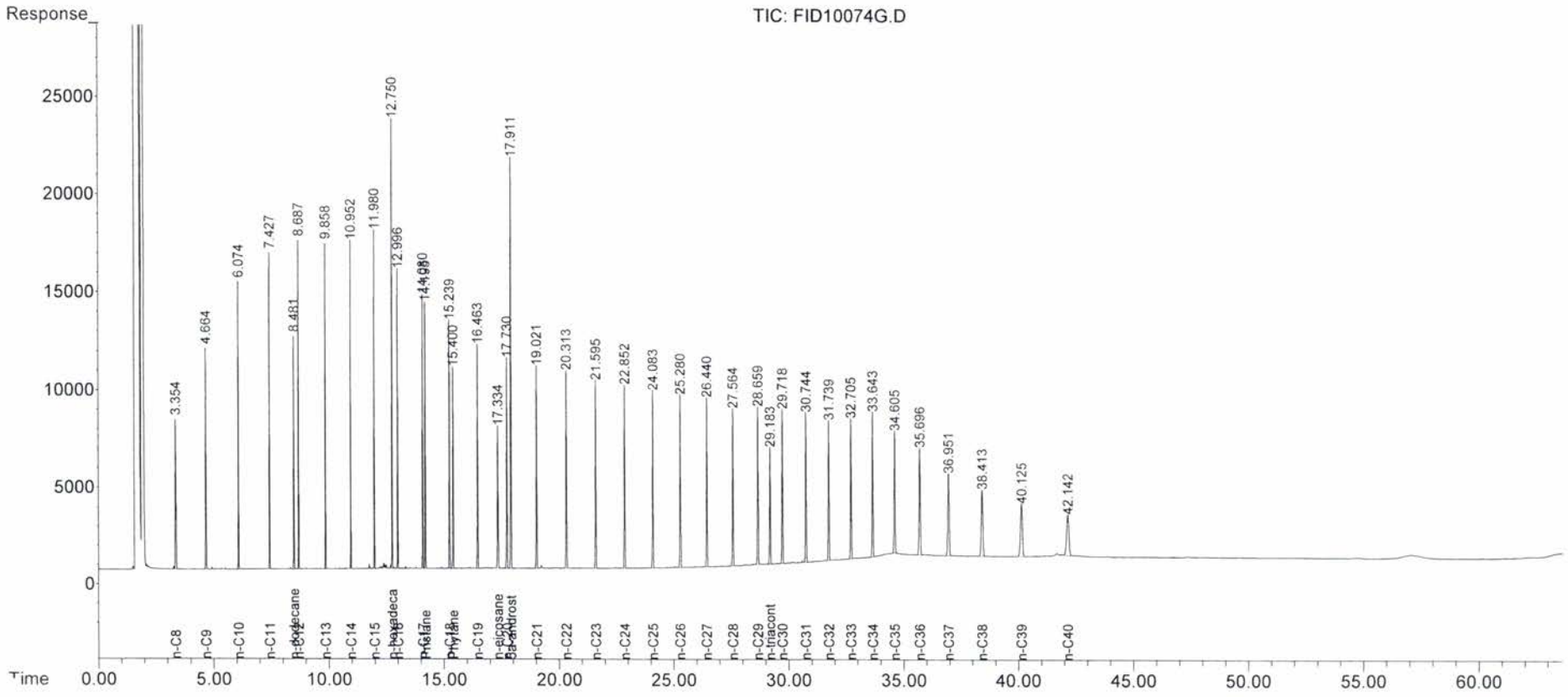
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3076\FID10074\
Data File : FID10074G.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 23:36:20
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 14 09:26:51 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3076\FID10074\
Data File : FID10074J.D
Signal(s) : FID2B.CH
Acq On : 14-Aug-2013, 08:58:16
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 68 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 14 10:40:02 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	n-hexadecane-d34	1.000	1.000	0.0	88	0.00
2		n-C8	0.962	1.014	-5.4	91	0.00
3		n-C9	1.011	1.067	-5.5	91	0.00
4		n-C10	1.064	1.129	-6.1	92	0.00
5		n-C11	1.069	1.130	-5.7	92	0.00
6	S	n-dodecane-d26	0.992	1.036	-4.4	91	0.00
7		n-C12	1.116	1.174	-5.2	91	0.00
10		n-C13	1.122	1.166	-3.9	90	0.00
12		n-C14	1.164	1.201	-3.2	89	0.00
14		n-C15	1.189	1.214	-2.1	88	0.00
15		n-C16	1.208	1.224	-1.3	88	0.00
16	I	5a-androstane	1.000	1.000	0.0	85	0.00
18		n-C17	0.952	0.999	-4.9	87	0.00
19		Pristane	0.949	0.993	-4.6	87	0.00
20		n-C18	0.944	0.985	-4.3	87	0.00
21		Phytane	0.962	1.001	-4.1	87	0.00
22		n-C19	0.948	0.982	-3.6	86	0.00
23	S	n-eicosane-d42	0.758	0.774	-2.1	85	0.00
24		n-C20	0.957	0.986	-3.0	86	0.00
25		n-C21	0.969	0.995	-2.7	85	0.00
26		n-C22	0.974	0.993	-2.0	85	0.00
27		n-C23	0.982	0.992	-1.0	84	0.00
28		n-C24	0.984	0.986	-0.2	84	0.00
29		n-C25	0.985	0.980	0.5	83	0.00
30		n-C26	0.989	0.971	1.8	82	0.00
31		n-C27	0.964	0.939	2.6	81	0.00
32		n-C28	0.976	0.943	3.4	81	0.00
33		n-C29	0.978	0.934	4.5	80	0.00
34	S	n-triacontane-d62	0.754	0.711	5.7	79	0.00
35		n-C30	0.964	0.917	4.9	79	0.00
36		n-C31	0.944	0.926	1.9	81	0.00
37		n-C32	0.929	0.887	4.5	79	0.00
38		n-C33	0.898	0.860	4.2	79	0.00
39		n-C34	0.903	0.867	4.0	79	0.00
40		n-C35	0.872	0.844	3.2	80	0.00
41		n-C36	0.935	0.899	3.9	80	-0.02
42		n-C37	0.842	0.800	5.0	79	-0.01
43		n-C38	0.827	0.781	5.6	78	-0.02

44	n-C39	0.795	0.740	6.9	78	-0.02
45	n-C40	0.722	0.659	8.7	74	-0.03

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.017	0.000	100.0#	0#	-8.88#
9	i-14	0.018	0.000	100.0#	0#	-9.58#
11	i-15	0.018	0.000	100.0#	0#	-10.73#
13	i-16	0.019	0.000	100.0#	0#	-11.62#
17	i-18	0.019	0.000	100.0#	0#	-13.55#
46	TPH	0.018	0.000	100.0#	0#	-28.68#
47	TRH1	0.018	0.000	100.0#	0#	-7.65#
48	TRH2	0.018	0.000	100.0#	0#	-15.72#
49	TRH3	0.018	0.000	100.0#	0#	-23.08#
50	TRH4	0.018	0.000	100.0#	0#	-28.04#
51	TRH5	0.018	0.000	100.0#	0#	-32.95#
52	TRH6	0.018	0.000	100.0#	0#	-44.27#
53	GRO	0.018	0.000	100.0#	0#	-5.20#
54	DRO	0.018	0.000	100.0#	0#	-14.13#
55	RRO	0.018	0.000	100.0#	0#	-32.59#

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

FID1C08BACK081213.M Wed Aug 14 10:41:09 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3076\FID10074\
Data File : FID10074J.D
Signal(s) : FID2B.CH
Acq On : 14-Aug-2013, 08:58:16
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 68 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 14 10:40:02 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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	12.749	337305	50.000	ug/mlm
16)	I 5a-androstane	17.910	422972	50.072	ug/mlm
	System Monitoring Compounds				
6)	S n-dodecane-d26	8.481	174690	26.096	ug/mlm
23)	S n-eicosane-d42	17.334	164536	25.689	ug/mlm
34)	S n-triacontane-d62	29.184	150401	23.618	ug/mlm
	Target Compounds				
2)	n-C8	3.354	171212	26.392	ug/mlm
3)	n-C9	4.662	179985	26.395	ug/mlm
4)	n-C10	6.073	190461	26.540	ug/mlm
5)	n-C11	7.427	190778	26.463	ug/mlm
7)	n-C12	8.687	194662	25.851	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	9.858	197014	26.038	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.952	201289	25.635	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.980	203737	25.410	ug/mlm
15)	n-C16	12.996	204379	25.081	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.080	208450	25.910	ug/mlm
19)	Pristane	14.195	207758	25.910	ug/mlm
20)	n-C18	15.239	208082	26.088	ug/mlm
21)	Phytane	15.399	210978	25.959	ug/mlm
22)	n-C19	16.463	207314	25.890	ug/mlm
24)	n-C20	17.729	208640	25.814	ug/mlm
25)	n-C21	19.019	208369	25.455	ug/mlm
26)	n-C22	20.313	209900	25.510	ug/mlm
27)	n-C23	21.594	207346	25.005	ug/mlm
28)	n-C24	22.853	205832	24.773	ug/mlm
29)	n-C25	24.082	206222	24.782	ug/mlm
30)	n-C26	25.279	205430	24.597	ug/mlm
31)	n-C27	26.441	198382	24.373	ug/mlm
32)	n-C28	27.566	199080	24.149	ug/mlm
33)	n-C29	28.660	197437	23.906	ug/mlm
35)	n-C30	29.719	192804	23.682	ug/mlm
36)	n-C31	30.743	195548	24.524	ug/mlm
37)	n-C32	31.739	184961	23.573	ug/mlm
38)	n-C33	32.706	181527	23.940	ug/mlm
39)	n-C34	33.642	182765	23.966	ug/mlm
40)	n-C35	34.605	178277	24.201	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3076\FID10074\
Data File : FID10074J.D
Signal(s) : FID2B.CH
Acq On : 14-Aug-2013, 08:58:16
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 68 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 14 10:40:02 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.691	186042	23.566	ug/mlm
42)	n-C37	36.951	169149	23.782	ug/mlm
43)	n-C38	38.410	165263	23.668	ug/mlm
44)	n-C39	40.121	156397	23.298	ug/mlm
45)	n-C40	42.141	138861	22.755	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

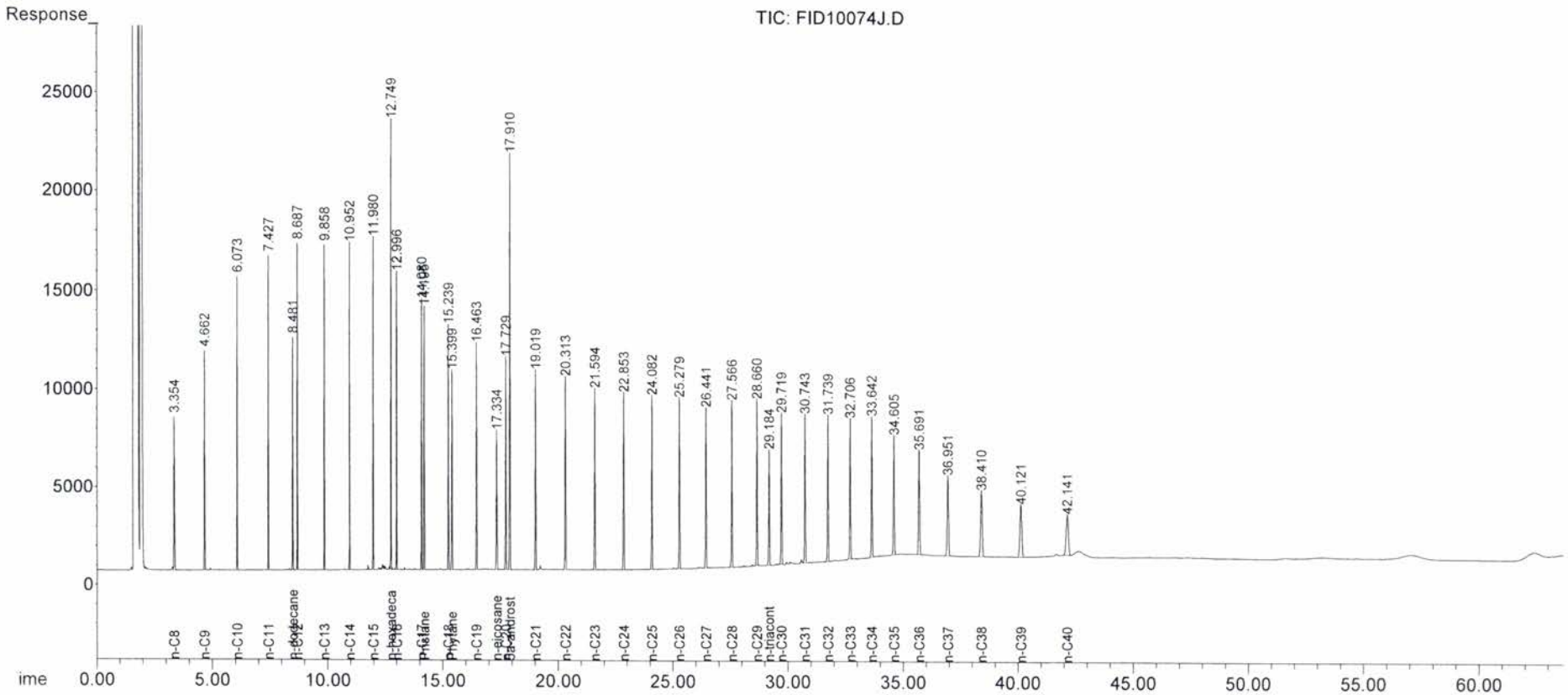
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3076\FID10074\
Data File : FID10074J.D
Signal(s) : FID2B.CH
Acq On : 14-Aug-2013, 08:58:16
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 68 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 14 10:40:02 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**FID10074C.D**		FID10074C.D
Sample Name	**AL-WKSRM2779-20-01**		AL-WKSRM2779-20-01
Misc Info	**0**		13-Aug-2013, 14:14:25
Data File Path	**C:\msdchem\2\data\FID10074**		ALIBACK.M
Operator	**Meghan Dailey**		
Date Acquired	**13-Aug-2013, 14:14:25**		0.05
Instrument Name	**HP5890**		
Acq. Method File	**ALIBACK.M**	Vial #	53
Vial Number	**53**	IS Area 1	377398
Sample Multiplier	**0.05**	IS Area 2	501190

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.36	2462120	16.96	16.961
3)	n-C9	4.67	2128330	13.95	13.948
4)	n-C10	6.09	1954920	12.17	12.173
5)	n-C11	7.44	1806070	11.20	11.195
7)	n-C12	8.70	1691110	10.04	10.036
8)	i-13	8.88	412370	2.44	2.436
9)	i-14	9.58	266177	1.51	1.515
10)	n-C13	9.88	1515870	8.95	8.953
11)	i-15	10.74	357667	1.99	1.993
12)	n-C14	10.97	1330480	7.57	7.572
13)	i-16	11.63	555822	3.05	3.048
14)	n-C15	12.00	1320550	7.36	7.360
15)	n-C16	13.02	1087250	5.96	5.963
17)	i-18	13.56	282871	1.50	1.496
18)	n-C17	14.10	886371	4.65	4.649
19)	Pristane	14.21	460042	2.42	2.421
20)	n-C18	15.26	796316	4.21	4.213
21)	Phytane	15.41	287869	1.49	1.495
22)	n-C19	16.49	656331	3.46	3.459
24)	n-C20	17.75	545332	2.85	2.847
25)	n-C21	19.04	487837	2.51	2.515
26)	n-C22	20.33	422192	2.17	2.165
27)	n-C23	21.61	374228	1.90	1.904
28)	n-C24	22.87	332741	1.69	1.690
29)	n-C25	24.10	262502	1.33	1.331
30)	n-C26	25.30	231792	1.17	1.171
31)	n-C27	26.46	179133	0.93	0.929
32)	n-C28	27.58	151810	0.78	0.777
33)	n-C29	28.67	145424	0.74	0.743
35)	n-C30	29.73	128670	0.67	0.667
36)	n-C31	30.76	104312	0.55	0.552
37)	n-C32	31.75	82967.6	0.45	0.446
38)	n-C33	32.72	90305.2	0.50	0.503
39)	n-C34	33.65	74097	0.41	0.410
40)	n-C35	34.62	59390.5	0.34	0.340
41)	n-C36	35.71	38848.3	0.21	0.208
42)	n-C37	36.97	34895.4	0.21	0.207
43)	n-C38	38.43	28550.6	0.17	0.173
44)	n-C39	40.15	25151.7	0.16	0.158
45)	n-C40	42.16	23680.9	0.16	0.164
46)	TPH	6.09	118724000	655.39	655.385
47)	TRH1	6.09	25011500	138.07	138.070
48)	TRH2	12.00	15716200	86.76	86.757
49)	TRH3	21.61	2298770	12.69	12.690
50)	TRH4	26.46	1792940	9.90	9.897
51)	TRH5	31.75	1528050	8.44	8.435
52)	TRH6	36.97	132018	0.73	0.729
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	8.48	148513	0.99	99.1
23)	n-eicosane-d42	17.34	149806	0.99	98.1
34)	n-triacontane-d62	29.20	148470	0.98	98.3
1)	n-hexadecane-d34	12.76	377398	2.50	377398.000
16)	5a-androstane	17.93	501190	2.50	501190.000

Data Path : C:\msdchem\2\data\FID10074\
Data File : FID10074C.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 14:14:25
Operator : Meghan Dailey
Sample : AL-WKSRM2779-20-01
Misc :
ALS Vial : 53 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Aug 14 11:03:22 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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	12.758	377398	50.000 ug/mlm
16) I	5a-androstane	17.931	501190	50.072 ug/mlm
	System Monitoring Compounds			
6) S	n-dodecane-d26	8.484	148513	19.829 ug/mlm
23) S	n-eicosane-d42	17.344	149806	19.739 ug/mlm
34) S	n-triacontane-d62	29.199	148470	19.676 ug/mlm
	Target Compounds			
2)	n-C8	3.355	2462121	16.961 ug/mlm
3)	n-C9	4.674	2128335	13.948 ug/mlm
4)	n-C10	6.089	1954924	12.173 ug/mlm
5)	n-C11	7.444	1806073	11.195 ug/mlm
7)	n-C12	8.705	1691108	10.036 ug/mlm
8)	i-13	8.883	412370	2.436 ug/mlm
9)	i-14	9.585	266177	1.515 ug/mlm
10)	n-C13	9.877	1515868	8.953 ug/mlm
11)	i-15	10.738	357667	1.993 ug/mlm
12)	n-C14	10.971	1330477	7.572 ug/mlm
13)	i-16	11.634	555822	3.048 ug/mlm
14)	n-C15	11.999	1320551	7.360 ug/mlm
15)	n-C16	13.016	1087255	5.963 ug/mlm
17)	i-18	13.562	282871	1.496 ug/mlm
18)	n-C17	14.102	886371	4.649 ug/mlm
19)	Pristane	14.206	460042	2.421 ug/mlm
20)	n-C18	15.262	796316	4.213 ug/mlm
21)	Phytane	15.414	287869	1.495 ug/mlm
22)	n-C19	16.486	656331	3.459 ug/mlm
24)	n-C20	17.753	545332	2.847 ug/mlm
25)	n-C21	19.041	487837	2.515 ug/mlm
26)	n-C22	20.335	422192	2.165 ug/mlm
27)	n-C23	21.615	374228	1.904 ug/mlm
28)	n-C24	22.871	332741	1.690 ug/mlm
29)	n-C25	24.101	262502	1.331 ug/mlm
30)	n-C26	25.297	231792	1.171 ug/mlm
31)	n-C27	26.455	179133	0.929 ug/mlm
32)	n-C28	27.581	151810	0.777 ug/mlm
33)	n-C29	28.671	145424	0.743 ug/mlm
35)	n-C30	29.735	128670	0.667 ug/mlm
36)	n-C31	30.756	104312	0.552 ug/mlm
37)	n-C32	31.751	82968	0.446 ug/mlm
38)	n-C33	32.718	90305	0.503 ug/mlm
39)	n-C34	33.653	74097	0.410 ug/mlm
40)	n-C35	34.619	59390	0.340 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : FID10074C.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 14:14:25
Operator : Meghan Dailey
Sample : AL-WKSRM2779-20-01
Misc :
ALS Vial : 53 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Aug 14 11:03:22 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.714	38848	0.208	ug/mlm
42)	n-C37	36.972	34895	0.207	ug/mlm
43)	n-C38	38.428	28551	0.173	ug/mlm
44)	n-C39	40.148	25152	0.158	ug/mlm
45)	n-C40	42.161	23681	0.164	ug/mlm
46)	TPH	6.089f	118723725	655.383	ug/mlm
47)	TRH1	6.089	25011527	138.069	ug/mlm
48)	TRH2	11.999f	15716216	86.757	ug/mlm
49)	TRH3	21.615f	2298766	12.690	ug/mlm
50)	TRH4	26.455f	1792942	9.897	ug/mlm
51)	TRH5	31.751f	1528045	8.435	ug/mlm
52)	TRH6	36.972f	132018	0.729	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

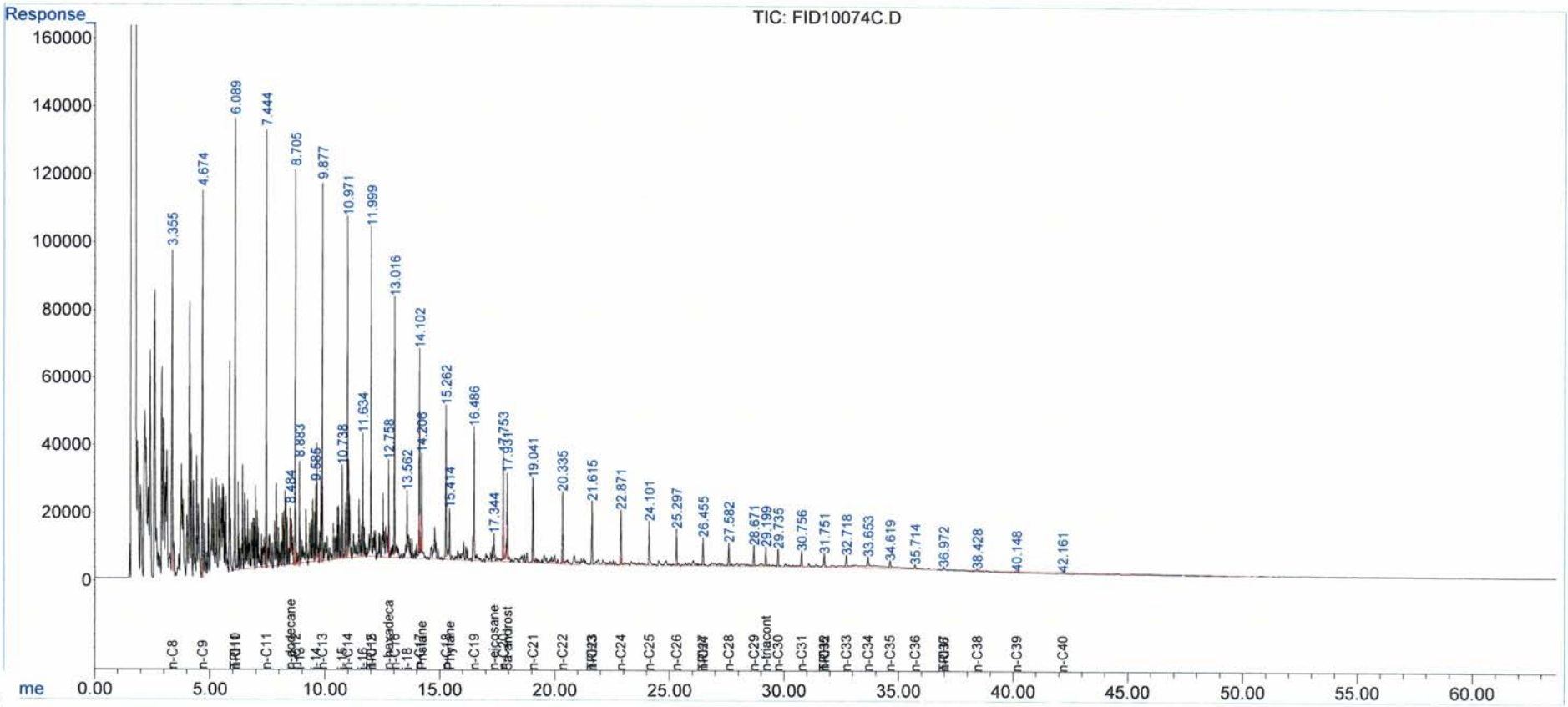
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : FID10074C.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 14:14:25
Operator : Meghan Dailey
Sample : AL-WKSRM2779-20-01
Misc :
ALS Vial : 53 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Aug 14 11:03:22 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**FID10074F.D**		FID10074F.D
Sample Name	**AL-WKPem-001**		AL-WKPem-001
Misc Info	**0**		13-Aug-2013, 17:45:14
Data File Path	**C:\msdchem\2\data\FID10074**		ALIBACK.M
Operator	**Meghan Dailey**		
Date Acquired	**13-Aug-2013, 17:45:14**		1
Instrument Name	**HP5890**		
Acq. Method File	**ALIBACK.M**	Vial #	55
Vial Number	**55**	IS Area 1	362561
Sample Multiplier	**1**	IS Area 2	453185

#	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	12.75	12107000	1478.26	1478.260
47)	TRH1	8.48	168483	20.57	20.572
48)	TRH2	12.75	1045640	127.67	127.672
49)	TRH3	25.92	10590.1	1.29	1.293
50)	TRH4	29.18	165071	20.16	20.155
51)	TRH5	35.82	172995	21.12	21.123
52)	TRH6	42.36	90007.9	10.99	10.990
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	8.48	148559	20.65	103.2
23)	n-eicosane-d42	17.34	140712	20.50	101.9
34)	n-triacontane-d62	29.18	135213	19.82	99.0
1)	n-hexadecane-d34	12.75	362561	50.00	362561.000
16)	5a-androstane	17.91	453185	50.07	453185.000

Data Path : C:\msdchem\2\data\FID10074\
Data File : FID10074F.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 17:45:14
Operator : Meghan Dailey
Sample : AL-WKPem-001
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 14 09:50:06 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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	12.750	362561	50.000	ug/mlm
16) I	5a-androstane	17.912	453185	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.481	148559	20.647	ug/mlm
23) S	n-eicosane-d42	17.336	140712	20.505	ug/mlm
34) S	n-triacontane-d62	29.181	135213	19.817	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/ml
3)	n-C9	0.000	0	N.D.	ug/mld
4)	n-C10	0.000	0	N.D.	ug/mld
5)	n-C11	0.000	0	N.D.	ug/mld
7)	n-C12	0.000	0	N.D.	ug/mld
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	0.000	0	N.D.	ug/mld
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	0.000	0	N.D.	ug/mld
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	0.000	0	N.D.	ug/mld
15)	n-C16	0.000	0	N.D.	ug/mld
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	0.000	0	N.D.	ug/mld
19)	Pristane	0.000	0	N.D.	ug/mld
20)	n-C18	0.000	0	N.D.	ug/mld
21)	Phytane	0.000	0	N.D.	ug/mld
22)	n-C19	0.000	0	N.D.	ug/mld
24)	n-C20	0.000	0	N.D.	ug/mld
25)	n-C21	0.000	0	N.D.	ug/mld
26)	n-C22	0.000	0	N.D.	ug/mld
27)	n-C23	0.000	0	N.D.	ug/mld
28)	n-C24	0.000	0	N.D.	ug/mld
29)	n-C25	0.000	0	N.D.	ug/mld
30)	n-C26	0.000	0	N.D.	ug/mld
31)	n-C27	0.000	0	N.D.	ug/mld
32)	n-C28	0.000	0	N.D.	ug/mld
33)	n-C29	0.000	0	N.D.	ug/mld
35)	n-C30	0.000	0	N.D.	ug/mld
36)	n-C31	0.000	0	N.D.	ug/mld
37)	n-C32	0.000	0	N.D.	ug/mld
38)	n-C33	0.000	0	N.D.	ug/mld
39)	n-C34	0.000	0	N.D.	ug/mld
40)	n-C35	0.000	0	N.D.	ug/mld

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : FID10074F.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 17:45:14
Operator : Meghan Dailey
Sample : AL-WKPem-001
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 14 09:50:06 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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	12.750f	12106968	1478.256	ug/mlm
47)	TRH1	8.481	168483	20.572	ug/mlm
48)	TRH2	12.750f	1045639	127.672	ug/mlm
49)	TRH3	25.923f	10590	1.293	ug/mlm
50)	TRH4	29.181f	165071	20.155	ug/mlm
51)	TRH5	35.820f	172995	21.123	ug/mlm
52)	TRH6	42.360	90008	10.990	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

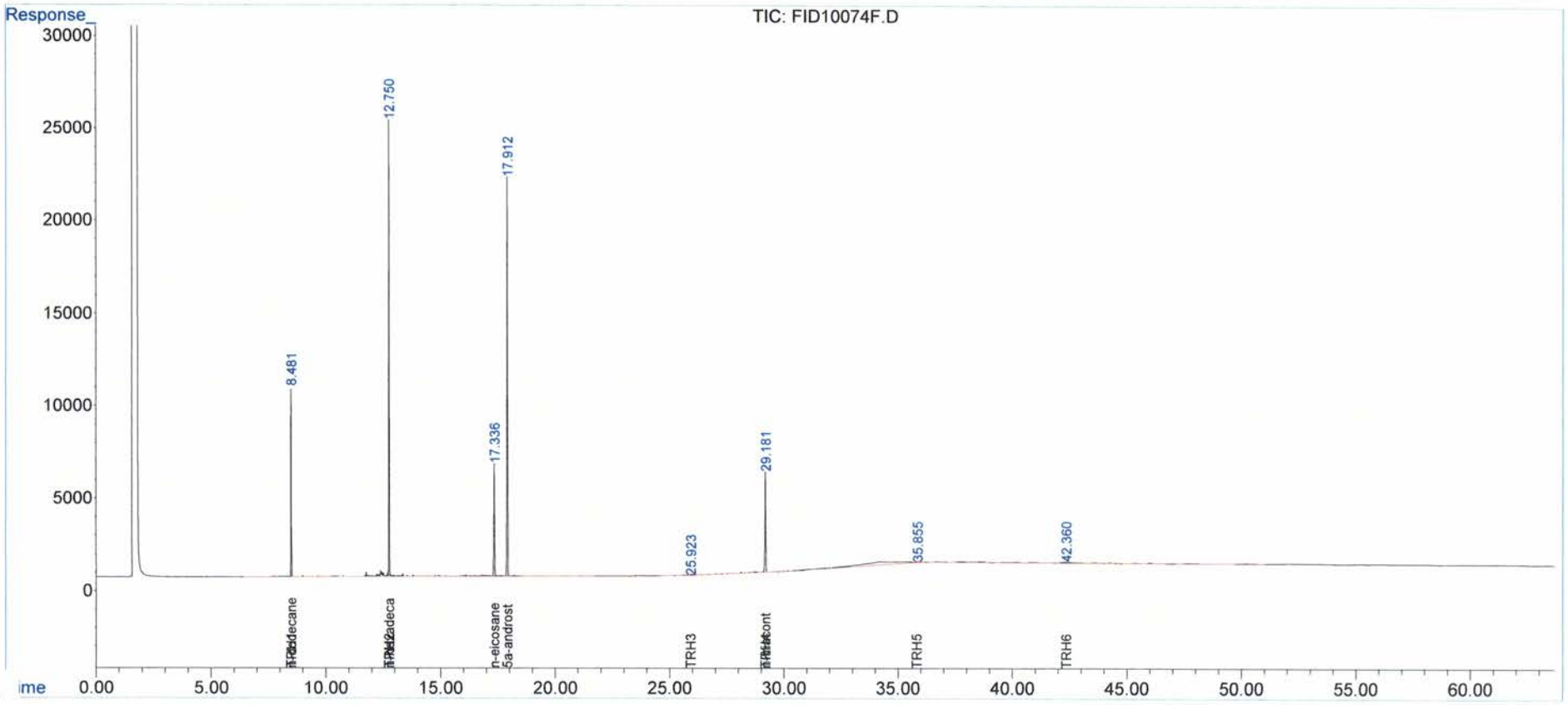
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : FID10074F.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 17:45:14
Operator : Meghan Dailey
Sample : AL-WKPem-001
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 14 09:50:06 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ENV3076A.D**		ENV3076A.D
Sample Name	**Procedural Blank**		Procedural Blank
Misc Info	**0**		13-Aug-2013, 18:55:24
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3076\FID10074**		ALIBACK.M
Operator	**Meghan Dailey**		
Date Acquired	**13-Aug-2013, 18:55:24**		0.0666667
Instrument Name	**HP5890**		
Acq. Method File	**ALIBACK.M**	Vial #	56
Vial Number	**56**	IS Area 1	338521
Sample Multiplier	**0.0666667**	IS Area 2	441772

#	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	12.75	11149400	93.10	93.101
47)	TRH1	8.48	145039	1.21	1.211
48)	TRH2	12.75	946743	7.91	7.906
49)	TRH3	22.94	7400.3	0.06	0.062
50)	TRH4	29.18	126630	1.06	1.057
51)	TRH5	35.87	151375	1.26	1.264
52)	TRH6	37.69	126449	1.06	1.056
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	8.48	122716	1.22	91.3
23)	n-eicosane-d42	17.33	124346	1.24	92.3
34)	n-triacontane-d62	29.18	116165	1.16	87.2
1)	n-hexadecane-d34	12.75	338521	3.33	338521.000
16)	5a-androstane	17.91	441772	3.34	441772.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ENV3076A.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 18:55:24
Operator : Meghan Dailey
Sample : Procedural Blank
Misc :
ALS Vial : 56 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Aug 14 09:56:13 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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	12.750	338521	50.000	ug/mlm
16) I	5a-androstane	17.912	441772	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.481	122716	18.266	ug/mlm
23) S	n-eicosane-d42	17.334	124346	18.588	ug/mlm
34) S	n-triacontane-d62	29.182	116165	17.465	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/mld
3)	n-C9	0.000	0	N.D.	ug/mld
4)	n-C10	0.000	0	N.D.	ug/mld
5)	n-C11	0.000	0	N.D.	ug/mld
7)	n-C12	0.000	0	N.D.	ug/mld
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	0.000	0	N.D.	ug/mld
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	0.000	0	N.D.	ug/mld
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	0.000	0	N.D.	ug/mld
15)	n-C16	0.000	0	N.D.	ug/mld
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	0.000	0	N.D.	ug/mld
19)	Pristane	0.000	0	N.D.	ug/mld
20)	n-C18	0.000	0	N.D.	ug/mld
21)	Phytane	0.000	0	N.D.	ug/mld
22)	n-C19	0.000	0	N.D.	ug/mld
24)	n-C20	0.000	0	N.D.	ug/mld
25)	n-C21	0.000	0	N.D.	ug/mld
26)	n-C22	0.000	0	N.D.	ug/mld
27)	n-C23	0.000	0	N.D.	ug/mld
28)	n-C24	0.000	0	N.D.	ug/mld
29)	n-C25	0.000	0	N.D.	ug/mld
30)	n-C26	0.000	0	N.D.	ug/mld
31)	n-C27	0.000	0	N.D.	ug/mld
32)	n-C28	0.000	0	N.D.	ug/mld
33)	n-C29	0.000	0	N.D.	ug/mld
35)	n-C30	0.000	0	N.D.	ug/mld
36)	n-C31	0.000	0	N.D.	ug/mld
37)	n-C32	0.000	0	N.D.	ug/mld
38)	n-C33	0.000	0	N.D.	ug/mld
39)	n-C34	0.000	0	N.D.	ug/mld
40)	n-C35	0.000	0	N.D.	ug/mld

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ENV3076A.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 18:55:24
Operator : Meghan Dailey
Sample : Procedural Blank
Misc :
ALS Vial : 56 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Aug 14 09:56:13 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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	12.750f	11149402	93.101	ug/mlm
47)	TRH1	8.481	145039	1.211	ug/mlm
48)	TRH2	12.750f	946743	7.906	ug/mlm
49)	TRH3	22.936	7400	0.062	ug/mlm
50)	TRH4	29.182f	126630	1.057	ug/mlm
51)	TRH5	35.870f	151375	1.264	ug/mlm
52)	TRH6	37.693f	126449	1.056	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

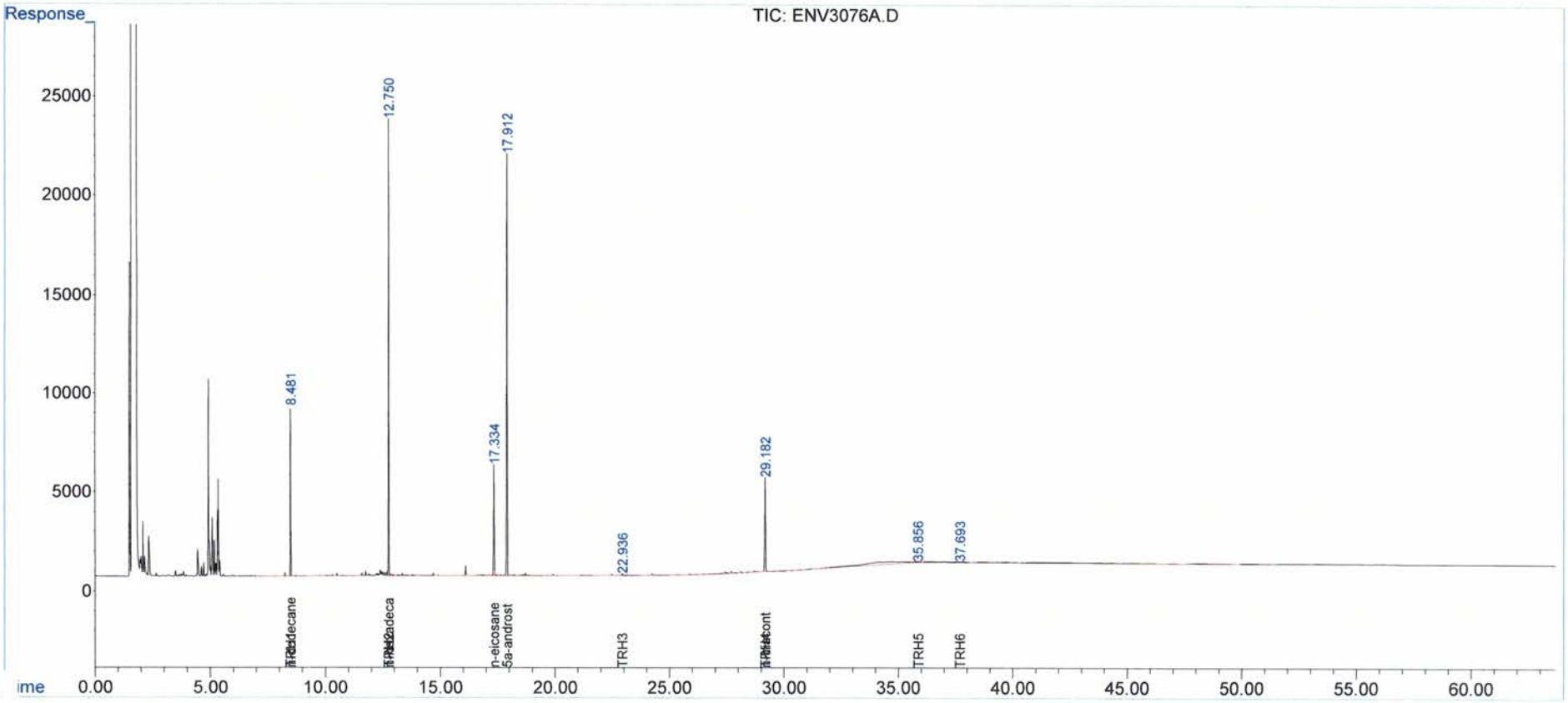
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ENV3076A.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 18:55:24
Operator : Meghan Dailey
Sample : Procedural Blank
Misc :
ALS Vial : 56 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Aug 14 09:56:13 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ENV3076C.D**		ENV3076C.D
Sample Name	**MS (SED-DA-028 (0-0.5))**		MS (SED-DA-028 (0-0.5))
Misc Info	**0**		13-Aug-2013, 20:05:36
Data File Path	**C:\msdchem\2\data\FID10074**		ALIBACK.M
Operator	**Meghan Dailey**		
Date Acquired	**13-Aug-2013, 20:05:36**		0.132802
Instrument Name	**HP5890**		
Acq. Method File	**ALIBACK.M**	Vial #	57
Vial Number	**57**	IS Area 1	341391
Sample Multiplier	**0.132802**	IS Area 2	433601

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.35	14431.3	0.29	0.292
3)	n-C9	4.66	26494.2	0.51	0.510
4)	n-C10	6.07	32562.7	0.60	0.595
5)	n-C11	7.43	36895.7	0.67	0.672
7)	n-C12	8.69	40172	0.70	0.700
8)	i-13	0.00	0	0.00	0.000
9)	i-14	0.00	0	0.00	0.000
10)	n-C13	9.86	41409.4	0.72	0.718
11)	i-15	0.00	0	0.00	0.000
12)	n-C14	10.95	44700.6	0.75	0.747
13)	i-16	0.00	0	0.00	0.000
14)	n-C15	11.98	61370.5	1.00	1.004
15)	n-C16	12.99	45825.2	0.74	0.738
17)	i-18	0.00	0	0.00	0.000
18)	n-C17	14.08	91331.2	1.47	1.471
19)	Pristane	14.19	62762.1	1.01	1.014
20)	n-C18	15.23	118015	1.92	1.917
21)	Phytane	15.40	86053.3	1.37	1.372
22)	n-C19	16.47	96401.9	1.56	1.560
24)	n-C20	17.73	59388.1	0.95	0.952
25)	n-C21	19.03	320340	5.07	5.070
26)	n-C22	20.31	55673.5	0.88	0.877
27)	n-C23	21.60	248933	3.89	3.889
28)	n-C24	22.85	63490.7	0.99	0.990
29)	n-C25	24.09	197709	3.08	3.078
30)	n-C26	25.28	59147.8	0.92	0.917
31)	n-C27	26.45	262999	4.19	4.186
32)	n-C28	27.58	117611	1.85	1.848
33)	n-C29	28.68	536660	8.42	8.418
35)	n-C30	29.74	114556	1.82	1.823
36)	n-C31	30.79	922693	14.99	14.991
37)	n-C32	31.79	140490	2.32	2.320
38)	n-C33	32.69	1118550	19.11	19.110
39)	n-C34	33.65	128261	2.18	2.179
40)	n-C35	34.57	796500	14.01	14.007
41)	n-C36	35.69	70920.2	1.16	1.164
42)	n-C37	36.95	142614	2.60	2.598
43)	n-C38	38.42	55712.7	1.03	1.034
44)	n-C39	40.14	71371.7	1.38	1.377
45)	n-C40	42.15	31584.6	0.67	0.671
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	8.48	136989	2.69	101.1
23)	n-eicosane-d42	17.34	123401	2.50	93.4
34)	n-triacontane-d62	29.19	97317.2	1.98	74.5
1)	n-hexadecane-d34	12.75	341391	6.64	341391.000
16)	5a-androstane	17.91	433601	6.65	433601.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ENV3076C.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 20:05:36
Operator : Meghan Dailey
Sample : MS (SED-DA-028 (0-0.5))
Misc :
ALS Vial : 57 Sample Multiplier: 0.132802

Integration File: autoint1.e
Quant Time: Aug 15 15:36:15 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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	12.750	341391	50.000 ug/mlm
16) I	5a-androstane	17.915	433601	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.481	136989	20.219 ug/mlm
23) S	n-eicosane-d42	17.338	123401	18.794 ug/mlm
34) S	n-triacontane-d62	29.195	97317	14.907 ug/mlm
Target Compounds				
2)	n-C8	3.350	14431	0.292 ug/mlm
3)	n-C9	4.663	26494	0.510 ug/mlm
4)	n-C10	6.073	32563	0.595 ug/mlm
5)	n-C11	7.426	36896	0.672 ug/mlm
7)	n-C12	8.685	40172	0.700 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	9.856	41409	0.718 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	10.950	44701	0.747 ug/mlm
13)	i-16	0.000	0	N.D. ug/mld
14)	n-C15	11.977	61371	1.004 ug/mlm
15)	n-C16	12.994	45825	0.738 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	14.079	91331	1.471 ug/mlm
19)	Pristane	14.193	62762	1.014 ug/mlm
20)	n-C18	15.231	118015	1.917 ug/mlm
21)	Phytane	15.402	86053	1.372 ug/mlm
22)	n-C19	16.466	96402	1.560 ug/mlm
24)	n-C20	17.731	59388	0.952 ug/mlm
25)	n-C21	19.026	320340	5.070 ug/mlm
26)	n-C22	20.312	55674	0.877 ug/mlm
27)	n-C23	21.600	248933	3.889 ug/mlm
28)	n-C24	22.853	63491	0.990 ug/mlm
29)	n-C25	24.088	197709	3.078 ug/mlm
30)	n-C26	25.279	59148	0.917 ug/mlm
31)	n-C27	26.451	262999	4.186 ug/mlm
32)	n-C28	27.577	117611	1.848 ug/mlm
33)	n-C29	28.679	536660	8.418 ug/mlm
35)	n-C30	29.736	114556	1.823 ug/mlm
36)	n-C31	30.790	922693	14.991 ug/mlm
37)	n-C32	31.787	140490	2.320 ug/mlm
38)	n-C33	32.691	1118546	19.110 ug/mlm
39)	n-C34	33.652	128261	2.179 ug/mlm
40)	n-C35	34.565	796500	14.007 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ENV3076C.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 20:05:36
Operator : Meghan Dailey
Sample : MS (SED-DA-028 (0-0.5))
Misc :
ALS Vial : 57 Sample Multiplier: 0.132802

Integration File: autoint1.e
Quant Time: Aug 15 15:36:15 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
41)	n-C36	35.694	70920	1.164 ug/mlm
42)	n-C37	36.951	142614	2.598 ug/mlm
43)	n-C38	38.422	55713	1.034 ug/mlm
44)	n-C39	40.138	71372	1.377 ug/mlm
45)	n-C40	42.148	31585	0.671 ug/mlm
46)	TPH	0.000	0	N.D. ug/mld
47)	TRH1	0.000	0	N.D. ug/mld
48)	TRH2	0.000	0	N.D. ug/mld
49)	TRH3	0.000	0	N.D. ug/mld
50)	TRH4	0.000	0	N.D. ug/mld
51)	TRH5	0.000	0	N.D. ug/mld
52)	TRH6	0.000	0	N.D. ug/mld
53)	GRO	0.000	0	N.D. ug/mld
54)	DRO	0.000	0	N.D. ug/mld
55)	RRO	0.000	0	N.D. ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

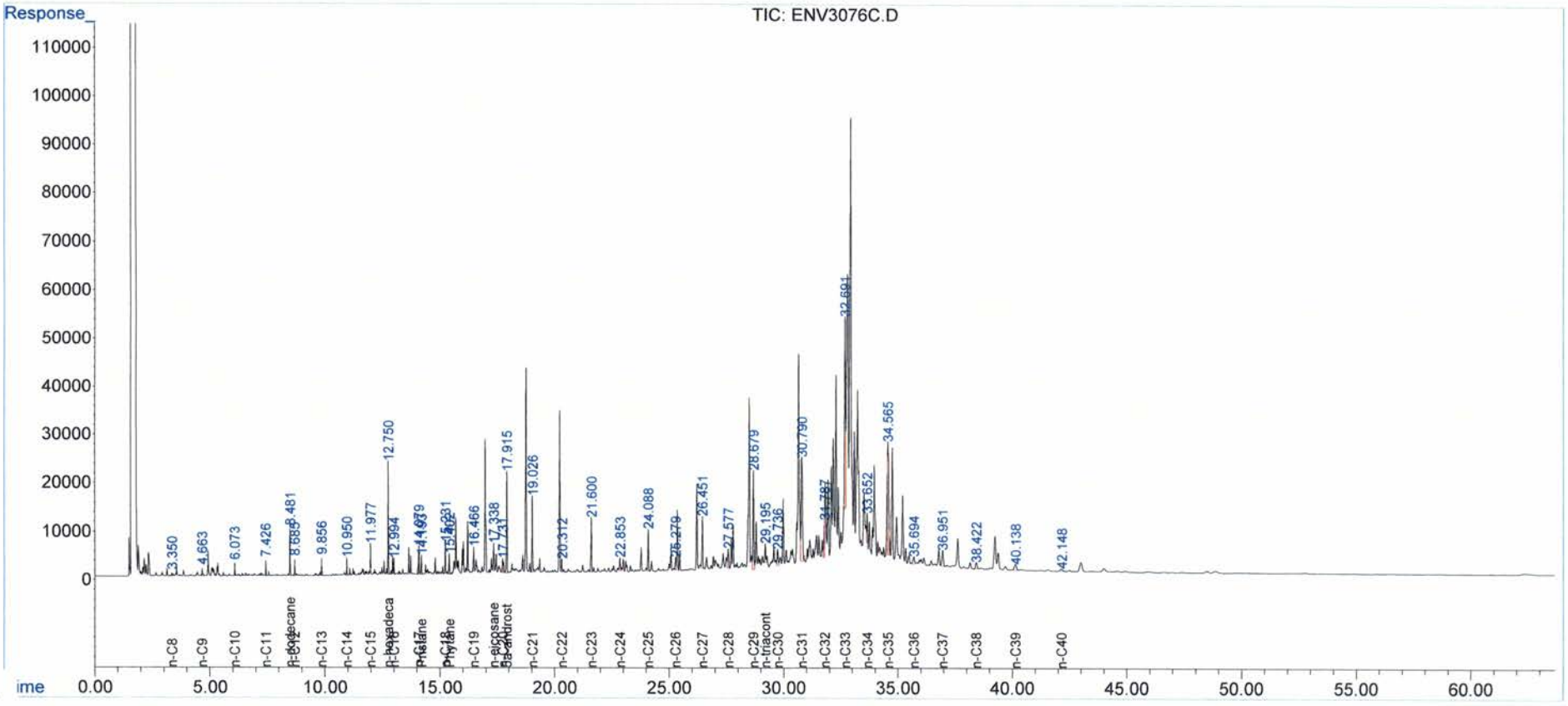
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ENV3076C.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 20:05:36
Operator : Meghan Dailey
Sample : MS (SED-DA-028 (0-0.5))
Misc :
ALS Vial : 57 Sample Multiplier: 0.132802

Integration File: autoint1.e
Quant Time: Aug 15 15:36:15 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ENV3076D.D**		ENV3076D.D
Sample Name	**MSD (SED-DA-028 (0-0.5))**		MSD (SED-DA-028 (0-0.5)
Misc Info	**0**		13-Aug-2013, 21:16:08
Data File Path	**C:\msdchem\2\data\FID10074**		ALIBACK.M
Operator	**Meghan Dailey**		
Date Acquired	**13-Aug-2013, 21:16:08**		0.132979
Instrument Name	**HP5890**		
Acq. Method File	**ALIBACK.M**	Vial #	58
Vial Number	**58**	IS Area 1	245738
Sample Multiplier	**0.132979**	IS Area 2	305884

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.36	8822.49	0.25	0.248
3)	n-C9	4.67	19380.3	0.52	0.519
4)	n-C10	6.07	23709.1	0.60	0.603
5)	n-C11	7.43	26964.6	0.68	0.683
7)	n-C12	8.69	28603.7	0.69	0.693
8)	i-13	0.00	0	0.00	0.000
9)	i-14	0.00	0	0.00	0.000
10)	n-C13	9.86	29173.6	0.70	0.704
11)	i-15	0.00	0	0.00	0.000
12)	n-C14	10.95	32618.2	0.76	0.758
13)	i-16	0.00	0	0.00	0.000
14)	n-C15	11.98	48639.3	1.11	1.107
15)	n-C16	12.99	33418.3	0.75	0.749
17)	i-18	0.00	0	0.00	0.000
18)	n-C17	14.08	64768.1	1.48	1.480
19)	Pristane	14.19	43901.2	1.01	1.007
20)	n-C18	15.23	86172.8	1.99	1.987
21)	Phytane	15.40	62913.1	1.42	1.423
22)	n-C19	16.46	71578.2	1.64	1.644
24)	n-C20	17.73	37355.6	0.85	0.850
25)	n-C21	19.02	221716	4.98	4.980
26)	n-C22	20.31	39348.7	0.88	0.879
27)	n-C23	21.60	172976	3.84	3.836
28)	n-C24	22.85	45812.6	1.01	1.014
29)	n-C25	24.09	137846	3.05	3.046
30)	n-C26	25.28	43055	0.95	0.948
31)	n-C27	26.45	190048	4.29	4.293
32)	n-C28	27.57	83843.8	1.87	1.870
33)	n-C29	28.67	366796	8.17	8.166
35)	n-C30	29.73	78837.3	1.78	1.781
36)	n-C31	30.79	615720	14.20	14.199
37)	n-C32	31.78	88705.9	2.08	2.079
38)	n-C33	32.67	731450	17.74	17.738
39)	n-C34	33.63	94662.1	2.28	2.283
40)	n-C35	34.57	539885	13.48	13.477
41)	n-C36	35.70	47426.2	1.10	1.105
42)	n-C37	36.94	95175.9	2.46	2.461
43)	n-C38	38.42	37344.2	0.98	0.983
44)	n-C39	40.13	52929.2	1.45	1.450
45)	n-C40	42.13	21068.1	0.63	0.635
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	8.48	98355.1	2.68	100.8
23)	n-eicosane-d42	17.34	84707.8	2.43	90.8
34)	n-triacontane-d62	29.19	75141.1	2.17	81.5
1)	n-hexadecane-d34	12.75	245738	6.65	245738.000
16)	5a-androstane	17.91	305884	6.66	305884.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ENV3076D.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 21:16:08
Operator : Meghan Dailey
Sample : MSD (SED-DA-028 (0-0.5))
Misc :
ALS Vial : 58 Sample Multiplier: 0.132979

Integration File: autoint1.e
Quant Time: Aug 15 15:35:23 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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	12.748	245738	50.000 ug/mlm
16) I	5a-androstane	17.910	305884	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.480	98355	20.168 ug/mlm
23) S	n-eicosane-d42	17.335	84708	18.288 ug/mlm
34) S	n-triacontane-d62	29.192	75141	16.316 ug/mlm
Target Compounds				
2)	n-C8	3.359	8822	0.248 ug/mlm
3)	n-C9	4.666	19380	0.519 ug/mlm
4)	n-C10	6.074	23709	0.603 ug/mlm
5)	n-C11	7.426	26965	0.683 ug/mlm
7)	n-C12	8.686	28604	0.693 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	9.857	29174	0.704 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	10.950	32618	0.758 ug/mlm
13)	i-16	0.000	0	N.D. ug/mld
14)	n-C15	11.977	48639	1.107 ug/mlm
15)	n-C16	12.994	33418	0.749 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	14.078	64768	1.480 ug/mlm
19)	Pristane	14.193	43901	1.007 ug/mlm
20)	n-C18	15.230	86173	1.987 ug/mlm
21)	Phytane	15.401	62913	1.423 ug/mlm
22)	n-C19	16.463	71578	1.644 ug/mlm
24)	n-C20	17.726	37356	0.850 ug/mlm
25)	n-C21	19.020	221716	4.980 ug/mlm
26)	n-C22	20.312	39349	0.879 ug/mlm
27)	n-C23	21.597	172976	3.836 ug/mlm
28)	n-C24	22.852	45813	1.014 ug/mlm
29)	n-C25	24.086	137846	3.046 ug/mlm
30)	n-C26	25.278	43055	0.948 ug/mlm
31)	n-C27	26.445	190048	4.293 ug/mlm
32)	n-C28	27.571	83844	1.870 ug/mlm
33)	n-C29	28.674	366796	8.166 ug/mlm
35)	n-C30	29.730	78837	1.781 ug/mlm
36)	n-C31	30.788	615720	14.199 ug/mlm
37)	n-C32	31.777	88706	2.079 ug/mlm
38)	n-C33	32.668	731450	17.738 ug/mlm
39)	n-C34	33.635	94662	2.283 ug/mlm
40)	n-C35	34.573	539885	13.477 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ENV3076D.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 21:16:08
Operator : Meghan Dailey
Sample : MSD (SED-DA-028 (0-0.5))
Misc :
ALS Vial : 58 Sample Multiplier: 0.132979

Integration File: autoint1.e
Quant Time: Aug 15 15:35:23 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.697	47426	1.105	ug/mlm
42)	n-C37	36.942	95176	2.461	ug/mlm
43)	n-C38	38.418	37344	0.983	ug/mlm
44)	n-C39	40.129	52929	1.450	ug/mlm
45)	n-C40	42.134	21068	0.635	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

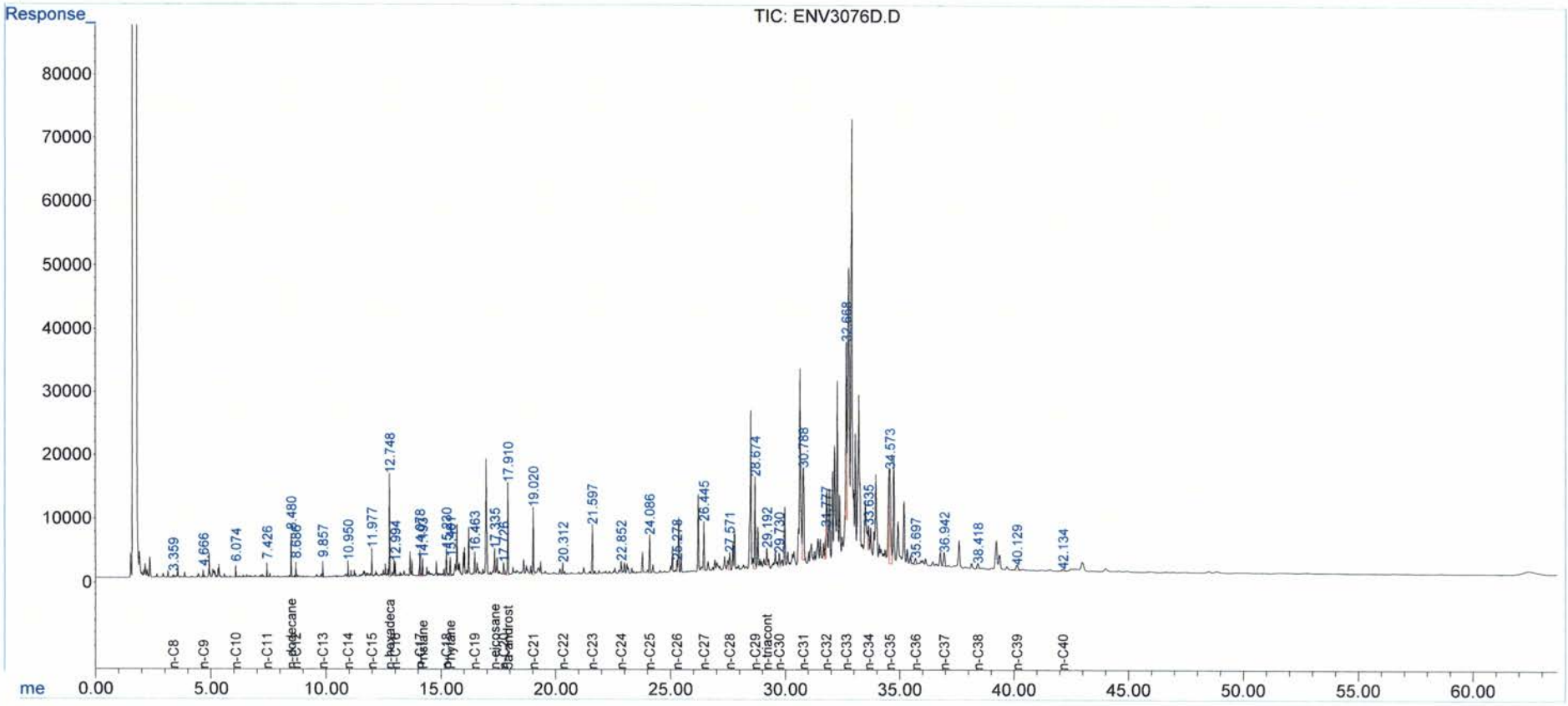
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ENV3076D.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 21:16:08
Operator : Meghan Dailey
Sample : MSD (SED-DA-028 (0-0.5))
Misc :
ALS Vial : 58 Sample Multiplier: 0.132979

Integration File: autoint1.e
Quant Time: Aug 15 15:35:23 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ENV3076E.D**		ENV3076E.D
Sample Name	**Duplicate (ARC1560)**		Duplicate (ARC1560)
Misc Info	**0**		13-Aug-2013, 22:26:13
Data File Path	**C:\msdchem\2\data\FID10074**		ALIBACK.M
Operator	**Meghan Dailey**		
Date Acquired	**13-Aug-2013, 22:26:13**		0.0661813
Instrument Name	**HP5890**		
Acq. Method File	**ALIBACK.M**	Vial #	59
Vial Number	**59**	IS Area 1	293747
Sample Multiplier	**0.0661813**	IS Area 2	372382

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	0.00	0	0.00	0.000
3)	n-C9	0.00	0	0.00	0.000
4)	n-C10	6.08	451.877	0.00	0.005
5)	n-C11	7.43	680.729	0.01	0.007
7)	n-C12	8.69	1556.96	0.02	0.016
8)	i-13	8.90	588.154	0.01	0.006
9)	i-14	9.58	4181.44	0.04	0.040
10)	n-C13	9.86	1315.28	0.01	0.013
11)	i-15	10.73	621.018	0.01	0.006
12)	n-C14	10.95	2651.46	0.03	0.026
13)	i-16	11.62	737.528	0.01	0.007
14)	n-C15	11.98	8309.47	0.08	0.079
15)	n-C16	12.99	4418.58	0.04	0.041
17)	i-18	13.55	765.686	0.01	0.007
18)	n-C17	14.08	1480.91	0.01	0.014
19)	Pristane	14.17	1582.35	0.01	0.015
20)	n-C18	15.23	5546.59	0.05	0.052
21)	Phytane	15.40	1150.53	0.01	0.011
22)	n-C19	16.47	3154.91	0.03	0.030
24)	n-C20	17.73	749.365	0.01	0.007
25)	n-C21	19.02	1342.96	0.01	0.012
26)	n-C22	20.31	1070.4	0.01	0.010
27)	n-C23	21.59	3445.28	0.03	0.031
28)	n-C24	22.85	1400.98	0.01	0.013
29)	n-C25	24.07	4362.79	0.04	0.039
30)	n-C26	25.30	1138.23	0.01	0.010
31)	n-C27	26.43	4611.15	0.04	0.043
32)	n-C28	27.56	958.859	0.01	0.009
33)	n-C29	28.66	9932.34	0.09	0.090
35)	n-C30	29.72	1672.31	0.02	0.015
36)	n-C31	30.74	12079.4	0.11	0.114
37)	n-C32	31.78	3346.82	0.03	0.032
38)	n-C33	32.72	10294.7	0.10	0.102
39)	n-C34	33.57	1238.59	0.01	0.012
40)	n-C35	34.55	6020.54	0.06	0.061
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	12.75	16792300	165.14	165.138
47)	TRH1	8.48	231092	2.27	2.273
48)	TRH2	12.75	1271940	12.51	12.508
49)	TRH3	25.34	227448	2.24	2.237
50)	TRH4	29.18	474549	4.67	4.667
51)	TRH5	32.70	844579	8.31	8.306
52)	TRH6	42.65	158088	1.55	1.555
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	8.48	112540	1.28	96.5
23)	n-eicosane-d42	17.33	110438	1.30	97.3
34)	n-triacontane-d62	29.18	107512	1.27	95.8
1)	n-hexadecane-d34	12.75	293747	3.31	293747.000
16)	5a-androstane	17.91	372382	3.31	372382.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ENV3076E.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 22:26:13
Operator : Meghan Dailey
Sample : Duplicate (ARC1560)
Misc :
ALS Vial : 59 Sample Multiplier: 0.0661813

Integration File: autoint1.e
Quant Time: Aug 24 14:38:07 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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	12.750	293747	50.000 ug/mlm
16) I	5a-androstane	17.910	372382	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.481	112540	19.305 ug/mlm
23) S	n-eicosane-d42	17.334	110438	19.585 ug/mlm
34) S	n-triacontane-d62	29.183	107512	19.177 ug/mlm
Target Compounds				
2)	n-C8	0.000	0	N.D. ug/mld
3)	n-C9	0.000	0	N.D. ug/mld
4)	n-C10	6.076	452	0.005 ug/mlm
5)	n-C11	7.428	681	0.007 ug/mlm
7)	n-C12	8.685	1557	0.016 ug/mlm
8)	i-13	8.896	588	0.006 ug/mlm
9)	i-14	9.579	4181	0.040 ug/mlm
10)	n-C13	9.857	1315	0.013 ug/mlm
11)	i-15	10.733	621	0.006 ug/mlm
12)	n-C14	10.952	2651	0.026 ug/mlm
13)	i-16	11.621	738	0.007 ug/mlm
14)	n-C15	11.982	8309	0.079 ug/mlm
15)	n-C16	12.994	4419	0.041 ug/mlm
17)	i-18	13.548	766	0.007 ug/mlm
18)	n-C17	14.079	1481	0.014 ug/mlm
19)	Pristane	14.175	1582	0.015 ug/mlm
20)	n-C18	15.229	5547	0.052 ug/mlm
21)	Phytane	15.395	1151	0.011 ug/mlm
22)	n-C19	16.468	3155	0.030 ug/mlm
24)	n-C20	17.729	749	0.007 ug/mlm
25)	n-C21	19.016	1343	0.012 ug/mlm
26)	n-C22	20.313	1070	0.010 ug/mlm
27)	n-C23	21.591	3445	0.031 ug/mlm
28)	n-C24	22.847	1401	0.013 ug/mlm
29)	n-C25	24.074	4363	0.039 ug/mlm
30)	n-C26	25.297	1138	0.010 ug/mlm
31)	n-C27	26.434	4611	0.043 ug/mlm
32)	n-C28	27.556	959	0.009 ug/mlm
33)	n-C29	28.657	9932	0.090 ug/mlm
35)	n-C30	29.722	1672	0.015 ug/mlm
36)	n-C31	30.738	12079	0.114 ug/mlm
37)	n-C32	31.780	3347	0.032 ug/mlm
38)	n-C33	32.723	10295	0.102 ug/mlm
39)	n-C34	33.566f	1239	0.012 ug/mlm
40)	n-C35	34.547f	6021	0.061 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ENV3076E.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 22:26:13
Operator : Meghan Dailey
Sample : Duplicate (ARC1560)
Misc :
ALS Vial : 59 Sample Multiplier: 0.0661813

Integration File: autoint1.e
Quant Time: Aug 24 14:38:07 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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	12.750f	16792252	165.138	ug/mlm
47)	TRH1	8.481	231092	2.273	ug/mlm
48)	TRH2	12.750f	1271944	12.508	ug/mlm
49)	TRH3	25.343f	227448	2.237	ug/mlm
50)	TRH4	29.183f	474549	4.667	ug/mlm
51)	TRH5	32.700	844579	8.306	ug/mlm
52)	TRH6	42.654	158088	1.555	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

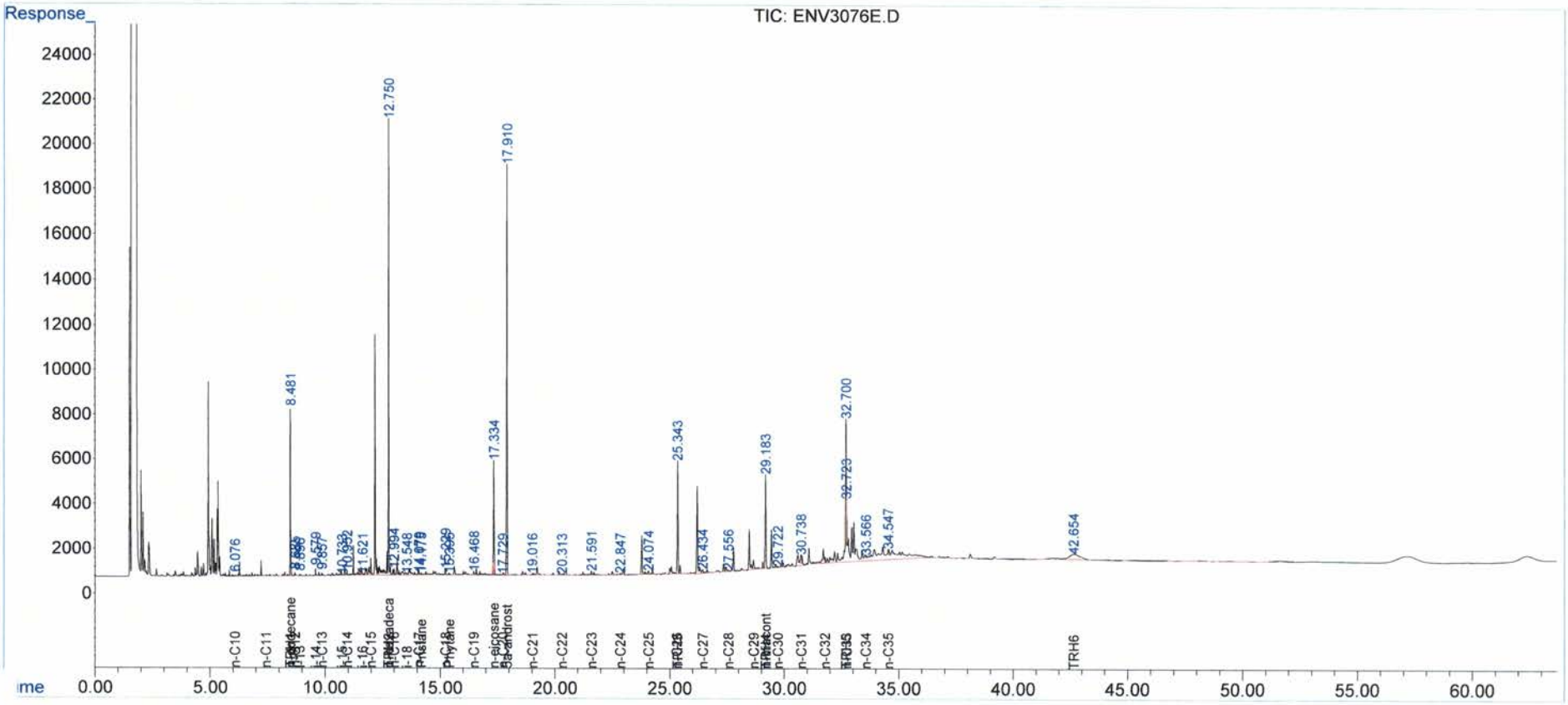
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ENV3076E.D
Signal(s) : FID2B.CH
Acq On : 13-Aug-2013, 22:26:13
Operator : Meghan Dailey
Sample : Duplicate (ARC1560)
Misc :
ALS Vial : 59 Sample Multiplier: 0.0661813

Integration File: autoint1.e
Quant Time: Aug 24 14:38:07 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC1558.D**		ARC1558.D
Sample Name	**SED-DA-032 (0-0.5)**		SED-DA-032 (0-0.5)
Misc Info	**0**		14-Aug-2013, 00:46:29
Data File Path	**C:\msdchem\2\data\FID10074**		ALIBACK.M
Operator	**Meghan Dailey**		
Date Acquired	**14-Aug-2013, 00:46:29**		0.0661813
Instrument Name	**HP5890**		
Acq. Method File	**ALIBACK.M**	Vial #	61
Vial Number	**61**	IS Area 1	303666
Sample Multiplier	**0.0661813**	IS Area 2	384249

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	0.00	0	0.00	0.000
3)	n-C9	0.00	0	0.00	0.000
4)	n-C10	6.07	1356.55	0.01	0.014
5)	n-C11	7.43	2051.21	0.02	0.021
7)	n-C12	8.69	2550.1	0.02	0.025
8)	i-13	8.89	1338.02	0.01	0.013
9)	i-14	9.58	10948.1	0.10	0.102
10)	n-C13	9.86	3195.66	0.03	0.031
11)	i-15	10.73	3081.91	0.03	0.028
12)	n-C14	10.95	4438.89	0.04	0.042
13)	i-16	11.62	8035.61	0.07	0.072
14)	n-C15	11.98	25254.8	0.23	0.232
15)	n-C16	12.99	3366.51	0.03	0.030
17)	i-18	13.55	4064.77	0.04	0.037
18)	n-C17	14.08	22221.3	0.20	0.201
19)	Pristane	14.19	15099.4	0.14	0.137
20)	n-C18	15.23	70343.7	0.64	0.642
21)	Phytane	15.40	27645.1	0.25	0.248
22)	n-C19	16.46	69528.5	0.63	0.633
24)	n-C20	17.73	13661.7	0.12	0.123
25)	n-C21	19.02	152789	1.36	1.360
26)	n-C22	20.31	24779.3	0.22	0.219
27)	n-C23	21.60	294404	2.59	2.587
28)	n-C24	22.85	31038.4	0.27	0.272
29)	n-C25	24.09	183290	1.60	1.605
30)	n-C26	25.28	24577.4	0.21	0.214
31)	n-C27	26.45	238483	2.13	2.134
32)	n-C28	27.57	64058.8	0.57	0.566
33)	n-C29	28.69	635111	5.60	5.602
35)	n-C30	29.73	64987.2	0.58	0.582
36)	n-C31	30.79	875836	8.00	8.002
37)	n-C32	31.75	27385.6	0.25	0.254
38)	n-C33	32.77	1348380	12.95	12.955
39)	n-C34	33.59	121542	1.16	1.161
40)	n-C35	34.60	743790	7.36	7.356
41)	n-C36	35.66	37774	0.35	0.349
42)	n-C37	36.94	151007	1.55	1.547
43)	n-C38	38.42	13956	0.15	0.146
44)	n-C39	40.13	28479.8	0.31	0.309
45)	n-C40	42.12	10492.8	0.13	0.125
46)	TPH	32.90	72200300	688.10	688.100
47)	TRH1	8.48	368545	3.51	3.512
48)	TRH2	12.75	3085070	29.40	29.402
49)	TRH3	21.60	1775350	16.92	16.920
50)	TRH4	30.66	8246750	78.59	78.595
51)	TRH5	32.90	17646800	168.18	168.182
52)	TRH6	39.23	975140	9.29	9.294
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	8.48	114990	1.26	95.4
23)	n-eicosane-d42	17.33	99946.4	1.14	85.3
34)	n-triacontane-d62	29.19	89613.3	1.03	77.4
1)	n-hexadecane-d34	12.75	303666	3.31	303666.000
16)	5a-androstane	17.91	384249	3.31	384249.000

Data Path : C:\msdchem\2\data\FID10074\
Data File : ARC1558.D
Signal(s) : FID2B.CH
Acq On : 14-Aug-2013, 00:46:29
Operator : Meghan Dailey
Sample : SED-DA-032 (0-0.5)
Misc :
ALS Vial : 61 Sample Multiplier: 0.0661813

Integration File: autoint1.e
Quant Time: Aug 24 14:03:10 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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	12.749	303666	50.000	ug/mlm
16) I	5a-androstane	17.911	384249	50.072	ug/mlm
	System Monitoring Compounds				
6) S	n-dodecane-d26	8.480	114990	19.081	ug/mlm
23) S	n-eicosane-d42	17.334	99946	17.177	ug/mlm
34) S	n-triacontane-d62	29.195	89613	15.490	ug/mlm
	Target Compounds				
2)	n-C8	0.000	0	N.D.	ug/mld
3)	n-C9	0.000	0	N.D.	ug/mld
4)	n-C10	6.075	1357	0.014	ug/mlm
5)	n-C11	7.427	2051	0.021	ug/mlm
7)	n-C12	8.686	2550	0.025	ug/mlm
8)	i-13	8.890	1338	0.013	ug/mlm
9)	i-14	9.583	10948	0.102	ug/mlm
10)	n-C13	9.856	3196	0.031	ug/mlm
11)	i-15	10.730	3082	0.028	ug/mlm
12)	n-C14	10.953	4439	0.042	ug/mlm
13)	i-16	11.622	8036	0.072	ug/mlm
14)	n-C15	11.977	25255	0.232	ug/mlm
15)	n-C16	12.993	3367	0.030	ug/mlm
17)	i-18	13.545	4065	0.037	ug/mlm
18)	n-C17	14.077	22221	0.201	ug/mlm
19)	Pristane	14.190	15099	0.137	ug/mlm
20)	n-C18	15.226	70344	0.642	ug/mlm
21)	Phytane	15.402	27645	0.248	ug/mlm
22)	n-C19	16.464	69529	0.633	ug/mlm
24)	n-C20	17.728	13662	0.123	ug/mlm
25)	n-C21	19.017	152789	1.360	ug/mlm
26)	n-C22	20.312	24779	0.219	ug/mlm
27)	n-C23	21.601	294404	2.587	ug/mlm
28)	n-C24	22.852	31038	0.272	ug/mlm
29)	n-C25	24.088	183290	1.605	ug/mlm
30)	n-C26	25.279	24577	0.214	ug/mlm
31)	n-C27	26.447	238483	2.134	ug/mlm
32)	n-C28	27.569	64059	0.566	ug/mlm
33)	n-C29	28.686	635111	5.602	ug/mlm
35)	n-C30	29.731	64987	0.582	ug/mlm
36)	n-C31	30.785	875836	8.002	ug/mlm
37)	n-C32	31.753	27386	0.254	ug/mlm
38)	n-C33	32.773f	1348377	12.955	ug/mlm
39)	n-C34	33.589f	121542	1.161	ug/mlm
40)	n-C35	34.598	743790	7.356	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ARC1558.D
Signal(s) : FID2B.CH
Acq On : 14-Aug-2013, 00:46:29
Operator : Meghan Dailey
Sample : SED-DA-032 (0-0.5)
Misc :
ALS Vial : 61 Sample Multiplier: 0.0661813

Integration File: autoint1.e
Quant Time: Aug 24 14:03:10 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.665	37774	0.349	ug/mlm
42)	n-C37	36.939	151007	1.547	ug/mlm
43)	n-C38	38.416	13956	0.146	ug/mlm
44)	n-C39	40.133	28480	0.309	ug/mlm
45)	n-C40	42.123	10493	0.125	ug/mlm
46)	TPH	32.902	72200338	688.101	ug/mlm
47)	TRH1	8.480	368545	3.512	ug/mlm
48)	TRH2	12.749f	3085069	29.402	ug/mlm
49)	TRH3	21.601f	1775354	16.920	ug/mlm
50)	TRH4	30.661f	8246753	78.595	ug/mlm
51)	TRH5	32.902	17646793	168.182	ug/mlm
52)	TRH6	39.225f	975140	9.294	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

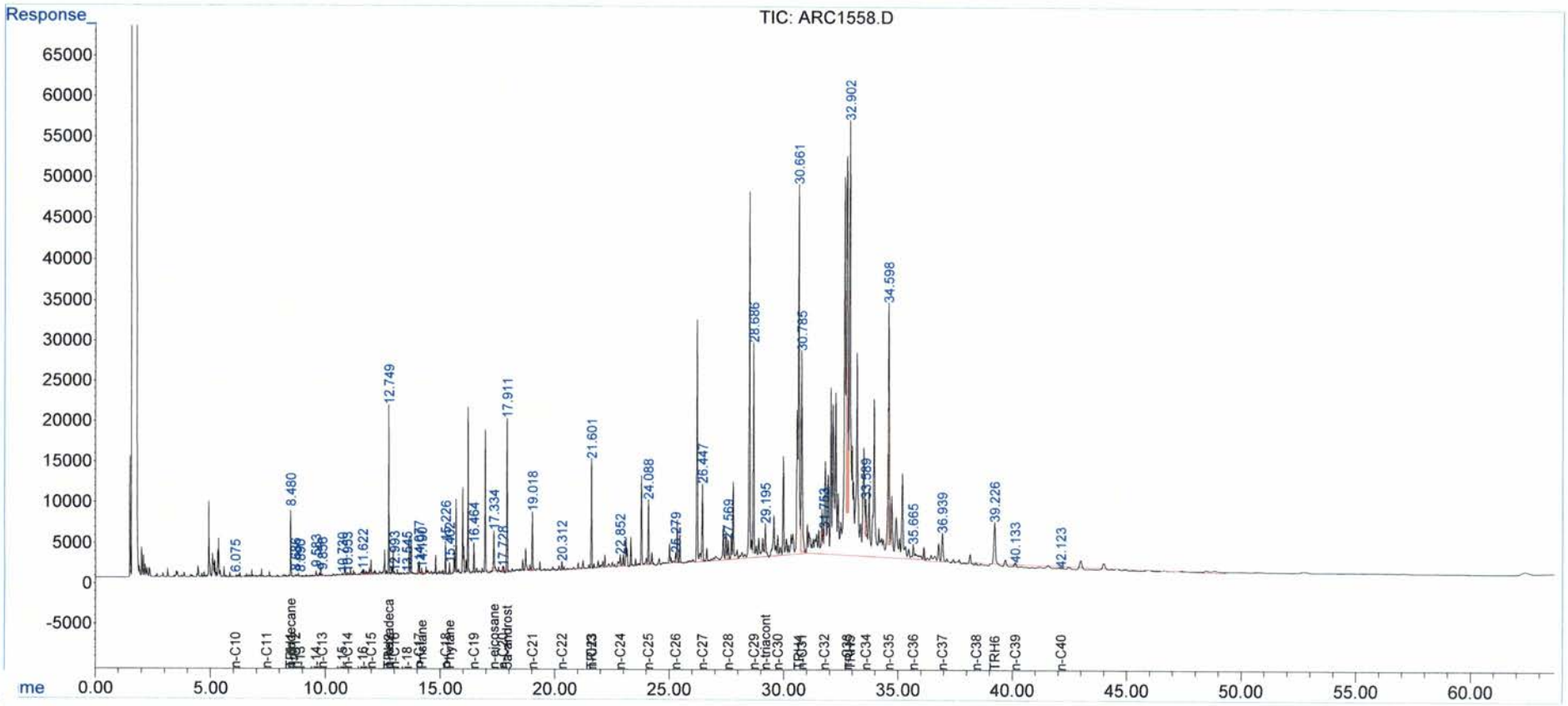
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ARC1558.D
Signal(s) : FID2B.CH
Acq On : 14-Aug-2013, 00:46:29
Operator : Meghan Dailey
Sample : SED-DA-032 (0-0.5)
Misc :
ALS Vial : 61 Sample Multiplier: 0.0661813

Integration File: autoint1.e
Quant Time: Aug 24 14:03:10 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Data File Name	**ARC1560.D**		ARC1560.D
Sample Name	**SED-DA-032 (1.0-1.5)**		SED-DA-032 (1.0-1.5)
Misc Info	**0**		14-Aug-2013, 01:56:37
Data File Path	**C:\msdchem\2\data\FID10074**		ALIBACK.M
Operator	**Meghan Dailey**		
Date Acquired	**14-Aug-2013, 01:56:37**		0.0664452
Instrument Name	**HP5890**		
Acq. Method File	**ALIBACK.M**	Vial #	62
Vial Number	**62**	IS Area 1	307195
Sample Multiplier	**0.0664452**	IS Area 2	386469

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	0.00	0	0.00	0.000
3)	n-C9	0.00	0	0.00	0.000
4)	n-C10	6.08	553.214	0.01	0.006
5)	n-C11	7.43	682.862	0.01	0.007
7)	n-C12	8.68	1576.06	0.02	0.015
8)	i-13	8.89	583.664	0.01	0.006
9)	i-14	9.58	4038.16	0.04	0.038
10)	n-C13	9.86	1423.15	0.01	0.014
11)	i-15	10.73	679.064	0.01	0.006
12)	n-C14	10.95	2817.12	0.03	0.026
13)	i-16	11.62	838.941	0.01	0.008
14)	n-C15	11.98	7663.02	0.07	0.070
15)	n-C16	12.99	4476.34	0.04	0.040
17)	i-18	13.54	902.765	0.01	0.008
18)	n-C17	14.08	1558.85	0.01	0.014
19)	Pristane	14.17	1591.73	0.01	0.014
20)	n-C18	15.23	5297.22	0.05	0.048
21)	Phytane	15.39	1113.21	0.01	0.010
22)	n-C19	16.47	3173.51	0.03	0.029
24)	n-C20	17.73	855.488	0.01	0.008
25)	n-C21	19.01	1320.11	0.01	0.012
26)	n-C22	20.31	1232.85	0.01	0.011
27)	n-C23	21.59	3866.41	0.03	0.034
28)	n-C24	22.85	1733.29	0.02	0.015
29)	n-C25	24.08	4987.38	0.04	0.044
30)	n-C26	25.29	1028.73	0.01	0.009
31)	n-C27	26.43	5092.59	0.05	0.045
32)	n-C28	27.55	1007.91	0.01	0.009
33)	n-C29	28.65	9911.91	0.09	0.087
35)	n-C30	29.72	1758.1	0.02	0.016
36)	n-C31	30.74	11759.6	0.11	0.107
37)	n-C32	31.78	3777.3	0.04	0.035
38)	n-C33	32.72	11969.4	0.11	0.115
39)	n-C34	33.70	1315.05	0.01	0.013
40)	n-C35	34.55	6763.62	0.07	0.067
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	12.75	17249400	164.10	164.101
47)	TRH1	8.48	200279	1.91	1.905
48)	TRH2	12.75	1227930	11.68	11.682
49)	TRH3	25.34	222712	2.12	2.119
50)	TRH4	29.18	471435	4.48	4.485
51)	TRH5	32.70	800346	7.61	7.614
52)	TRH6	42.68	209895	2.00	1.997
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	8.48	111736	1.22	91.6
23)	n-eicosane-d42	17.33	116336	1.32	98.8
34)	n-triacontane-d62	29.18	108551	1.24	93.2
1)	n-hexadecane-d34	12.75	307195	3.32	307195.000
16)	5a-androstane	17.91	386469	3.33	386469.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ARC1560.D
Signal(s) : FID2B.CH
Acq On : 14-Aug-2013, 01:56:37
Operator : Meghan Dailey
Sample : SED-DA-032 (1.0-1.5)
Misc :
ALS Vial : 62 Sample Multiplier: 0.0664452

Integration File: autoint1.e
Quant Time: Aug 24 14:14:18 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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	12.749	307195	50.000 ug/mlm
16) I	5a-androstane	17.909	386469	50.072 ug/mlm
	System Monitoring Compounds			
6) S	n-dodecane-d26	8.480	111736	18.328 ug/mlm
23) S	n-eicosane-d42	17.333	116336	19.879 ug/mlm
34) S	n-triacontane-d62	29.181	108551	18.656 ug/mlm
	Target Compounds			
2)	n-C8	0.000	0	N.D. ug/mld
3)	n-C9	0.000	0	N.D. ug/mld
4)	n-C10	6.077	553	0.006 ug/mlm
5)	n-C11	7.426	683	0.007 ug/mlm
7)	n-C12	8.684	1576	0.015 ug/mlm
8)	i-13	8.894	584	0.006 ug/mlm
9)	i-14	9.578	4038	0.038 ug/mlm
10)	n-C13	9.856	1423	0.014 ug/mlm
11)	i-15	10.732	679	0.006 ug/mlm
12)	n-C14	10.951	2817	0.026 ug/mlm
13)	i-16	11.618	839	0.008 ug/mlm
14)	n-C15	11.981	7663	0.070 ug/mlm
15)	n-C16	12.993	4476	0.040 ug/mlm
17)	i-18	13.545	903	0.008 ug/mlm
18)	n-C17	14.078	1559	0.014 ug/mlm
19)	Pristane	14.174	1592	0.014 ug/mlm
20)	n-C18	15.227	5297	0.048 ug/mlm
21)	Phytane	15.393	1113	0.010 ug/mlm
22)	n-C19	16.466	3174	0.029 ug/mlm
24)	n-C20	17.727	855	0.008 ug/mlm
25)	n-C21	19.013	1320	0.012 ug/mlm
26)	n-C22	20.309	1233	0.011 ug/mlm
27)	n-C23	21.589	3866	0.034 ug/mlm
28)	n-C24	22.845	1733	0.015 ug/mlm
29)	n-C25	24.075	4987	0.044 ug/mlm
30)	n-C26	25.287	1029	0.009 ug/mlm
31)	n-C27	26.432	5093	0.045 ug/mlm
32)	n-C28	27.554	1008	0.009 ug/mlm
33)	n-C29	28.655	9912	0.087 ug/mlm
35)	n-C30	29.722	1758	0.016 ug/mlm
36)	n-C31	30.736	11760	0.107 ug/mlm
37)	n-C32	31.776	3777	0.035 ug/mlm
38)	n-C33	32.719	11969	0.115 ug/mlm
39)	n-C34	33.695	1315	0.013 ug/mlm
40)	n-C35	34.549f	6764	0.067 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ARC1560.D
Signal(s) : FID2B.CH
Acq On : 14-Aug-2013, 01:56:37
Operator : Meghan Dailey
Sample : SED-DA-032 (1.0-1.5)
Misc :
ALS Vial : 62 Sample Multiplier: 0.0664452

Integration File: autoint1.e
Quant Time: Aug 24 14:14:18 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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	12.749f	17249368	164.101	ug/mlm
47)	TRH1	8.480	200279	1.905	ug/mlm
48)	TRH2	12.749f	1227932	11.682	ug/mlm
49)	TRH3	25.340f	222712	2.119	ug/mlm
50)	TRH4	29.181f	471435	4.485	ug/mlm
51)	TRH5	32.696	800346	7.614	ug/mlm
52)	TRH6	42.683	209895	1.997	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

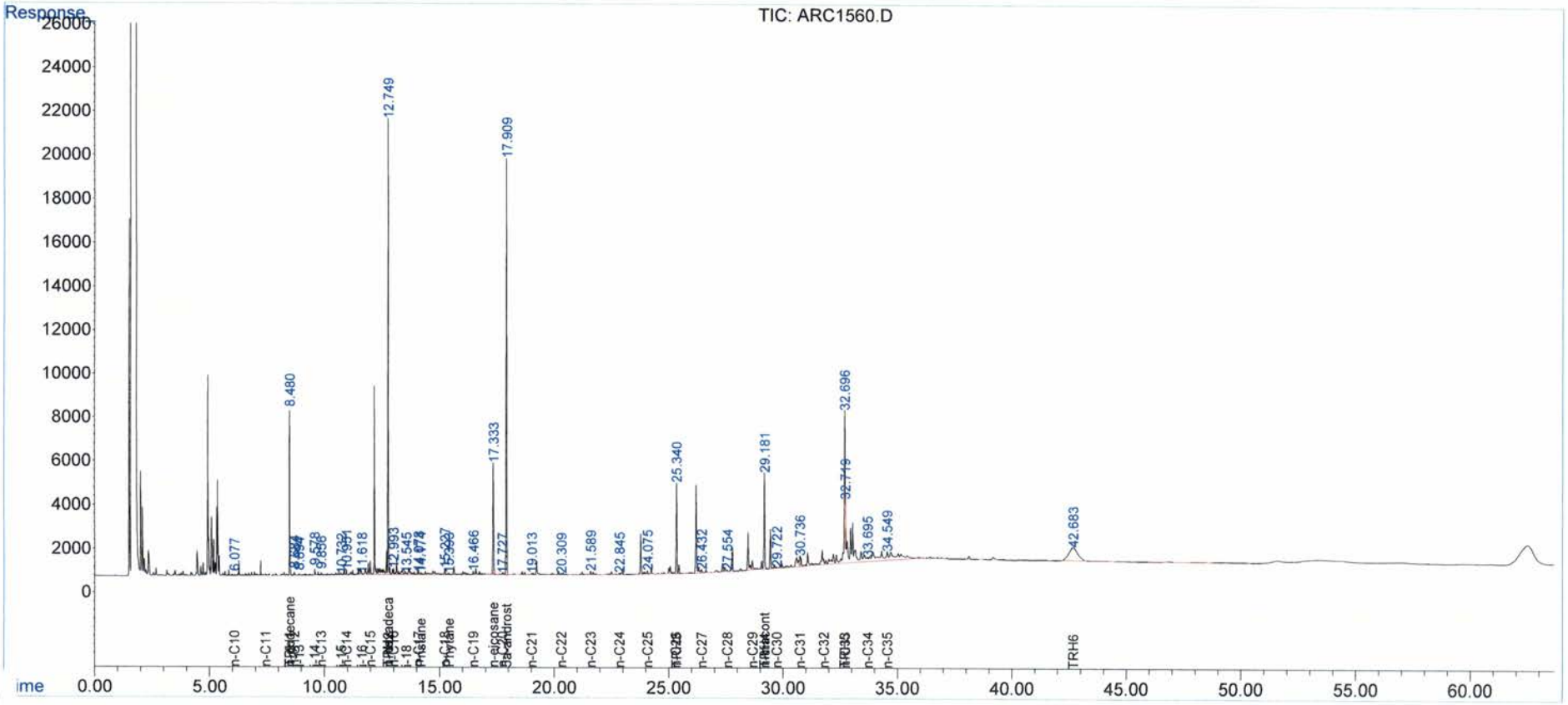
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ARC1560.D
Signal(s) : FID2B.CH
Acq On : 14-Aug-2013, 01:56:37
Operator : Meghan Dailey
Sample : SED-DA-032 (1.0-1.5)
Misc :
ALS Vial : 62 Sample Multiplier: 0.0664452

Integration File: autoint1.e
Quant Time: Aug 24 14:14:18 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC1561.D**		ARC1561.D
Sample Name	**SED-DA-031 (0-0.5)**		SED-DA-031 (0-0.5)
Misc Info	**0**		14-Aug-2013, 03:07:17
Data File Path	**C:\msdchem\2\data\FID10074**		ALIBACK.M
Operator	**Meghan Dailey**		
Date Acquired	**14-Aug-2013, 03:07:17**		0.0664894
Instrument Name	**HP5890**		
Acq. Method File	**ALIBACK.M**	Vial #	63
Vial Number	**63**	IS Area 1	291792
Sample Multiplier	**0.0664894**	IS Area 2	374479

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	0.00	0	0.00	0.000
3)	n-C9	0.00	0	0.00	0.000
4)	n-C10	6.08	1176.68	0.01	0.013
5)	n-C11	7.43	2064.77	0.02	0.022
7)	n-C12	8.69	3024.14	0.03	0.031
8)	i-13	8.88	1353.69	0.01	0.014
9)	i-14	9.58	11033	0.11	0.108
10)	n-C13	9.86	4285.93	0.04	0.044
11)	i-15	10.73	7745.14	0.07	0.074
12)	n-C14	10.95	8008.36	0.08	0.078
13)	i-16	11.62	12263.5	0.12	0.116
14)	n-C15	11.98	33374.9	0.32	0.320
15)	n-C16	12.99	4324.42	0.04	0.041
17)	i-18	13.55	9059.6	0.09	0.085
18)	n-C17	14.08	13976.2	0.13	0.130
19)	Pristane	14.19	18374.4	0.17	0.172
20)	n-C18	15.23	68732.7	0.65	0.647
21)	Phytane	15.40	32265	0.30	0.298
22)	n-C19	16.47	66921.4	0.63	0.628
24)	n-C20	17.73	11900.4	0.11	0.111
25)	n-C21	19.02	119338	1.09	1.095
26)	n-C22	20.31	15801.5	0.14	0.144
27)	n-C23	21.60	181068	1.64	1.640
28)	n-C24	22.86	17826.2	0.16	0.161
29)	n-C25	24.09	142136	1.28	1.283
30)	n-C26	25.28	18715.9	0.17	0.168
31)	n-C27	26.44	148986	1.37	1.375
32)	n-C28	27.57	21230.8	0.19	0.193
33)	n-C29	28.67	185461	1.69	1.686
35)	n-C30	29.73	27358.6	0.25	0.252
36)	n-C31	30.77	151910	1.43	1.431
37)	n-C32	31.78	39915	0.38	0.382
38)	n-C33	32.72	133412	1.32	1.321
39)	n-C34	33.69	17264.3	0.17	0.170
40)	n-C35	34.58	77743.7	0.79	0.793
41)	n-C36	35.66	11351.7	0.11	0.108
42)	n-C37	36.94	43716.3	0.46	0.462
43)	n-C38	38.42	11474.3	0.12	0.123
44)	n-C39	40.13	22486.3	0.25	0.252
45)	n-C40	42.14	9468.58	0.12	0.117
46)	TPH	32.87	51961400	510.50	510.500
47)	TRH1	8.48	551873	5.42	5.422
48)	TRH2	16.21	2960840	29.09	29.089
49)	TRH3	21.60	1070410	10.52	10.516
50)	TRH4	30.65	5122410	50.33	50.326
51)	TRH5	32.87	10787000	105.98	105.978
52)	TRH6	39.22	635093	6.24	6.240
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	8.48	108601	1.25	93.8
23)	n-eicosane-d42	17.33	100848	1.18	88.3
34)	n-triacontane-d62	29.19	87019.9	1.03	77.1
1)	n-hexadecane-d34	12.75	291792	3.32	291792.000
16)	5a-androstane	17.91	374479	3.33	374479.000

Data Path : C:\msdchem\2\data\FID10074\
Data File : ARC1561.D
Signal(s) : FID2B.CH
Acq On : 14-Aug-2013, 03:07:17
Operator : Meghan Dailey
Sample : SED-DA-031 (0-0.5)
Misc :
ALS Vial : 63 Sample Multiplier: 0.0664894

Integration File: autoint1.e
Quant Time: Aug 24 14:18:48 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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	12.749	291792	50.000 ug/mlm
16) I	5a-androstane	17.912	374479	50.072 ug/mlm
	System Monitoring Compounds			
6) S	n-dodecane-d26	8.480	108601	18.754 ug/mlm
23) S	n-eicosane-d42	17.335	100848	17.785 ug/mlm
34) S	n-triacontane-d62	29.191	87020	15.435 ug/mlm
	Target Compounds			
2)	n-C8	0.000	0	N.D. ug/mld
3)	n-C9	0.000	0	N.D. ug/mld
4)	n-C10	6.076	1177	0.013 ug/mlm
5)	n-C11	7.427	2065	0.022 ug/mlm
7)	n-C12	8.686	3024	0.031 ug/mlm
8)	i-13	8.876	1354	0.014 ug/mlm
9)	i-14	9.584	11033	0.108 ug/mlm
10)	n-C13	9.855	4286	0.044 ug/mlm
11)	i-15	10.729	7745	0.074 ug/mlm
12)	n-C14	10.954	8008	0.078 ug/mlm
13)	i-16	11.622	12264	0.116 ug/mlm
14)	n-C15	11.976	33375	0.320 ug/mlm
15)	n-C16	12.994	4324	0.041 ug/mlm
17)	i-18	13.546	9060	0.085 ug/mlm
18)	n-C17	14.078	13976	0.130 ug/mlm
19)	Pristane	14.189	18374	0.172 ug/mlm
20)	n-C18	15.226	68733	0.647 ug/mlm
21)	Phytane	15.401	32265	0.298 ug/mlm
22)	n-C19	16.465	66921	0.628 ug/mlm
24)	n-C20	17.730	11900	0.111 ug/mlm
25)	n-C21	19.017	119338	1.095 ug/mlm
26)	n-C22	20.311	15801	0.144 ug/mlm
27)	n-C23	21.598	181068	1.640 ug/mlm
28)	n-C24	22.855	17826	0.161 ug/mlm
29)	n-C25	24.086	142136	1.283 ug/mlm
30)	n-C26	25.280	18716	0.168 ug/mlm
31)	n-C27	26.444	148986	1.375 ug/mlm
32)	n-C28	27.568	21231	0.193 ug/mlm
33)	n-C29	28.672	185461	1.686 ug/mlm
35)	n-C30	29.728	27359	0.252 ug/mlm
36)	n-C31	30.772	151910	1.431 ug/mlm
37)	n-C32	31.777	39915	0.382 ug/mlm
38)	n-C33	32.720	133412	1.321 ug/mlm
39)	n-C34	33.690	17264	0.170 ug/mlm
40)	n-C35	34.581	77744	0.793 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ARC1561.D
Signal(s) : FID2B.CH
Acq On : 14-Aug-2013, 03:07:17
Operator : Meghan Dailey
Sample : SED-DA-031 (0-0.5)
Misc :
ALS Vial : 63 Sample Multiplier: 0.0664894

Integration File: autoint1.e
Quant Time: Aug 24 14:18:48 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.663	11352	0.108	ug/mlm
42)	n-C37	36.935	43716	0.462	ug/mlm
43)	n-C38	38.420	11474	0.123	ug/mlm
44)	n-C39	40.131	22486	0.252	ug/mlm
45)	n-C40	42.138	9469	0.117	ug/mlm
46)	TPH	32.873	51961378	510.500	ug/mlm
47)	TRH1	8.480	551873	5.422	ug/mlm
48)	TRH2	16.208	2960839	29.089	ug/mlm
49)	TRH3	21.598f	1070408	10.516	ug/mlm
50)	TRH4	30.646f	5122412	50.326	ug/mlm
51)	TRH5	32.873	10786986	105.978	ug/mlm
52)	TRH6	39.223f	635093	6.240	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

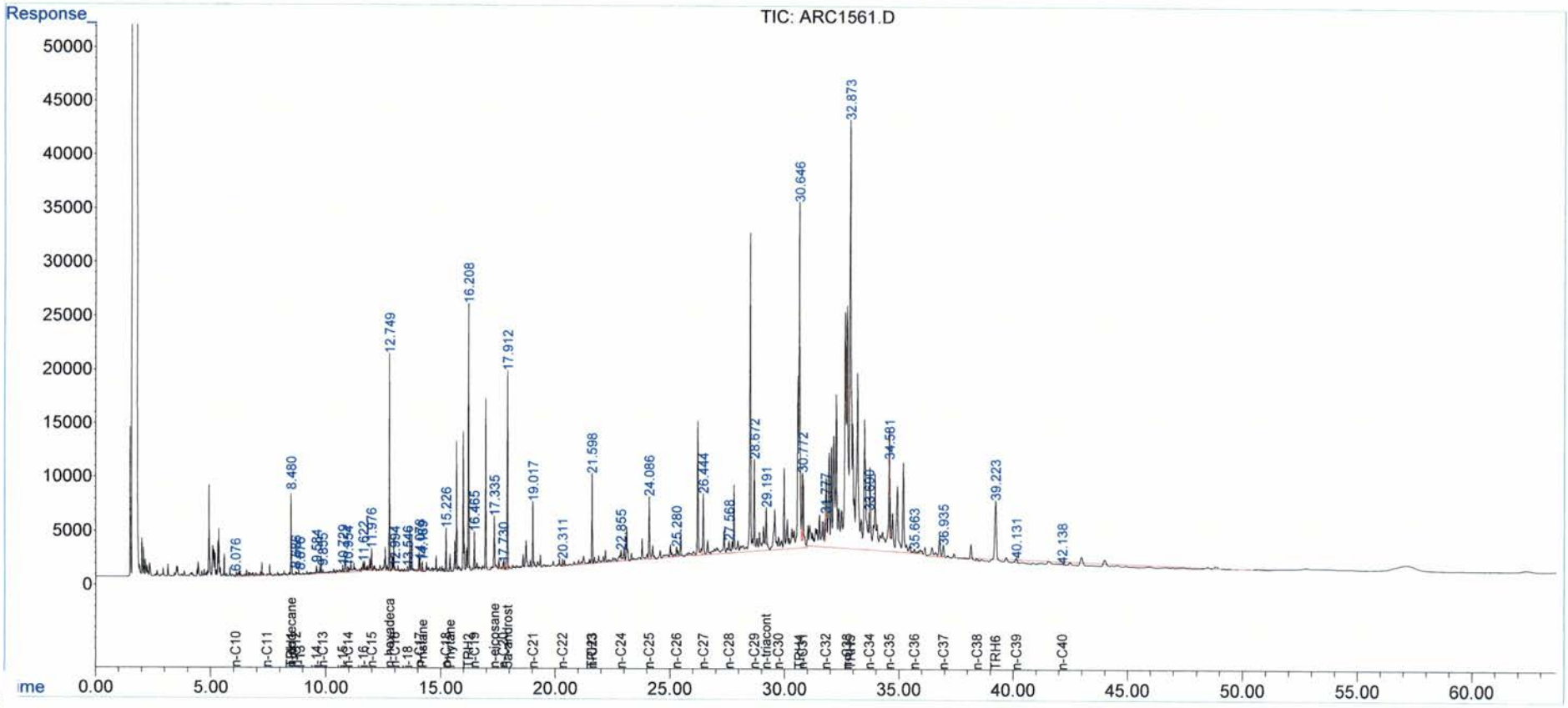
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ARC1561.D
Signal(s) : FID2B.CH
Acq On : 14-Aug-2013, 03:07:17
Operator : Meghan Dailey
Sample : SED-DA-031 (0-0.5)
Misc :
ALS Vial : 63 Sample Multiplier: 0.0664894

Integration File: autoint1.e
Quant Time: Aug 24 14:18:48 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC1566.D**		ARC1566.D
Sample Name	**SED-DA-029 (0-0.5)**		SED-DA-029 (0-0.5)
Misc Info	**0**		14-Aug-2013, 04:17:27
Data File Path	**C:\msdchem\2\data\FID10074**		ALIBACK.M
Operator	**Meghan Dailey**		
Date Acquired	**14-Aug-2013, 04:17:27**		0.0664894
Instrument Name	**HP5890**		
Acq. Method File	**ALIBACK.M**	Vial #	64
Vial Number	**64**	IS Area 1	297665
Sample Multiplier	**0.0664894**	IS Area 2	372170

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	0.00	0	0.00	0.000
3)	n-C9	0.00	0	0.00	0.000
4)	n-C10	6.07	426.414	0.00	0.004
5)	n-C11	7.43	1093.93	0.01	0.011
7)	n-C12	8.69	1324.59	0.01	0.013
8)	i-13	8.89	559.394	0.01	0.006
9)	i-14	9.59	6466.06	0.06	0.062
10)	n-C13	9.86	1526.25	0.02	0.015
11)	i-15	10.73	1943.93	0.02	0.018
12)	n-C14	10.95	2280.55	0.02	0.022
13)	i-16	11.62	5343.79	0.05	0.049
14)	n-C15	11.98	19137.3	0.18	0.180
15)	n-C16	12.99	1330.38	0.01	0.012
17)	i-18	13.54	2453.5	0.02	0.023
18)	n-C17	14.08	11001.4	0.10	0.103
19)	Pristane	14.19	10241.9	0.10	0.097
20)	n-C18	15.23	48574.8	0.46	0.460
21)	Phytane	15.40	20032.4	0.19	0.186
22)	n-C19	16.47	42367.8	0.40	0.400
24)	n-C20	17.73	17429.6	0.16	0.163
25)	n-C21	19.02	185498	1.71	1.712
26)	n-C22	20.31	21842.6	0.20	0.201
27)	n-C23	21.60	188572	1.72	1.718
28)	n-C24	22.85	27677.2	0.25	0.252
29)	n-C25	24.08	139364	1.27	1.266
30)	n-C26	25.28	18193.8	0.16	0.165
31)	n-C27	26.44	154258	1.43	1.432
32)	n-C28	27.56	45203.8	0.41	0.414
33)	n-C29	28.67	380918	3.49	3.485
35)	n-C30	29.73	58176.5	0.54	0.540
36)	n-C31	30.77	531036	5.03	5.033
37)	n-C32	31.78	35246.4	0.34	0.339
38)	n-C33	32.75	871419	8.68	8.684
39)	n-C34	33.59	48755.3	0.48	0.483
40)	n-C35	34.59	246955	2.53	2.533
41)	n-C36	35.67	22934.7	0.22	0.220
42)	n-C37	36.93	101510	1.08	1.078
43)	n-C38	38.40	12172	0.13	0.132
44)	n-C39	40.13	18960.7	0.21	0.213
45)	n-C40	0.00	0	0.00	0.000
46)	TPH	32.87	57617900	569.59	569.586
47)	TRH1	8.48	306141	3.03	3.026
48)	TRH2	17.81	3883380	38.39	38.389
49)	TRH3	23.79	1693120	16.74	16.737
50)	TRH4	26.22	5892800	58.25	58.254
51)	TRH5	32.87	11880800	117.45	117.448
52)	TRH6	39.21	876084	8.66	8.661
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	8.48	115427	1.30	97.7
23)	n-eicosane-d42	17.34	104852	1.24	92.4
34)	n-triacontane-d62	29.19	86982	1.03	77.5
1)	n-hexadecane-d34	12.75	297665	3.32	297665.000
16)	5a-androstane	17.92	372170	3.33	372170.000

Data Path : C:\msdchem\2\data\FID10074\
Data File : ARC1566.D
Signal(s) : FID2B.CH
Acq On : 14-Aug-2013, 04:17:27
Operator : Meghan Dailey
Sample : SED-DA-029 (0-0.5)
Misc :
ALS Vial : 64 Sample Multiplier: 0.0664894

Integration File: autoint1.e
Quant Time: Aug 24 14:23:14 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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	12.749	297665	50.000	ug/mlm
16) I	5a-androstane	17.919	372170	50.072	ug/mlm
	System Monitoring Compounds				
6) S	n-dodecane-d26	8.481	115427	19.539	ug/mlm
23) S	n-eicosane-d42	17.337	104852	18.605	ug/mlm
34) S	n-triacontane-d62	29.191	86982	15.524	ug/mlm
	Target Compounds				
2)	n-C8	0.000	0	N.D.	ug/mld
3)	n-C9	0.000	0	N.D.	ug/mld
4)	n-C10	6.075	426	0.004	ug/mlm
5)	n-C11	7.427	1094	0.011	ug/mlm
7)	n-C12	8.686	1325	0.013	ug/mlm
8)	i-13	8.893	559	0.006	ug/mlm
9)	i-14	9.586	6466	0.062	ug/mlm
10)	n-C13	9.855	1526	0.015	ug/mlm
11)	i-15	10.731	1944	0.018	ug/mlm
12)	n-C14	10.953	2281	0.022	ug/mlm
13)	i-16	11.623	5344	0.049	ug/mlm
14)	n-C15	11.977	19137	0.180	ug/mlm
15)	n-C16	12.993	1330	0.012	ug/mlm
17)	i-18	13.545	2453	0.023	ug/mlm
18)	n-C17	14.077	11001	0.103	ug/mlm
19)	Pristane	14.190	10242	0.097	ug/mlm
20)	n-C18	15.226	48575	0.460	ug/mlm
21)	Phytane	15.402	20032	0.186	ug/mlm
22)	n-C19	16.466	42368	0.400	ug/mlm
24)	n-C20	17.728	17430	0.163	ug/mlm
25)	n-C21	19.019	185498	1.712	ug/mlm
26)	n-C22	20.311	21843	0.201	ug/mlm
27)	n-C23	21.598	188572	1.718	ug/mlm
28)	n-C24	22.850	27677	0.252	ug/mlm
29)	n-C25	24.085	139364	1.266	ug/mlm
30)	n-C26	25.278	18194	0.165	ug/mlm
31)	n-C27	26.441	154258	1.432	ug/mlm
32)	n-C28	27.565	45204	0.414	ug/mlm
33)	n-C29	28.674	380918	3.485	ug/mlm
35)	n-C30	29.733	58177	0.540	ug/mlm
36)	n-C31	30.772	531036	5.033	ug/mlm
37)	n-C32	31.777	35246	0.339	ug/mlm
38)	n-C33	32.747	871419	8.684	ug/mlm
39)	n-C34	33.586f	48755	0.483	ug/mlm
40)	n-C35	34.585	246955	2.533	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ARC1566.D
Signal(s) : FID2B.CH
Acq On : 14-Aug-2013, 04:17:27
Operator : Meghan Dailey
Sample : SED-DA-029 (0-0.5)
Misc :
ALS Vial : 64 Sample Multiplier: 0.0664894

Integration File: autoint1.e
Quant Time: Aug 24 14:23:14 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.666	22935	0.220	ug/mlm
42)	n-C37	36.935	101510	1.078	ug/mlm
43)	n-C38	38.400	12172	0.132	ug/mlm
44)	n-C39	40.133	18961	0.213	ug/mlm
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	32.874	57617948	569.586	ug/mlm
47)	TRH1	8.481	306141	3.026	ug/mlm
48)	TRH2	17.806	3883381	38.389	ug/mlm
49)	TRH3	23.790	1693122	16.737	ug/mlm
50)	TRH4	26.222f	5892805	58.254	ug/mlm
51)	TRH5	32.874	11880788	117.448	ug/mlm
52)	TRH6	39.214f	876084	8.661	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

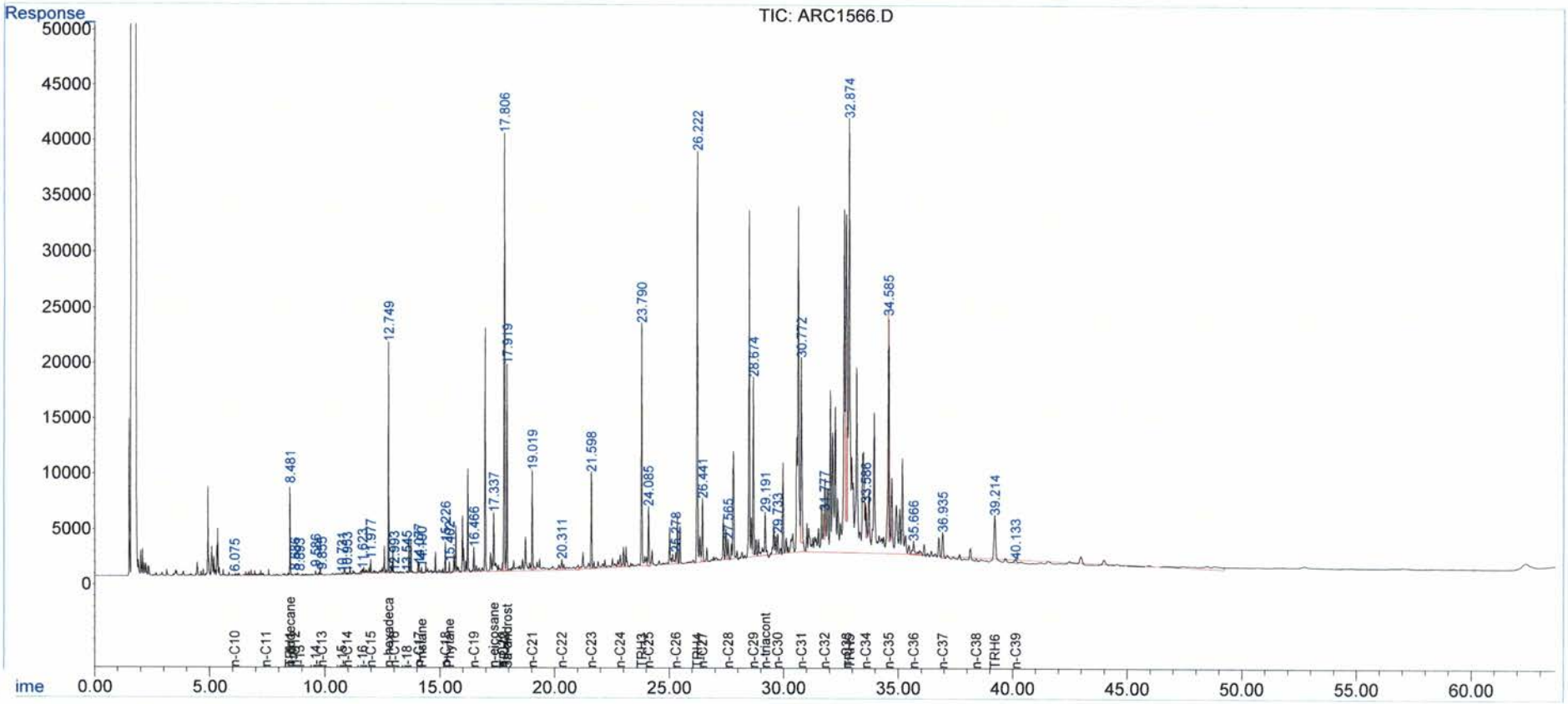
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ARC1566.D
Signal(s) : FID2B.CH
Acq On : 14-Aug-2013, 04:17:27
Operator : Meghan Dailey
Sample : SED-DA-029 (0-0.5)
Misc :
ALS Vial : 64 Sample Multiplier: 0.0664894

Integration File: autoint1.e
Quant Time: Aug 24 14:23:14 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC1571.D**		ARC1571.D
Sample Name	**SED-DA-030 (0-0.5)**		SED-DA-030 (0-0.5)
Misc Info	**0**		14-Aug-2013, 05:27:36
Data File Path	**C:\msdchem\2\data\FID10074**		ALIBACK.M
Operator	**Meghan Dailey**		
Date Acquired	**14-Aug-2013, 05:27:36**		0.0664011
Instrument Name	**HP5890**		
Acq. Method File	**ALIBACK.M**	Vial #	65
Vial Number	**65**	IS Area 1	193908
Sample Multiplier	**0.0664011**	IS Area 2	251955

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	0.00	0	0.00	0.000
3)	n-C9	0.00	0	0.00	0.000
4)	n-C10	0.00	0	0.00	0.000
5)	n-C11	7.43	1308.05	0.02	0.021
7)	n-C12	8.69	1224.59	0.02	0.019
8)	i-13	8.90	2042.57	0.03	0.031
9)	i-14	9.58	10026.2	0.15	0.147
10)	n-C13	9.85	1895.82	0.03	0.029
11)	i-15	10.73	669.752	0.01	0.010
12)	n-C14	10.95	2453.51	0.04	0.036
13)	i-16	11.62	5748.02	0.08	0.081
14)	n-C15	11.98	27832.8	0.40	0.401
15)	n-C16	12.99	2079.48	0.03	0.029
17)	i-18	13.53	2850.77	0.04	0.040
18)	n-C17	14.08	8269.71	0.11	0.115
19)	Pristane	14.19	10538.3	0.15	0.147
20)	n-C18	15.23	71245.3	1.00	0.996
21)	Phytane	15.40	19466.1	0.27	0.267
22)	n-C19	16.46	55198.2	0.77	0.768
24)	n-C20	17.73	12755.1	0.18	0.176
25)	n-C21	19.02	214139	2.92	2.916
26)	n-C22	20.31	23824.6	0.32	0.323
27)	n-C23	21.60	341856	4.60	4.596
28)	n-C24	22.85	38969.9	0.52	0.523
29)	n-C25	24.09	239049	3.20	3.202
30)	n-C26	25.28	26136.5	0.35	0.349
31)	n-C27	26.45	274414	3.76	3.758
32)	n-C28	27.57	43468	0.59	0.588
33)	n-C29	28.68	460241	6.21	6.212
35)	n-C30	29.74	64091.3	0.88	0.878
36)	n-C31	30.78	402218	5.62	5.623
37)	n-C32	31.75	55826.9	0.79	0.793
38)	n-C33	32.73	309034	4.54	4.543
39)	n-C34	33.61	52744.6	0.77	0.771
40)	n-C35	34.60	177876	2.69	2.692
41)	n-C36	35.66	34870.4	0.49	0.492
42)	n-C37	36.94	110331	1.73	1.729
43)	n-C38	38.40	13712.8	0.22	0.219
44)	n-C39	40.12	35498.1	0.59	0.589
45)	n-C40	0.00	0	0.00	0.000
46)	TPH	32.91	71854600	1047.84	1047.843
47)	TRH1	8.48	366063	5.34	5.338
48)	TRH2	16.96	3146110	45.88	45.879
49)	TRH3	21.60	2261590	32.98	32.980
50)	TRH4	30.67	9570810	139.57	139.570
51)	TRH5	32.91	18281100	266.59	266.590
52)	TRH6	39.23	1095490	15.98	15.975
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	8.48	73450.8	1.27	95.4
23)	n-eicosane-d42	17.33	64850.5	1.13	84.4
34)	n-triacontane-d62	29.19	60533.1	1.06	79.7
1)	n-hexadecane-d34	12.75	193908	3.32	193908.000
16)	5a-androstane	17.91	251955	3.32	251955.000

Data Path : C:\msdchem\2\data\FID10074\
Data File : ARC1571.D
Signal(s) : FID2B.CH
Acq On : 14-Aug-2013, 05:27:36
Operator : Meghan Dailey
Sample : SED-DA-030 (0-0.5)
Misc :
ALS Vial : 65 Sample Multiplier: 0.0664011

Integration File: autoint1.e
Quant Time: Aug 24 14:26:45 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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	12.747	193908	50.000	ug/mlm
16) I	5a-androstane	17.908	251955	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.480	73451	19.087	ug/mlm
23) S	n-eicosane-d42	17.334	64850	16.998	ug/mlm
34) S	n-triacontane-d62	29.194	60533	15.958	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/mld
3)	n-C9	0.000	0	N.D.	ug/mld
4)	n-C10	0.000	0	N.D.	ug/mld
5)	n-C11	7.428	1308	0.021	ug/mlm
7)	n-C12	8.686	1225	0.019	ug/mlm
8)	i-13	8.898	2043	0.031	ug/mlm
9)	i-14	9.583	10026	0.147	ug/mlm
10)	n-C13	9.855	1896	0.029	ug/mlm
11)	i-15	10.731	670	0.010	ug/mlm
12)	n-C14	10.953	2454	0.036	ug/mlm
13)	i-16	11.624	5748	0.081	ug/mlm
14)	n-C15	11.976	27833	0.401	ug/mlm
15)	n-C16	12.993	2079	0.029	ug/mlm
17)	i-18	13.531	2851	0.040	ug/mlm
18)	n-C17	14.077	8270	0.115	ug/mlm
19)	Pristane	14.190	10538	0.147	ug/mlm
20)	n-C18	15.226	71245	0.996	ug/mlm
21)	Phytane	15.402	19466	0.267	ug/mlm
22)	n-C19	16.463	55198	0.768	ug/mlm
24)	n-C20	17.727	12755	0.176	ug/mlm
25)	n-C21	19.020	214139	2.916	ug/mlm
26)	n-C22	20.311	23825	0.323	ug/mlm
27)	n-C23	21.603	341856	4.596	ug/mlm
28)	n-C24	22.854	38970	0.523	ug/mlm
29)	n-C25	24.088	239049	3.202	ug/mlm
30)	n-C26	25.279	26137	0.349	ug/mlm
31)	n-C27	26.447	274414	3.758	ug/mlm
32)	n-C28	27.569	43468	0.588	ug/mlm
33)	n-C29	28.682	460241	6.212	ug/mlm
35)	n-C30	29.735	64091	0.878	ug/mlm
36)	n-C31	30.782	402218	5.623	ug/mlm
37)	n-C32	31.752	55827	0.793	ug/mlm
38)	n-C33	32.733	309034	4.543	ug/mlm
39)	n-C34	33.610	52745	0.771	ug/mlm
40)	n-C35	34.599	177876	2.692	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ARC1571.D
Signal(s) : FID2B.CH
Acq On : 14-Aug-2013, 05:27:36
Operator : Meghan Dailey
Sample : SED-DA-030 (0-0.5)
Misc :
ALS Vial : 65 Sample Multiplier: 0.0664011

Integration File: autoint1.e
Quant Time: Aug 24 14:26:45 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.662	34870	0.492	ug/mlm
42)	n-C37	36.938	110331	1.729	ug/mlm
43)	n-C38	38.402	13713	0.219	ug/mlm
44)	n-C39	40.123	35498	0.589	ug/mlm
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	32.907	71854628	1047.844	ug/mlm
47)	TRH1	8.480	366063	5.338	ug/mlm
48)	TRH2	16.964	3146107	45.879	ug/mlm
49)	TRH3	21.603f	2261587	32.980	ug/mlm
50)	TRH4	30.672f	9570812	139.570	ug/mlm
51)	TRH5	32.907	18281104	266.590	ug/mlm
52)	TRH6	39.234f	1095488	15.975	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

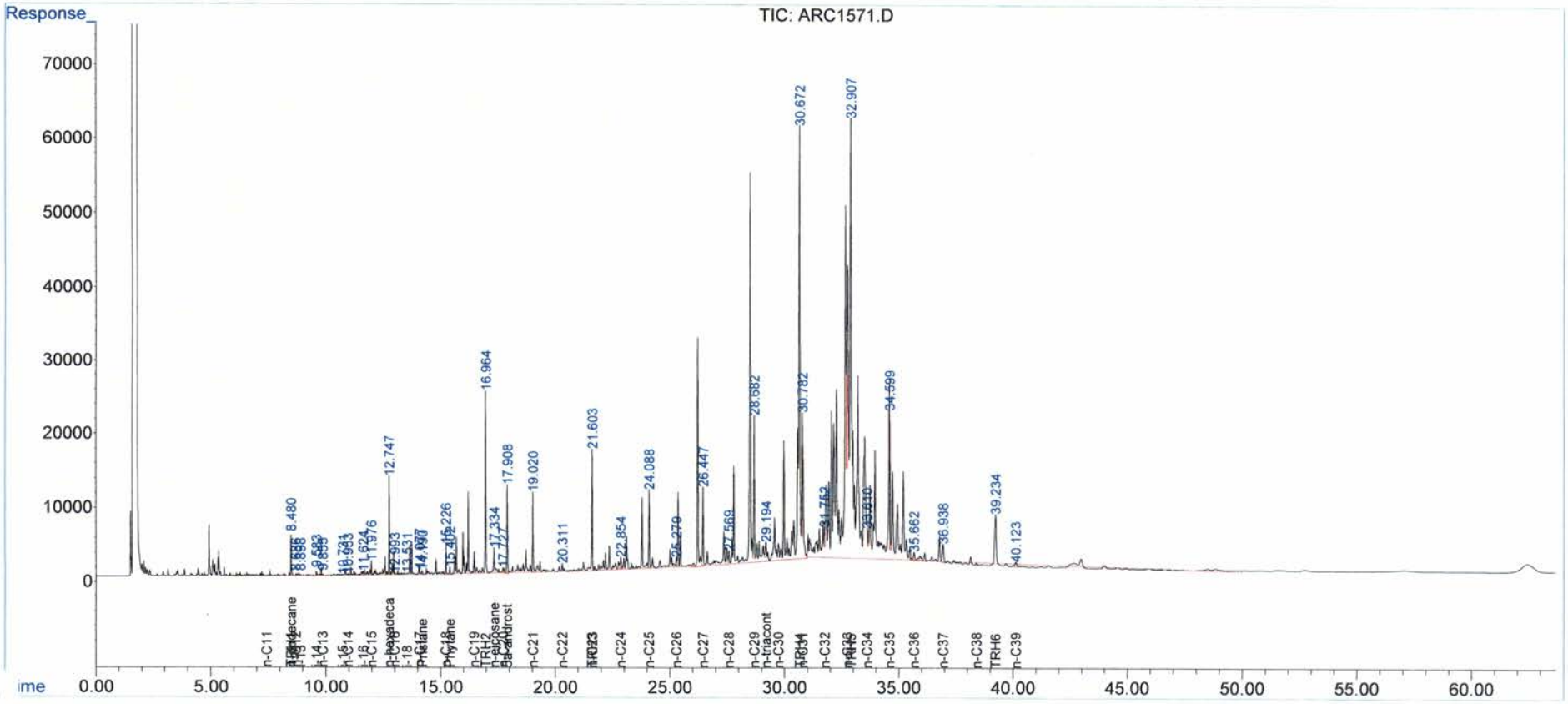
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ARC1571.D
Signal(s) : FID2B.CH
Acq On : 14-Aug-2013, 05:27:36
Operator : Meghan Dailey
Sample : SED-DA-030 (0-0.5)
Misc :
ALS Vial : 65 Sample Multiplier: 0.0664011

Integration File: autoint1.e
Quant Time: Aug 24 14:26:45 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC1574.D**		ARC1574.D
Sample Name	**SED-DA-028 (0-0.5)**		SED-DA-028 (0-0.5)
Misc Info	**0**		14-Aug-2013, 06:37:43
Data File Path	**C:\msdchem\2\data\FID10074**		ALIBACK.M
Operator	**Meghan Dailey**		
Date Acquired	**14-Aug-2013, 06:37:43**		0.133156
Instrument Name	**HP5890**		
Acq. Method File	**ALIBACK.M**	Vial #	66
Vial Number	**66**	IS Area 1	325780
Sample Multiplier	**0.133156**	IS Area 2	411628

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	0.00	0	0.00	0.000
3)	n-C9	0.00	0	0.00	0.000
4)	n-C10	6.08	211.475	0.00	0.004
5)	n-C11	7.43	770.76	0.01	0.015
7)	n-C12	8.69	695.808	0.01	0.013
8)	i-13	8.90	2271.85	0.04	0.041
9)	i-14	9.59	4032.06	0.07	0.071
10)	n-C13	9.86	1763.2	0.03	0.032
11)	i-15	10.73	1511.98	0.03	0.026
12)	n-C14	10.95	2551.23	0.04	0.045
13)	i-16	11.63	12537	0.21	0.212
14)	n-C15	11.98	26363.3	0.45	0.453
15)	n-C16	12.99	2832.53	0.05	0.048
17)	i-18	13.54	4083.77	0.07	0.070
18)	n-C17	14.08	46316.5	0.79	0.788
19)	Pristane	14.19	20556.7	0.35	0.351
20)	n-C18	15.23	66754.2	1.15	1.145
21)	Phytane	15.40	43945.7	0.74	0.740
22)	n-C19	16.46	45426.2	0.78	0.776
24)	n-C20	17.73	12792.6	0.22	0.217
25)	n-C21	19.02	153434	2.56	2.565
26)	n-C22	20.31	19232	0.32	0.320
27)	n-C23	21.60	180181	2.97	2.973
28)	n-C24	22.85	17993.2	0.30	0.296
29)	n-C25	24.09	148472	2.44	2.441
30)	n-C26	25.28	19439.9	0.32	0.318
31)	n-C27	26.45	218746	3.68	3.677
32)	n-C28	27.57	45222.9	0.75	0.751
33)	n-C29	28.68	437610	7.25	7.250
35)	n-C30	29.75	58976.4	0.99	0.991
36)	n-C31	30.80	752798	12.92	12.918
37)	n-C32	31.78	80202.8	1.40	1.399
38)	n-C33	32.68	970871	17.52	17.519
39)	n-C34	33.64	65290.2	1.17	1.171
40)	n-C35	34.58	457682	8.50	8.501
41)	n-C36	35.67	33829.4	0.59	0.586
42)	n-C37	36.94	97834	1.88	1.882
43)	n-C38	38.42	21254.4	0.42	0.416
44)	n-C39	40.14	31172.4	0.64	0.635
45)	n-C40	0.00	0	0.00	0.000
46)	TPH	32.93	74807000	1339.03	1339.030
47)	TRH1	8.48	391251	7.00	7.003
48)	TRH2	12.75	3975750	71.16	71.165
49)	TRH3	25.36	1520200	27.21	27.211
50)	TRH4	30.66	6766830	121.12	121.124
51)	TRH5	32.93	23066200	412.88	412.878
52)	TRH6	39.23	1078830	19.31	19.311
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	8.48	129926	2.68	100.5
23)	n-eicosane-d42	17.33	110509	2.36	88.1
34)	n-triacontane-d62	29.19	90243.7	1.94	72.7
1)	n-hexadecane-d34	12.75	325780	6.66	325780.000
16)	5a-androstane	17.91	411628	6.67	411628.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ARC1574.D
Signal(s) : FID2B.CH
Acq On : 14-Aug-2013, 06:37:43
Operator : Meghan Dailey
Sample : SED-DA-028 (0-0.5)
Misc :
ALS Vial : 66 Sample Multiplier: 0.133156

Integration File: autoint1.e
Quant Time: Aug 24 14:28:26 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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	12.749	325780	50.000	ug/mlm
16) I	5a-androstane	17.911	411628	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.480	129926	20.096	ug/mlm
23) S	n-eicosane-d42	17.335	110509	17.729	ug/mlm
34) S	n-triacontane-d62	29.193	90244	14.562	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/mld
3)	n-C9	0.000	0	N.D.	ug/mld
4)	n-C10	6.076	211	0.004	ug/mlm
5)	n-C11	7.428	771	0.015	ug/mlm
7)	n-C12	8.690	696	0.013	ug/mlm
8)	i-13	8.901	2272	0.041	ug/mlm
9)	i-14	9.585	4032	0.071	ug/mlm
10)	n-C13	9.855	1763	0.032	ug/mlm
11)	i-15	10.731	1512	0.026	ug/mlm
12)	n-C14	10.953	2551	0.045	ug/mlm
13)	i-16	11.626	12537	0.212	ug/mlm
14)	n-C15	11.976	26363	0.453	ug/mlm
15)	n-C16	12.994	2833	0.048	ug/mlm
17)	i-18	13.541	4084	0.070	ug/mlm
18)	n-C17	14.078	46317	0.788	ug/mlm
19)	Pristane	14.191	20557	0.351	ug/mlm
20)	n-C18	15.227	66754	1.145	ug/mlm
21)	Phytane	15.402	43946	0.740	ug/mlm
22)	n-C19	16.464	45426	0.776	ug/mlm
24)	n-C20	17.725	12793	0.217	ug/mlm
25)	n-C21	19.018	153434	2.565	ug/mlm
26)	n-C22	20.310	19232	0.320	ug/mlm
27)	n-C23	21.596	180181	2.973	ug/mlm
28)	n-C24	22.851	17993	0.296	ug/mlm
29)	n-C25	24.086	148472	2.441	ug/mlm
30)	n-C26	25.278	19440	0.318	ug/mlm
31)	n-C27	26.447	218746	3.677	ug/mlm
32)	n-C28	27.573	45223	0.751	ug/mlm
33)	n-C29	28.676	437610	7.250	ug/mlm
35)	n-C30	29.745	58976	0.991	ug/mlm
36)	n-C31	30.801f	752798	12.918	ug/mlm
37)	n-C32	31.777	80203	1.399	ug/mlm
38)	n-C33	32.682	970871	17.519	ug/mlm
39)	n-C34	33.636	65290	1.171	ug/mlm
40)	n-C35	34.583	457682	8.501	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ARC1574.D
Signal(s) : FID2B.CH
Acq On : 14-Aug-2013, 06:37:43
Operator : Meghan Dailey
Sample : SED-DA-028 (0-0.5)
Misc :
ALS Vial : 66 Sample Multiplier: 0.133156

Integration File: autoint1.e
Quant Time: Aug 24 14:28:26 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.671	33829	0.586	ug/mlm
42)	n-C37	36.943	97834	1.882	ug/mlm
43)	n-C38	38.419	21254	0.416	ug/mlm
44)	n-C39	40.142	31172	0.635	ug/mlm
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	32.934	74807002	1339.024	ug/mlm
47)	TRH1	8.480	391251	7.003	ug/mlm
48)	TRH2	12.749f	3975754	71.165	ug/mlm
49)	TRH3	25.356f	1520203	27.211	ug/mlm
50)	TRH4	30.656f	6766834	121.124	ug/mlm
51)	TRH5	32.934	23066166	412.878	ug/mlm
52)	TRH6	39.233f	1078831	19.311	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

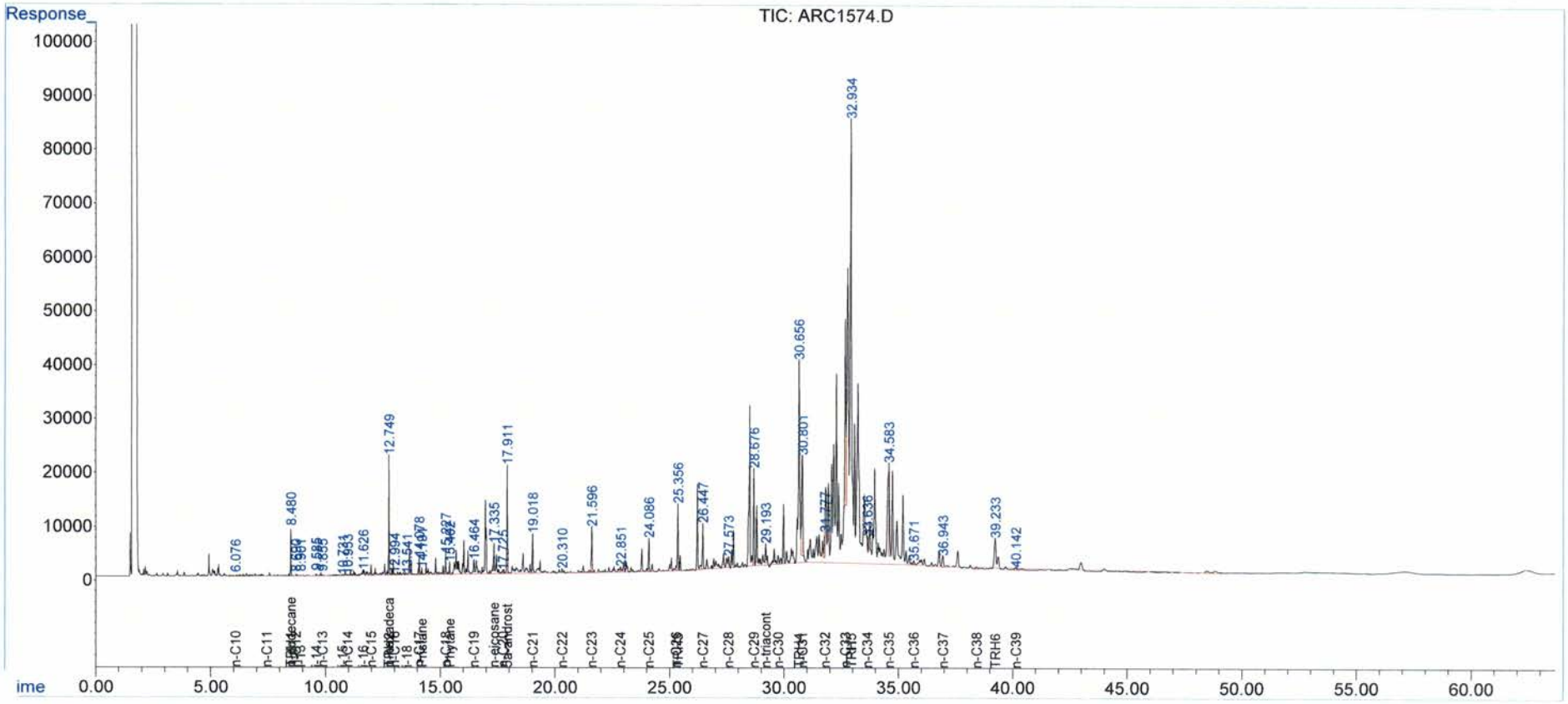
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ARC1574.D
Signal(s) : FID2B.CH
Acq On : 14-Aug-2013, 06:37:43
Operator : Meghan Dailey
Sample : SED-DA-028 (0-0.5)
Misc :
ALS Vial : 66 Sample Multiplier: 0.133156

Integration File: autoint1.e
Quant Time: Aug 24 14:28:26 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC1579.D**		ARC1579.D
Sample Name	**SED-DA-027 (0-0.5)**		SED-DA-027 (0-0.5)
Misc Info	**0**		14-Aug-2013, 07:47:58
Data File Path	**C:\msdchem\2\data\FID10074**		ALIBACK.M
Operator	**Meghan Dailey**		
Date Acquired	**14-Aug-2013, 07:47:58**		0.0665779
Instrument Name	**HP5890**		
Acq. Method File	**ALIBACK.M**	Vial #	67
Vial Number	**67**	IS Area 1	324774
Sample Multiplier	**0.0665779**	IS Area 2	408256

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	0.00	0	0.00	0.000
3)	n-C9	0.00	0	0.00	0.000
4)	n-C10	6.08	412.815	0.00	0.004
5)	n-C11	7.43	911.056	0.01	0.009
7)	n-C12	8.68	991.881	0.01	0.009
8)	i-13	8.92	1371.67	0.01	0.013
9)	i-14	9.58	9864.03	0.09	0.087
10)	n-C13	9.86	1564.07	0.01	0.014
11)	i-15	10.73	783.569	0.01	0.007
12)	n-C14	10.95	2692.99	0.02	0.024
13)	i-16	11.63	4585.96	0.04	0.039
14)	n-C15	11.98	22378.1	0.19	0.193
15)	n-C16	13.00	2151.01	0.02	0.018
17)	i-18	13.54	1620.38	0.01	0.014
18)	n-C17	14.08	6259.55	0.05	0.054
19)	Pristane	14.19	9148.7	0.08	0.079
20)	n-C18	15.23	71596.1	0.62	0.619
21)	Phytane	15.40	18944.1	0.16	0.161
22)	n-C19	16.47	45799.2	0.39	0.395
24)	n-C20	17.73	9854.63	0.08	0.084
25)	n-C21	19.02	179437	1.51	1.512
26)	n-C22	20.31	16367.4	0.14	0.137
27)	n-C23	21.60	216732	1.80	1.803
28)	n-C24	22.85	26394.5	0.22	0.219
29)	n-C25	24.09	185211	1.54	1.535
30)	n-C26	25.28	21115.6	0.17	0.174
31)	n-C27	26.45	341062	2.89	2.890
32)	n-C28	27.57	40779.6	0.34	0.341
33)	n-C29	28.68	402587	3.36	3.362
35)	n-C30	29.73	46071.8	0.39	0.390
36)	n-C31	30.78	444962	3.85	3.849
37)	n-C32	31.75	25813.8	0.23	0.227
38)	n-C33	32.69	462739	4.21	4.209
39)	n-C34	33.61	59708.3	0.54	0.540
40)	n-C35	34.58	337692	3.16	3.162
41)	n-C36	35.67	24242.3	0.21	0.212
42)	n-C37	36.94	101518	0.98	0.985
43)	n-C38	38.41	11249.7	0.11	0.111
44)	n-C39	40.13	29529.9	0.30	0.303
45)	n-C40	0.00	0	0.00	0.000
46)	TPH	33.15	50841300	458.78	458.780
47)	TRH1	8.48	367511	3.32	3.316
48)	TRH2	12.75	3731690	33.67	33.674
49)	TRH3	26.21	2659610	24.00	24.000
50)	TRH4	33.15	22401800	202.15	202.148
51)	TRH5	34.58	3207700	28.95	28.946
52)	TRH6	39.22	577941	5.22	5.215
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	8.48	124995	1.29	97.0
23)	n-eicosane-d42	17.34	114216	1.23	91.8
34)	n-triacontane-d62	29.19	97355.2	1.05	79.1
1)	n-hexadecane-d34	12.75	324774	3.33	324774.000
16)	5a-androstane	17.91	408256	3.33	408256.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ARC1579.D
Signal(s) : FID2B.CH
Acq On : 14-Aug-2013, 07:47:58
Operator : Meghan Dailey
Sample : SED-DA-027 (0-0.5)
Misc :
ALS Vial : 67 Sample Multiplier: 0.0665779

Integration File: autoint1.e
Quant Time: Aug 24 14:32:06 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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	12.750	324774	50.000 ug/mlm
16) I	5a-androstane	17.912	408256	50.072 ug/mlm
	System Monitoring Compounds			
6) S	n-dodecane-d26	8.481	124995	19.393 ug/mlm
23) S	n-eicosane-d42	17.336	114216	18.476 ug/mlm
34) S	n-triacontane-d62	29.192	97355	15.839 ug/mlm
	Target Compounds			
2)	n-C8	0.000	0	N.D. ug/mld
3)	n-C9	0.000	0	N.D. ug/mld
4)	n-C10	6.075	413	0.004 ug/mlm
5)	n-C11	7.428	911	0.009 ug/mlm
7)	n-C12	8.685	992	0.009 ug/mlm
8)	i-13	8.919f	1372	0.013 ug/mlm
9)	i-14	9.583	9864	0.087 ug/mlm
10)	n-C13	9.855	1564	0.014 ug/mlm
11)	i-15	10.732	784	0.007 ug/mlm
12)	n-C14	10.953	2693	0.024 ug/mlm
13)	i-16	11.625	4586	0.039 ug/mlm
14)	n-C15	11.976	22378	0.193 ug/mlm
15)	n-C16	12.996	2151	0.018 ug/mlm
17)	i-18	13.542	1620	0.014 ug/mlm
18)	n-C17	14.079	6260	0.054 ug/mlm
19)	Pristane	14.191	9149	0.079 ug/mlm
20)	n-C18	15.227	71596	0.619 ug/mlm
21)	Phytane	15.403	18944	0.161 ug/mlm
22)	n-C19	16.465	45799	0.395 ug/mlm
24)	n-C20	17.727	9855	0.084 ug/mlm
25)	n-C21	19.018	179437	1.512 ug/mlm
26)	n-C22	20.310	16367	0.137 ug/mlm
27)	n-C23	21.599	216732	1.803 ug/mlm
28)	n-C24	22.851	26395	0.219 ug/mlm
29)	n-C25	24.086	185211	1.535 ug/mlm
30)	n-C26	25.277	21116	0.174 ug/mlm
31)	n-C27	26.449	341062	2.890 ug/mlm
32)	n-C28	27.569	40780	0.341 ug/mlm
33)	n-C29	28.678	402587	3.362 ug/mlm
35)	n-C30	29.729	46072	0.390 ug/mlm
36)	n-C31	30.777	444962	3.849 ug/mlm
37)	n-C32	31.745	25814	0.227 ug/mlm
38)	n-C33	32.691	462739	4.209 ug/mlm
39)	n-C34	33.612	59708	0.540 ug/mlm
40)	n-C35	34.584	337692	3.162 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ARC1579.D
Signal(s) : FID2B.CH
Acq On : 14-Aug-2013, 07:47:58
Operator : Meghan Dailey
Sample : SED-DA-027 (0-0.5)
Misc :
ALS Vial : 67 Sample Multiplier: 0.0665779

Integration File: autoint1.e
Quant Time: Aug 24 14:32:06 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.666	24242	0.212	ug/mlm
42)	n-C37	36.936	101518	0.985	ug/mlm
43)	n-C38	38.407	11250	0.111	ug/mlm
44)	n-C39	40.130	29530	0.303	ug/mlm
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	33.152	50841329	458.780	ug/mlm
47)	TRH1	8.481	367511	3.316	ug/mlm
48)	TRH2	12.750f	3731691	33.674	ug/mlm
49)	TRH3	26.210f	2659611	24.000	ug/mlm
50)	TRH4	33.152f	22401789	202.148	ug/mlm
51)	TRH5	34.584f	3207702	28.946	ug/mlm
52)	TRH6	39.220f	577941	5.215	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

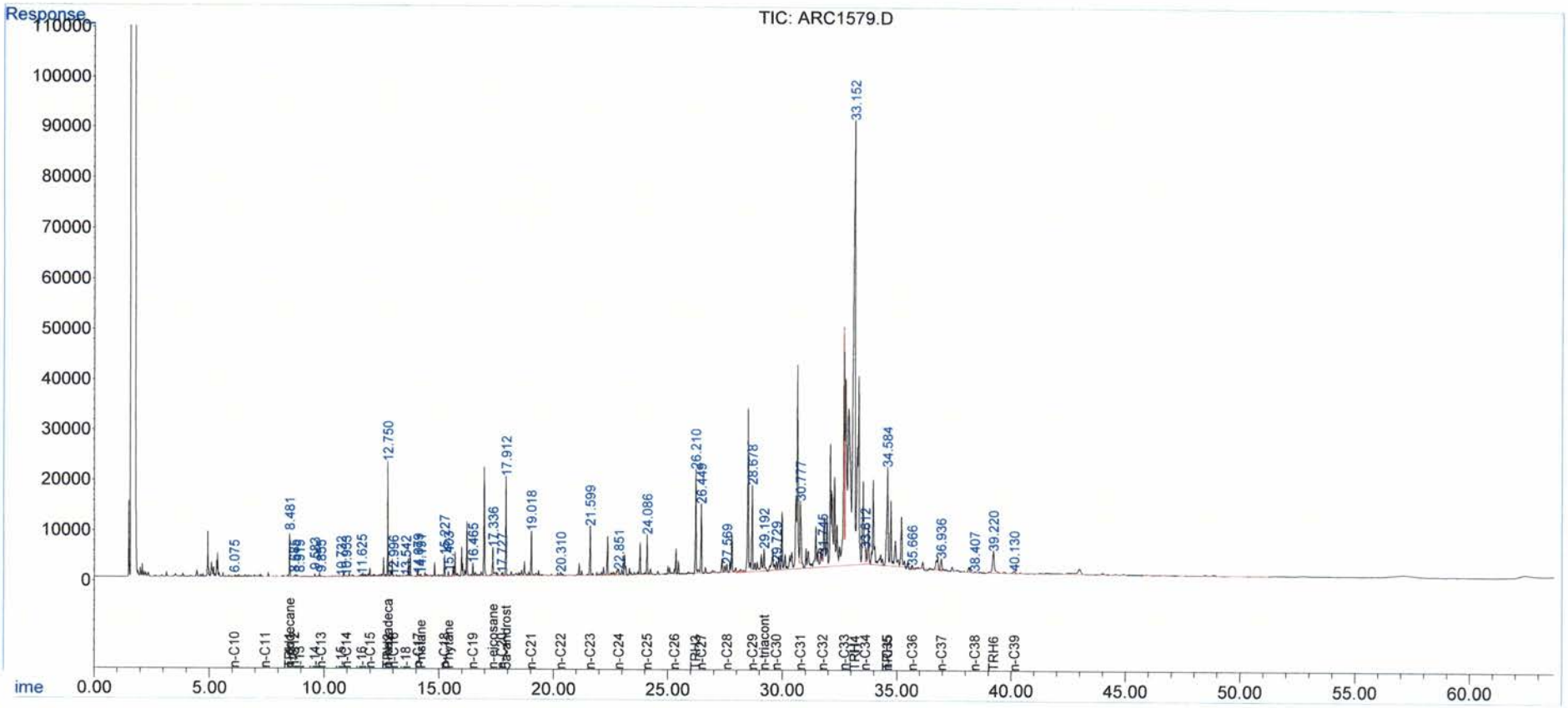
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10074\
Data File : ARC1579.D
Signal(s) : FID2B.CH
Acq On : 14-Aug-2013, 07:47:58
Operator : Meghan Dailey
Sample : SED-DA-027 (0-0.5)
Misc :
ALS Vial : 67 Sample Multiplier: 0.0665779

Integration File: autoint1.e
Quant Time: Aug 24 14:32:06 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3076\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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 3076	Analyst: Y. Miao
Client: Arcadis Mayflower Project	Date: Sepember 2, 2013
Job: #: J13034	Project Quality Manager: D Friend
SDG #: 13073001 and 13073101	Date: 09/10/13

Initial Calibration: No failures	ICV No failures
Surrogate Recoveries: No failures	
Procedural Blank: No failures	
Blank Spike: NA	
Blank Spike Duplicate: NA	
Laboratory Duplicate: No failures	
Matrix Spike: No failures	
Matirx Spike Duplicate: No failures	
SRM/LCS (Solution, Tissue, Sediment): Solution no failures Sediment (1941b) anthracene was outside of the laboratory QC %RPD limit	
CCC (from a second source): No failures	
SRM-2279 Reference Oil No failures	
Mass Discrimination Check (benzo(ghi)perylene/phenanthrene >0.7) No failures	

Sequence Name: C:\msdchem\1\sequence\MS60140.S
Comment: Arcadis-Mayflower AR-Sediments-PAH (08/12/13)
Operator: YM
Data Path: C:\MSDCHEM\1\DATA\MS60140\
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	MS60140A	PAH-2012	Solvent rinse
2)	Sample	2	MS60140B	PAH-2012	AR-WKC1-020-030
3)	Sample	3	MS60140C	PAH-2012	AR-WKC2-100-030
4)	Sample	4	MS60140D	PAH-2012	AR-WKC3-250-030
5)	Sample	5	MS60140E	PAH-2012	AR-WKC4-500-030
6)	Sample	6	MS60140F	PAH-2012	AR-WKC5-1000-030
7)	Sample	7	MS60140G	PAH-2012	AR-WKC6-5000-030
8)	Sample	8	MS60140H	PAH-2012	AR-WKISSU-250-002
9)	Sample	9	MS60140I	PAH-2012	AR-WKICV-250-004
10)	Sample	10	MS60140J	PAH-2012	AR-WKCC-250-038
11)	Sample	11	MS60140K	PAH-2012	AR-SRM2779-WK-4.0-002
12)	Sample	12	ENV3076A	PAH-2012	
13)	Sample	13	ENV3076B	PAH-2012	
14)	Sample	14	ENV3076C	PAH-2012	
15)	Sample	15	ENV3076D	PAH-2012	
16)	Sample	16	ENV3076E	PAH-2012	
17)	Sample	17	ARC1558	PAH-2012	
18)	Sample	18	ARC1559	PAH-2012	
19)	Sample	19	ARC1560	PAH-2012	
20)	Sample	20	MS60140L	PAH-2012	AR-WKCC-250-038
21)	Sample	20	MS60140O	PAH-2012	AR-WKCC-250-038
22)	Sample	21	ARC1561	PAH-2012	
23)	Sample	22	ARC1562	PAH-2012	
24)	Sample	23	ARC1563	PAH-2012	
25)	Sample	24	ARC1566	PAH-2012	
26)	Sample	25	ARC1567	PAH-2012	
27)	Sample	26	ARC1568	PAH-2012	
28)	Sample	27	ARC1569	PAH-2012	7extract & hdd
29)	Sample	28	ARC1570	PAH-2012	
30)	Sample	29	MS60140M	PAH-2012	AR-WKCC-250-038
31)	Sample	30	ARC1571	PAH-2012	
32)	Sample	31	ARC1572	PAH-2012	
33)	Sample	32	ARC1573	PAH-2012	
34)	Sample	33	ARC1574	PAH-2012	
35)	Sample	34	ARC1577	PAH-2012	
36)	Sample	35	ARC1578	PAH-2012	
37)	Sample	36	ARC1579	PAH-2012	
38)	Sample	37	ARC1580	PAH-2012	
39)	Sample	38	MS60140N	PAH-2012	AR-WKCC-250-038

Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60140\
Data File : MS60140J.D
Acq On : 13 Aug 2013 4:38 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 17 23:36:32 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 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	85	0.00
2	S	Naphthalene-d8	1.831	1.769	3.4	87	0.00
3	T	cis/trans Decalin	0.318	0.321	-0.9	88	0.00
4	un	C1-Decalins	0.318	0.000	100.0#	0#	-12.26#
5	un	C2-Decalins	0.318	0.000	100.0#	0#	-13.40#
6	un	C3-Decalins	0.318	0.000	100.0#	0#	-16.13#
7	un	C4-Decalins	0.318	0.000	100.0#	0#	-18.58#
8	T	Naphthalene	1.990	1.947	2.2	88	0.00
9	T	2-Methylnaphthalene	1.257	1.195	4.9	87	0.00
10	T	1-Methylnaphthalene	1.172	1.134	3.2	87	0.00
11	T	2,6-Dimethylnaphthalene	1.067	1.015	4.9	87	0.00
12	T	1,6,7-Trimethylnaphthalene	1.023	0.939	8.2	85	0.00
13	un	C2-Naphthalenes	1.990	0.000	100.0#	0#	-18.47#
14	un	C3-Naphthalenes	1.990	0.000	100.0#	0#	-20.28#
15	un	C4-Naphthalenes	1.990	0.000	100.0#	0#	-21.79#
16	T	Benzothiophene	1.576	1.546	1.9	88	0.00
17	un	C1-Benzothiophenes	1.576	0.000	100.0#	0#	-15.41#
18	un	C2-Benzothiophenes	1.576	0.000	100.0#	0#	-18.14#
19	un	C3-Benzothiophenes	1.576	0.000	100.0#	0#	-20.23#
20	un	C4-Benzothiophenes	1.576	0.000	100.0#	0#	-22.18#
21	S	Acenaphthene-d10	0.974	0.905	7.1	86	0.00
22	T	Biphenyl	1.596	1.558	2.4	88	0.00
23	T	Acenaphthylene	1.705	1.517	11.0	84	0.00
24	T	Acenaphthene	1.091	1.023	6.2	86	0.00
25	T	Dibenzofuran	1.721	1.667	3.1	88	0.00
26	T	Fluorene	1.373	1.269	7.6	85	0.00
27	T	1-Methylfluorene	0.754	0.678	10.1	84	0.00
28	un	C1-Fluorenes	1.373	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.373	0.000	100.0#	0#	-25.10#
30	un	C3-Fluorenes	1.373	0.000	100.0#	0#	-26.70#
31	I	Pyrene-d10	1.000	1.000	0.0	77	0.00
32	S	Phenanthrene-d10	0.986	1.030	-4.5	85	0.00
33	T	Carbazole	0.896	0.831	7.3	81	0.00
34	T	Dibenzothiophene	1.114	1.138	-2.2	84	0.00
35	T	4-Methyldibenzothiophene	0.656	0.667	-1.7	86	0.00
36	un	2/3-Methyldibenzothiophene	0.656	0.000	100.0#	0#	-26.14#
37	un	1-Methyldibenzothiophene	0.656	0.000	100.0#	0#	-26.49#
38	un	C2-Dibenzothiophenes	1.114	0.000	100.0#	0#	-26.94#
39	un	C3-Dibenzothiophenes	1.114	0.000	100.0#	0#	-28.78#
40	un	C4-Dibenzothiophenes	1.114	0.000	100.0#	0#	-30.44#
41	T	Phenanthrene	1.030	1.114	-8.2	86	0.00
42	T	Anthracene	0.914	0.932	-2.0	83	0.00
43	un	3-Methylphenanthrene	0.767	0.000	100.0#	0#	-26.70#
44	un	2-Methylphenanthrene	0.767	0.000	100.0#	0#	-26.91#
45	un	2-Methylanthracene	0.767	0.000	100.0#	0#	-26.91#
46	un	4/9-Methylphenanthrene	0.767	0.000	100.0#	0#	-26.91#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60140\
Data File : MS60140J.D
Acq On : 13 Aug 2013 4:38 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 17 23:36:32 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 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	0.767	0.757	1.3	85	0.00
48	T	3,6-Dimethylphenanthrene	0.778	0.751	3.5	82	0.00
49	T	Retene	0.289	0.275	4.8	82	0.00
50	un	C2-Phenanthrenes/Anthracene	1.030	0.000	100.0#	0#	-28.53#
51	un	C3-Phenanthrenes/Anthracene	1.030	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.030	0.000	100.0#	0#	-32.03#
53	T	Naphthobenzothiophene	0.958	0.907	5.3	85	0.00
54	un	C1-Naphthobenzothiophenes	0.958	0.000	100.0#	0#	-33.92#
55	un	C2-Naphthobenzothiophenes	0.958	0.000	100.0#	0#	-35.78#
56	un	C3-Naphthobenzothiophenes	0.958	0.000	100.0#	0#	-37.06#
57	un	C4-Naphthobenzothiophenes	0.958	0.000	100.0#	0#	-37.68#
58	T	Fluoranthene	1.278	1.267	0.9	83	0.00
59	T	Pyrene	1.186	1.177	0.8	86	0.00
60	T	2-Methylfluoranthene	0.696	0.672	3.4	84	0.00
61	T	Benzo(b)fluorene	0.717	0.697	2.8	81	0.00
62	un	C1-Fluoranthenes/Pyrenes	1.278	0.000	100.0#	0#	-30.65#
63	un	C2-Fluoranthenes/Pyrenes	1.278	0.000	100.0#	0#	-32.13#
64	un	C3-Fluoranthenes/Pyrenes	1.278	0.000	100.0#	0#	-33.80#
65	un	C4-Fluoranthenes/Pyrenes	1.278	0.000	100.0#	0#	-35.28#
66	S	Chrysene-d12	0.987	0.905	8.3	82	0.00
67	T	Benz(a)anthracene	0.890	0.806	9.4	81	0.00
68	T	Chrysene/Triphenylene	1.216	1.145	5.8	84	0.00
69	un	C1-Chrysenes	1.216	0.000	100.0#	0#	-35.39#
70	un	C2-Chrysenes	1.216	0.000	100.0#	0#	-36.01#
71	un	C3-Chrysenes	1.216	0.000	100.0#	0#	-38.07#
72	un	C4-Chrysenes	1.216	0.000	100.0#	0#	-39.66#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	70	0.00
74	un	C29-Hopane	0.415	0.000	100.0#	0#	-40.67#
75	un	18a-Oleanane	0.415	0.000	100.0#	0#	-41.48#
76	T	C30-Hopane	0.415	0.416	-0.2	75	0.00
77	T	Benzo(b)fluoranthene	1.462	1.498	-2.5	80	0.00
78	T	Benzo(k,j)fluoranthene	1.531	1.596	-4.2	77	0.00
79	un	Benzo(a)fluoranthene	1.531	0.000	100.0#	0#	-37.29#
80	T	Benzo(e)pyrene	1.593	1.704	-7.0	80	0.00
81	T	Benzo(a)pyrene	1.369	1.414	-3.3	81	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.356	1.365	-0.7	77	0.00
83	T	Dibenzo(a,h)anthracene	1.068	1.072	-0.4	77	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.068	0.000	100.0#	0#	-48.67#
85	un	C2-Dibenzo(a,h)anthracenes	1.068	0.000	100.0#	0#	-50.37#
86	un	C3-Dibenzo(a,h)anthracenes	1.068	0.000	100.0#	0#	-50.77#
87	T	Benzo(g,h,i)perylene	1.151	1.186	-3.0	78	0.00
88	S	Perylene-d12	1.245	1.335	-7.2	79	0.00
89	T	Perylene	1.438	1.511	-5.1	79	0.00
90	S	5(b)H-Cholane	0.260	0.280	-7.7	81	0.00
91	un	C20-TAS	1.688	0.000	100.0#	0#	-33.10#
92	un	C21-TAS	1.688	0.000	100.0#	0#	-34.23#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60140\
Data File : MS60140J.D
Acq On : 13 Aug 2013 4:38 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 17 23:36:32 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 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	1.688	0.000	100.0#	0#	-38.65#
94 T	C26(20R)/C27(20S)-TAS	1.688	1.590	5.8	74	0.00
95 un	C28(20S)-TAS	1.688	0.000	100.0#	0#	-39.97#
96 un	C27(20R)-TAS	1.688	0.000	100.0#	0#	-40.63#
97 un	C28(20R)-TAS	1.688	0.000	100.0#	0#	-41.55#

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140J.D
Acq On : 13 Aug 2013 4:38 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 17 23:36:32 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.340	176	120765m	251.05		0.00
31) Pyrene-d10	29.605	212	210581m	250.63		0.00
73) Benzo(a)pyrene-d12	38.342	264	155062m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.705	136	212854m	241.63		0.00
21) Acenaphthene-d10	19.557	164	108959m	232.45		0.00
32) Phenanthrene-d10	24.687	188	216608m	261.43		0.00
66) Chrysene-d12	33.802	240	190036m	229.12		0.00
88) Perylene-d12	38.652	264	206782m	268.05		0.00
90) 5(b)H-Cholane	34.190	217	43344m	269.56		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.086	138	38151m	249.71		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.789	128	234115m	244.56		
9) 2-Methylnaphthalene	16.018	142	143904m	237.94		
10) 1-Methylnaphthalene	16.352	142	136280m	241.69		
11) 2,6-Dimethylnaphthalene	18.136	156	122036m	237.81		
12) 1,6,7-Trimethylnaphtha...	20.978	170	112885m	229.31		
13) C2-Naphthalenes	0.000		0	N.D.		
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.		
16) Benzothiophene	13.956	134	184810m	243.83		
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	17.606	154	185705m	241.84		
23) Acenaphthylene	19.083	152	181009m	220.67		
24) Acenaphthene	19.668	154	123327m	234.97		
25) Dibenzofuran	20.281	168	199418m	240.94		
26) Fluorene	21.452	166	152950m	231.57		
27) 1-Methylfluorene	23.440	180	82145m	226.35		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.518	167	173054m	229.98		
34) Dibenzothiophene	24.340	184	235675m	251.72		
35) 4-Methyldibenzothiophene	25.864	198	141271m	256.48		
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.756	178	231836m	267.77		
42) Anthracene	24.929	178	196277m	255.51		

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140J.D
Acq On : 13 Aug 2013 4:38 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 17 23:36:32 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43)	3-Methylphenanthrene	0.000		0		N.D.	d
44)	2-Methylphenanthrene	0.000		0		N.D.	d
45)	2-Methylanthracene	0.000		0		N.D.	d
46)	4/9-Methylphenanthrene	0.000		0		N.D.	d
47)	1-Methylphenanthrene	26.903	192	157209m	243.80		
48)	3,6-Dimethylphenanthrene	27.977	206	157870m	241.46		
49)	Retene	30.644	234	51692m	213.17		
50)	C2-Phenanthrenes/Anthr...	0.000		0		N.D.	d
51)	C3-Phenanthrenes/Anthr...	0.000		0		N.D.	d
52)	C4-Phenanthrenes/Anthr...	0.000		0		N.D.	d
53)	Naphthobenzothiophene	32.948	234	191750m	238.31		
54)	C1-Naphthobenzothiophenes	0.000		0		N.D.	d
55)	C2-Naphthobenzothiophenes	0.000		0		N.D.	d
56)	C3-Naphthobenzothiophenes	0.000		0		N.D.	d
57)	C4-Naphthobenzothiophenes	0.000		0		N.D.	d
58)	Fluoranthene	28.878	202	266396m	248.00		
59)	Pyrene	29.675	202	247306m	248.22		
60)	2-Methylfluoranthene	30.402	216	142037m	243.02		
61)	Benzo(b)fluorene	31.026	216	147725m	245.29		
62)	C1-Fluoranthenes/Pyrenes	0.000		0		N.D.	d
63)	C2-Fluoranthenes/Pyrenes	0.000		0		N.D.	d
64)	C3-Fluoranthenes/Pyrenes	0.000		0		N.D.	d
65)	C4-Fluoranthenes/Pyrenes	0.000		0		N.D.	d
67)	Benz(a)anthracene	33.763	228	169045m	226.15		
68)	Chrysene/Triphenylene	33.879	228	239093m	233.95		
69)	C1-Chrysenes	0.000		0		N.D.	d
70)	C2-Chrysenes	0.000		0		N.D.	d
71)	C3-Chrysenes	0.000		0		N.D.	d
72)	C4-Chrysenes	0.000		0		N.D.	d
74)	C29-Hopane	0.000		0		N.D.	d
75)	18a-Oleanane	0.000		0		N.D.	d
76)	C30-Hopane	42.735	191	64379m	250.52		
77)	Benzo(b)fluoranthene	37.294	252	232470m	256.72		
78)	Benzo(k,j)fluoranthene	37.372	252	246234m	259.63		
79)	Benzo(a)fluoranthene	0.000		0		N.D.	d
80)	Benzo(e)pyrene	38.264	252	262895m	266.50		
81)	Benzo(a)pyrene	38.458	252	218527m	257.70		
82)	Indeno(1,2,3-c,d)pyrene	43.104	276	207848m	247.53		
83)	Dibenzo(a,h)anthracene	43.177	278	164491m	248.72		
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	44.468	276	181947m	255.17		
89)	Perylene	38.769	252	234221m	262.95		
91)	C20-TAS	0.000		0		N.D.	d
92)	C21-TAS	0.000		0		N.D.	d
93)	C26(20S)-TAS	0.000		0		N.D.	d
94)	C26(20R)/C27(20S)-TAS	39.390	231	246254m	235.57		
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\MS60140\
Data File : MS60140J.D
Acq On : 13 Aug 2013 4:38 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 17 23:36:32 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

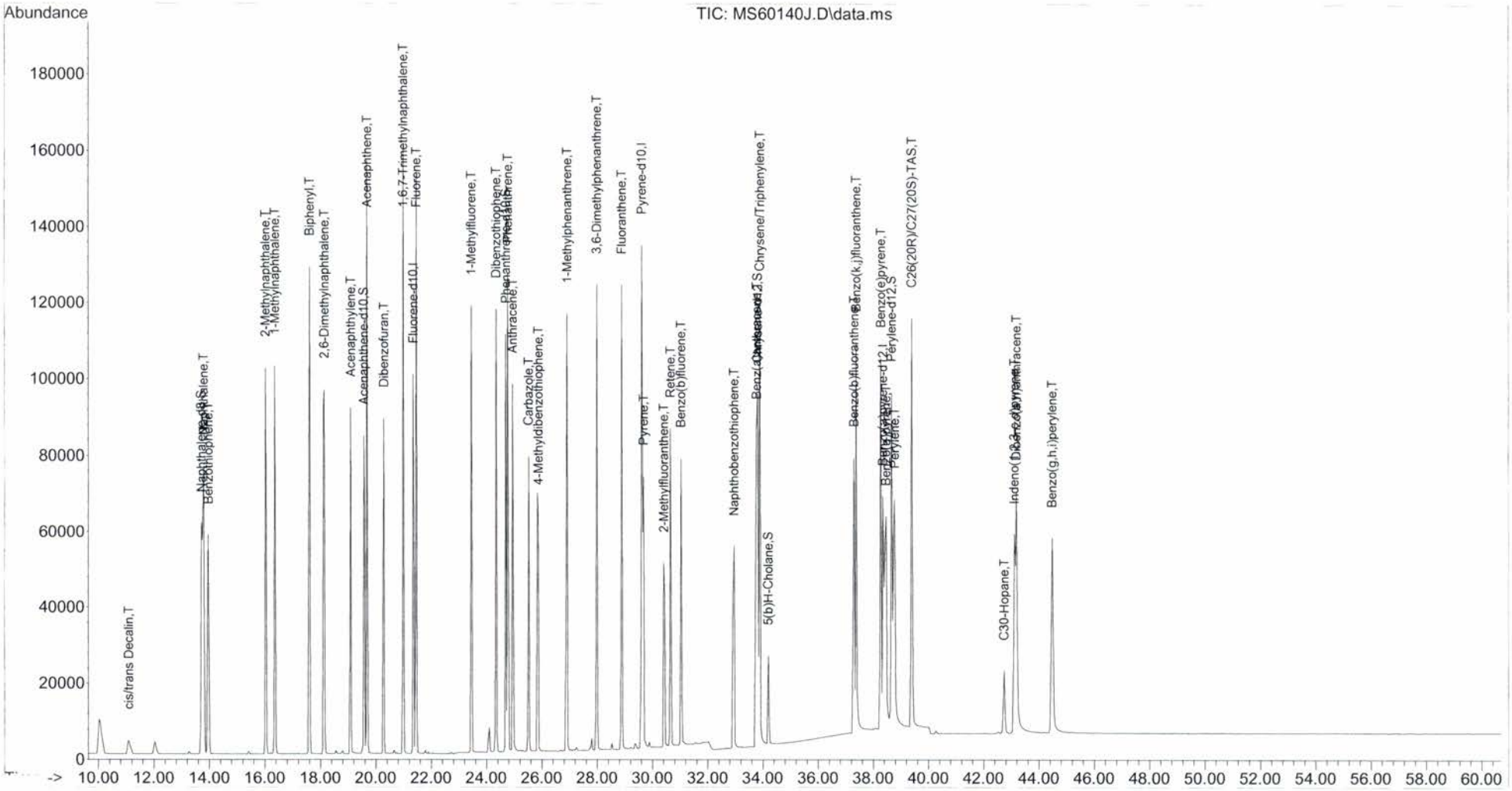
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140J.D
Acq On : 13 Aug 2013 4:38 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 17 23:36:32 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60140\
Data File : MS60140L.D
Acq On : 13 Aug 2013 4:10 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 14 06:51:43 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 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	101	0.02
2	S	Naphthalene-d8	1.831	1.615	11.8	95	0.02
3	T	cis/trans Decalin	0.318	0.280	11.9	92	0.00
4	un	C1-Decalins	0.318	0.000	100.0#	0#	-12.26#
5	un	C2-Decalins	0.318	0.000	100.0#	0#	-13.40#
6	un	C3-Decalins	0.318	0.000	100.0#	0#	-16.13#
7	un	C4-Decalins	0.318	0.000	100.0#	0#	-18.58#
8	T	Naphthalene	1.990	1.752	12.0	95	0.00
9	T	2-Methylnaphthalene	1.257	1.139	9.4	99	0.00
10	T	1-Methylnaphthalene	1.172	1.050	10.4	97	0.00
11	T	2,6-Dimethylnaphthalene	1.067	1.035	3.0	106	0.00
12	T	1,6,7-Trimethylnaphthalene	1.023	0.961	6.1	104	0.00
13	un	C2-Naphthalenes	1.990	0.000	100.0#	0#	-18.47#
14	un	C3-Naphthalenes	1.990	0.000	100.0#	0#	-20.28#
15	un	C4-Naphthalenes	1.990	0.000	100.0#	0#	-21.79#
16	T	Benzothiophene	1.576	1.396	11.4	95	0.00
17	un	C1-Benzothiophenes	1.576	0.000	100.0#	0#	-15.41#
18	un	C2-Benzothiophenes	1.576	0.000	100.0#	0#	-18.14#
19	un	C3-Benzothiophenes	1.576	0.000	100.0#	0#	-20.23#
20	un	C4-Benzothiophenes	1.576	0.000	100.0#	0#	-22.18#
21	S	Acenaphthene-d10	0.974	0.897	7.9	102	0.02
22	T	Biphenyl	1.596	1.488	6.8	101	0.00
23	T	Acenaphthylene	1.705	1.745	-2.3	116	0.00
24	T	Acenaphthene	1.091	1.001	8.2	100	0.00
25	T	Dibenzofuran	1.721	1.654	3.9	104	0.00
26	T	Fluorene	1.373	1.336	2.7	108	0.00
27	T	1-Methylfluorene	0.754	0.708	6.1	105	0.00
28	un	C1-Fluorenes	1.373	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.373	0.000	100.0#	0#	-25.10#
30	un	C3-Fluorenes	1.373	0.000	100.0#	0#	-26.70#
31	I	Pyrene-d10	1.000	1.000	0.0	113	0.00
32	S	Phenanthrene-d10	0.986	0.815	17.3	98	0.00
33	T	Carbazole	0.896	0.878	2.0	125	0.00
34	T	Dibenzothiophene	1.114	0.987	11.4	107	0.00
35	T	4-Methyldibenzothiophene	0.656	0.627	4.4	118	0.00
36	un	2/3-Methyldibenzothiophene	0.656	0.000	100.0#	0#	-26.14#
37	un	1-Methyldibenzothiophene	0.656	0.000	100.0#	0#	-26.49#
38	un	C2-Dibenzothiophenes	1.114	0.000	100.0#	0#	-26.94#
39	un	C3-Dibenzothiophenes	1.114	0.000	100.0#	0#	-28.78#
40	un	C4-Dibenzothiophenes	1.114	0.000	100.0#	0#	-30.44#
41	T	Phenanthrene	1.030	0.852	17.3	97	0.00
42	T	Anthracene	0.914	0.802	12.3	105	0.00
43	un	3-Methylphenanthrene	0.767	0.000	100.0#	0#	-26.70#
44	un	2-Methylphenanthrene	0.767	0.000	100.0#	0#	-26.91#
45	un	2-Methylanthracene	0.767	0.000	100.0#	0#	-26.91#
46	un	4/9-Methylphenanthrene	0.767	0.000	100.0#	0#	-26.91#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60140\
Data File : MS60140L.D
Acq On : 13 Aug 2013 4:10 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 14 06:51:43 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 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	0.767	0.779	-1.6	129	0.00
48	T	3,6-Dimethylphenanthrene	0.778	0.720	7.5	116	0.00
49	T	Retene	0.289	0.307	-6.2	134	0.03
50	un	C2-Phenanthrenes/Anthracene	1.030	0.000	100.0#	0#	-28.53#
51	un	C3-Phenanthrenes/Anthracene	1.030	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.030	0.000	100.0#	0#	-32.03#
53	T	Naphthobenzothiophene	0.958	1.062	-10.9	145	0.00
54	un	C1-Naphthobenzothiophenes	0.958	0.000	100.0#	0#	-33.92#
55	un	C2-Naphthobenzothiophenes	0.958	0.000	100.0#	0#	-35.78#
56	un	C3-Naphthobenzothiophenes	0.958	0.000	100.0#	0#	-37.06#
57	un	C4-Naphthobenzothiophenes	0.958	0.000	100.0#	0#	-37.68#
58	T	Fluoranthene	1.278	1.171	8.4	113	0.00
59	T	Pyrene	1.186	1.182	0.3	126	0.00
60	T	2-Methylfluoranthene	0.696	0.719	-3.3	133	0.03
61	T	Benzo(b)fluorene	0.717	0.685	4.5	117	0.00
62	un	C1-Fluoranthenes/Pyrenes	1.278	0.000	100.0#	0#	-30.65#
63	un	C2-Fluoranthenes/Pyrenes	1.278	0.000	100.0#	0#	-32.13#
64	un	C3-Fluoranthenes/Pyrenes	1.278	0.000	100.0#	0#	-33.80#
65	un	C4-Fluoranthenes/Pyrenes	1.278	0.000	100.0#	0#	-35.28#
66	S	Chrysene-d12	0.987	1.065	-7.9	142	0.00
67	T	Benz(a)anthracene	0.890	0.971	-9.1	143	0.00
68	T	Chrysene/Triphenylene	1.216	1.292	-6.3	139	0.00
69	un	C1-Chrysenes	1.216	0.000	100.0#	0#	-35.39#
70	un	C2-Chrysenes	1.216	0.000	100.0#	0#	-36.01#
71	un	C3-Chrysenes	1.216	0.000	100.0#	0#	-38.07#
72	un	C4-Chrysenes	1.216	0.000	100.0#	0#	-39.66#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	99	0.04
74	un	C29-Hopane	0.415	0.000	100.0#	0#	-40.67#
75	un	18a-Oleanane	0.415	0.000	100.0#	0#	-41.48#
76	T	C30-Hopane	0.415	0.461	-11.1	117	0.00
77	T	Benzo(b)fluoranthene	1.462	1.652	-13.0	124	0.00
78	T	Benzo(k,j)fluoranthene	1.531	1.636	-6.9	111	0.00
79	un	Benzo(a)fluoranthene	1.531	0.000	100.0#	0#	-37.29#
80	T	Benzo(e)pyrene	1.593	1.566	1.7	104	0.00
81	T	Benzo(a)pyrene	1.369	1.349	1.5	109	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.356	0.981	27.7#	78	0.00
83	T	Dibenzo(a,h)anthracene	1.068	0.816	23.6	83	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.068	0.000	100.0#	0#	-48.67#
85	un	C2-Dibenzo(a,h)anthracenes	1.068	0.000	100.0#	0#	-50.37#
86	un	C3-Dibenzo(a,h)anthracenes	1.068	0.000	100.0#	0#	-50.77#
87	T	Benzo(g,h,i)perylene	1.151	0.766	33.4#	71	0.04
88	S	Perylene-d12	1.245	1.105	11.2	92	0.00
89	T	Perylene	1.438	1.367	4.9	101	0.00
90	S	5(b)H-Cholane	0.260	0.292	-12.3	119	0.00
91	un	C20-TAS	1.688	0.000	100.0#	0#	-33.10#
92	un	C21-TAS	1.688	0.000	100.0#	0#	-34.23#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60140\
Data File : MS60140L.D
Acq On : 13 Aug 2013 4:10 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 14 06:51:43 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 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	1.688	0.000	100.0#	0#	-38.65#
94 T	C26(20R)/C27(20S)-TAS	1.688	2.062	-22.2	135	0.00
95 un	C28(20S)-TAS	1.688	0.000	100.0#	0#	-39.97#
96 un	C27(20R)-TAS	1.688	0.000	100.0#	0#	-40.63#
97 un	C28(20R)-TAS	1.688	0.000	100.0#	0#	-41.55#

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140L.D
Acq On : 13 Aug 2013 4:10 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 14 06:51:43 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.369	176	144557m	251.05		0.02
31) Pyrene-d10	29.605	212	308600m	250.63		0.00
73) Benzo(a)pyrene-d12	38.381	264	218549m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.733	136	232627m	220.61		0.02
21) Acenaphthene-d10	19.585	164	129239m	230.33		0.02
32) Phenanthrene-d10	24.687	188	250965m	206.69		0.00
66) Chrysene-d12	33.802	240	327897m	269.76		0.00
88) Perylene-d12	38.653	264	241227m	221.86		0.00
90) 5(b)H-Cholane	34.190	217	63719m	281.16		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.086	138	39933m	218.36		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.789	128	252276m	220.16		
9) 2-Methylnaphthalene	16.018	142	164174m	226.77		
10) 1-Methylnaphthalene	16.353	142	150982m	223.69		
11) 2,6-Dimethylnaphthalene	18.136	156	148948m	242.48		
12) 1,6,7-Trimethylnaphtha...	20.979	170	138333m	234.75		
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	13.956	134	199751m	220.16		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.607	154	212337m	231.01		
23) Acenaphthylene	19.084	152	249199m	253.80		
24) Acenaphthene	19.669	154	144362m	229.77		
25) Dibenzofuran	20.282	168	236947m	239.16		
26) Fluorene	21.452	166	192752m	243.80		
27) 1-Methylfluorene	23.440	180	102622m	236.24		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.518	167	267822m	242.87		
34) Dibenzothiophene	24.340	184	299493m	218.28		
35) 4-Methyldibenzothiophene	25.864	198	194708m	241.22		
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	259918m	204.85		
42) Anthracene	24.929	178	247564m	219.91		

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140L.D
Acq On : 13 Aug 2013 4:10 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 14 06:51:43 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D.	d	
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	26.904	192	237205m	251.02		
48) 3,6-Dimethylphenanthrene	27.977	206	221930m	231.62		
49) Retene	30.679	234	84541m	237.90		
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.	d	
53) Naphthobenzothiophene	32.948	234	329029m	279.04		
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.878	202	360782m	229.19		
59) Pyrene	29.675	202	363762m	249.14		
60) 2-Methylfluoranthene	30.437	216	222907m	260.25		
61) Benzo(b)fluorene	31.026	216	212823m	241.14		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.763	228	298164m	272.19		
68) Chrysene/Triphenylene	33.880	228	395244m	263.90		
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.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.735	191	100534m	277.56		
77) Benzo(b)fluoranthene	37.295	252	361287m	283.07		
78) Benzo(k,j)fluoranthene	37.372	252	355723m	266.12		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.265	252	340403m	244.83		
81) Benzo(a)pyrene	38.459	252	293759m	245.79		
82) Indeno(1,2,3-c,d)pyrene	43.104	276	210564m	177.92		
83) Dibenzo(a,h)anthracene	43.177	278	176548m	189.40		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.505	276	165605m	164.78		
89) Perylene	38.769	252	298625m	237.87		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.390	231	450023m	305.44		
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\MS60140\
Data File : MS60140L.D
Acq On : 13 Aug 2013 4:10 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 14 06:51:43 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

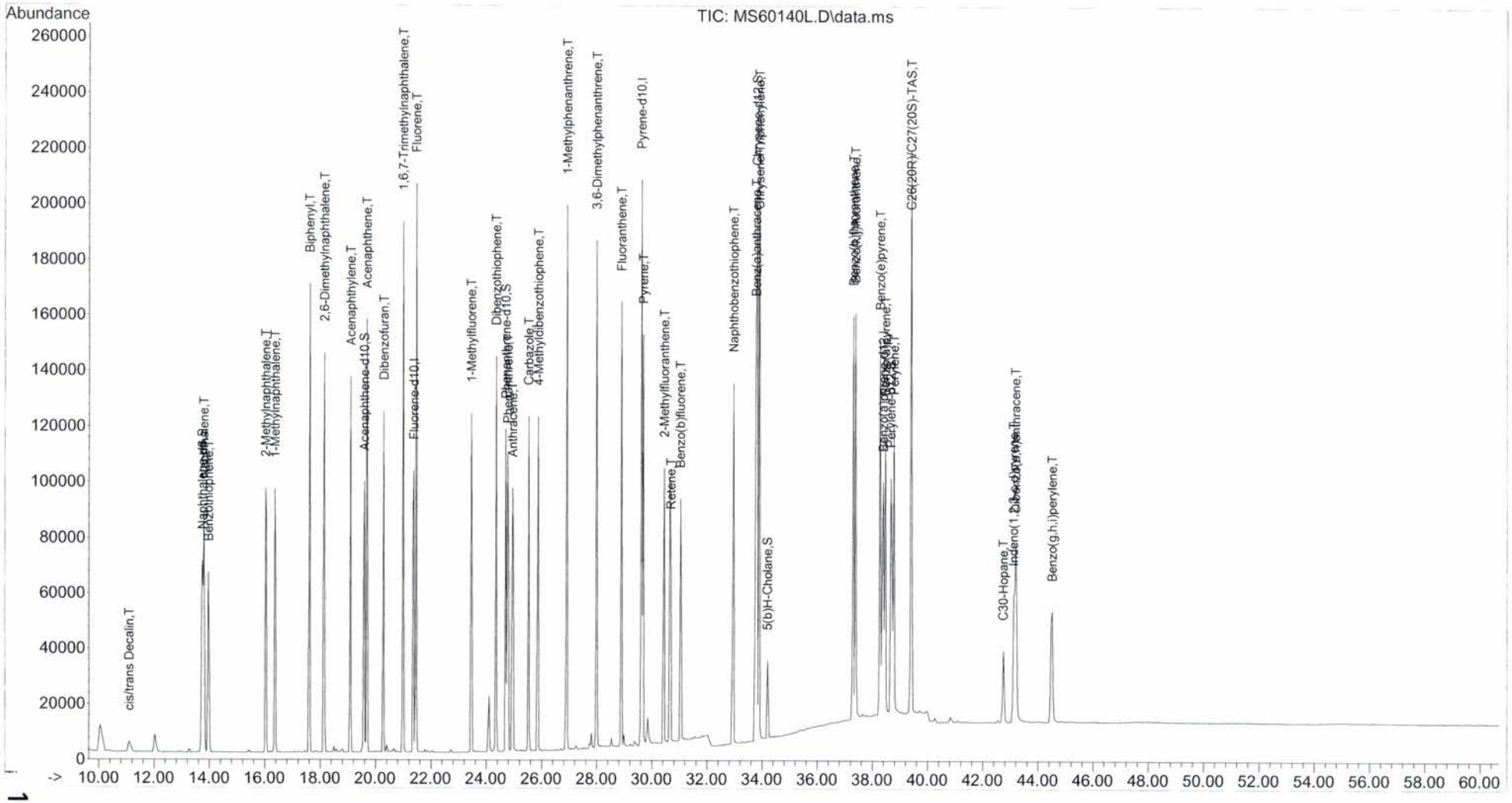
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140L.D
Acq On : 13 Aug 2013 4:10 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 14 06:51:43 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60140\
Data File : MS60140M.D
Acq On : 14 Aug 2013 6:29 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Aug 15 06:31:55 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 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	99	0.00
2	S	Naphthalene-d8	1.831	1.600	12.6	92	0.03
3	T	cis/trans Decalin	0.318	0.286	10.1	92	0.00
4	un	C1-Decalins	0.318	0.000	100.0#	0#	-12.26#
5	un	C2-Decalins	0.318	0.000	100.0#	0#	-13.40#
6	un	C3-Decalins	0.318	0.000	100.0#	0#	-16.13#
7	un	C4-Decalins	0.318	0.000	100.0#	0#	-18.58#
8	T	Naphthalene	1.990	1.738	12.7	92	0.00
9	T	2-Methylnaphthalene	1.257	1.131	10.0	96	0.00
10	T	1-Methylnaphthalene	1.172	1.035	11.7	93	0.00
11	T	2,6-Dimethylnaphthalene	1.067	1.002	6.1	100	0.00
12	T	1,6,7-Trimethylnaphthalene	1.023	0.949	7.2	101	0.00
13	un	C2-Naphthalenes	1.990	0.000	100.0#	0#	-18.47#
14	un	C3-Naphthalenes	1.990	0.000	100.0#	0#	-20.28#
15	un	C4-Naphthalenes	1.990	0.000	100.0#	0#	-21.79#
16	T	Benzothiophene	1.576	1.381	12.4	92	0.00
17	un	C1-Benzothiophenes	1.576	0.000	100.0#	0#	-15.41#
18	un	C2-Benzothiophenes	1.576	0.000	100.0#	0#	-18.14#
19	un	C3-Benzothiophenes	1.576	0.000	100.0#	0#	-20.23#
20	un	C4-Benzothiophenes	1.576	0.000	100.0#	0#	-22.18#
21	S	Acenaphthene-d10	0.974	0.878	9.9	97	0.00
22	T	Biphenyl	1.596	1.440	9.8	95	0.00
23	T	Acenaphthylene	1.705	1.668	2.2	108	0.00
24	T	Acenaphthene	1.091	1.000	8.3	98	0.00
25	T	Dibenzofuran	1.721	1.583	8.0	97	0.00
26	T	Fluorene	1.373	1.298	5.5	102	0.00
27	T	1-Methylfluorene	0.754	0.682	9.5	99	0.00
28	un	C1-Fluorenes	1.373	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.373	0.000	100.0#	0#	-25.10#
30	un	C3-Fluorenes	1.373	0.000	100.0#	0#	-26.70#
31	I	Pyrene-d10	1.000	1.000	0.0	108	0.00
32	S	Phenanthrene-d10	0.986	0.782	20.7	91	0.00
33	T	Carbazole	0.896	0.839	6.4	115	0.00
34	T	Dibenzothiophene	1.114	0.957	14.1	99	0.00
35	T	4-Methyldibenzothiophene	0.656	0.627	4.4	114	0.00
36	un	2/3-Methyldibenzothiophene	0.656	0.000	100.0#	0#	-26.14#
37	un	1-Methyldibenzothiophene	0.656	0.000	100.0#	0#	-26.49#
38	un	C2-Dibenzothiophenes	1.114	0.000	100.0#	0#	-26.94#
39	un	C3-Dibenzothiophenes	1.114	0.000	100.0#	0#	-28.78#
40	un	C4-Dibenzothiophenes	1.114	0.000	100.0#	0#	-30.44#
41	T	Phenanthrene	1.030	0.833	19.1	91	0.00
42	T	Anthracene	0.914	0.776	15.1	98	0.03
43	un	3-Methylphenanthrene	0.767	0.000	100.0#	0#	-26.70#
44	un	2-Methylphenanthrene	0.767	0.000	100.0#	0#	-26.91#
45	un	2-Methylanthracene	0.767	0.000	100.0#	0#	-26.91#
46	un	4/9-Methylphenanthrene	0.767	0.000	100.0#	0#	-26.91#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60140\
Data File : MS60140M.D
Acq On : 14 Aug 2013 6:29 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Aug 15 06:31:55 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 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	0.767	0.765	0.3	121	0.00
48	T	3,6-Dimethylphenanthrene	0.778	0.675	13.2	104	0.00
49	T	Retene	0.289	0.291	-0.7	122	0.03
50	un	C2-Phenanthrenes/Anthracene	1.030	0.000	100.0#	0#	-28.53#
51	un	C3-Phenanthrenes/Anthracene	1.030	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.030	0.000	100.0#	0#	-32.03#
53	T	Naphthobenzothiophene	0.958	1.111	-16.0	146	0.00
54	un	C1-Naphthobenzothiophenes	0.958	0.000	100.0#	0#	-33.92#
55	un	C2-Naphthobenzothiophenes	0.958	0.000	100.0#	0#	-35.78#
56	un	C3-Naphthobenzothiophenes	0.958	0.000	100.0#	0#	-37.06#
57	un	C4-Naphthobenzothiophenes	0.958	0.000	100.0#	0#	-37.68#
58	T	Fluoranthene	1.278	1.095	14.3	101	0.00
59	T	Pyrene	1.186	1.153	2.8	118	0.00
60	T	2-Methylfluoranthene	0.696	0.719	-3.3	127	0.03
61	T	Benzo(b)fluorene	0.717	0.638	11.0	104	0.00
62	un	C1-Fluoranthenes/Pyrenes	1.278	0.000	100.0#	0#	-30.65#
63	un	C2-Fluoranthenes/Pyrenes	1.278	0.000	100.0#	0#	-32.13#
64	un	C3-Fluoranthenes/Pyrenes	1.278	0.000	100.0#	0#	-33.80#
65	un	C4-Fluoranthenes/Pyrenes	1.278	0.000	100.0#	0#	-35.28#
66	S	Chrysene-d12	0.987	1.085	-9.9	138	0.00
67	T	Benz(a)anthracene	0.890	1.014	-13.9	143	0.00
68	T	Chrysene/Triphenylene	1.216	1.268	-4.3	130	0.00
69	un	C1-Chrysenes	1.216	0.000	100.0#	0#	-35.39#
70	un	C2-Chrysenes	1.216	0.000	100.0#	0#	-36.01#
71	un	C3-Chrysenes	1.216	0.000	100.0#	0#	-38.07#
72	un	C4-Chrysenes	1.216	0.000	100.0#	0#	-39.66#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	120	0.04
74	un	C29-Hopane	0.415	0.000	100.0#	0#	-40.67#
75	un	18a-Oleanane	0.415	0.000	100.0#	0#	-41.48#
76	T	C30-Hopane	0.415	0.419	-1.0	130	0.00
77	T	Benzo(b)fluoranthene	1.462	1.438	1.6	131	0.00
78	T	Benzo(k,j)fluoranthene	1.531	1.306	14.7	107	0.00
79	un	Benzo(a)fluoranthene	1.531	0.000	100.0#	0#	-37.29#
80	T	Benzo(e)pyrene	1.593	1.331	16.4	107	0.00
81	T	Benzo(a)pyrene	1.369	1.266	7.5	124	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.356	1.212	10.6	117	0.04
83	T	Dibenzo(a,h)anthracene	1.068	0.961	10.0	118	0.04
84	un	C1-Dibenzo(a,h)anthracenes	1.068	0.000	100.0#	0#	-48.67#
85	un	C2-Dibenzo(a,h)anthracenes	1.068	0.000	100.0#	0#	-50.37#
86	un	C3-Dibenzo(a,h)anthracenes	1.068	0.000	100.0#	0#	-50.77#
87	T	Benzo(g,h,i)perylene	1.151	0.998	13.3	113	0.04
88	S	Perylene-d12	1.245	1.024	17.8	104	0.04
89	T	Perylene	1.438	1.303	9.4	117	0.00
90	S	5(b)H-Cholane	0.260	0.211	18.8	104	0.00
91	un	C20-TAS	1.688	0.000	100.0#	0#	-33.10#
92	un	C21-TAS	1.688	0.000	100.0#	0#	-34.23#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60140\
Data File : MS60140M.D
Acq On : 14 Aug 2013 6:29 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Aug 15 06:31:55 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 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	1.688	0.000	100.0#	0#	-38.65#
94 T	C26(20R)/C27(20S)-TAS	1.688	1.727	-2.3	138	0.00
95 un	C28(20S)-TAS	1.688	0.000	100.0#	0#	-39.97#
96 un	C27(20R)-TAS	1.688	0.000	100.0#	0#	-40.63#
97 un	C28(20R)-TAS	1.688	0.000	100.0#	0#	-41.55#

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140M.D
Acq On : 14 Aug 2013 6:29 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Aug 15 06:31:55 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.344	176	141278m	251.05		0.00
31) Pyrene-d10	29.606	212	295884m	250.63		0.00
73) Benzo(a)pyrene-d12	38.381	264	265225m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.737	136	225250m	218.58		0.03
21) Acenaphthene-d10	19.561	164	123541m	225.29		0.00
32) Phenanthrene-d10	24.687	188	230950m	198.38		0.00
66) Chrysene-d12	33.801	240	320197m	274.75		0.00
88) Perylene-d12	38.691	264	271381m	205.67		0.04
90) 5(b)H-Cholane	34.190	217	55951m	203.43		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.090	138	39852m	222.97		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.793	128	244516m	218.34		
9) 2-Methylnaphthalene	16.022	142	159211m	225.02		
10) 1-Methylnaphthalene	16.356	142	145417m	220.45		
11) 2,6-Dimethylnaphthalene	18.140	156	141003m	234.88		
12) 1,6,7-Trimethylnaphtha...	20.982	170	133484m	231.78		
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.		
16) Benzothiophene	13.960	134	193057m	217.72		
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	17.610	154	200732m	223.45		
23) Acenaphthylene	19.087	152	232727m	242.53		
24) Acenaphthene	19.672	154	140917m	229.50		
25) Dibenzofuran	20.285	168	221553m	228.81		
26) Fluorene	21.456	166	182970m	236.80		
27) 1-Methylfluorene	23.440	180	96713m	227.80		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.519	167	245473m	232.17		
34) Dibenzothiophene	24.341	184	278544m	211.74		
35) 4-Methyldibenzothiophene	25.865	198	186727m	241.27		
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	243560m	200.21		
42) Anthracene	24.965	178	229842m	212.94		

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140M.D
Acq On : 14 Aug 2013 6:29 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Aug 15 06:31:55 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43)	3-Methylphenanthrene	0.000		0	N.D.	d	
44)	2-Methylphenanthrene	0.000		0	N.D.	d	
45)	2-Methylanthracene	0.000		0	N.D.	d	
46)	4/9-Methylphenanthrene	0.000		0	N.D.	d	
47)	1-Methylphenanthrene	26.904	192	223397m	246.56		
48)	3,6-Dimethylphenanthrene	27.978	206	199495m	217.16		
49)	Retene	30.680	234	76857m	225.57		
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51)	C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52)	C4-Phenanthrenes/Anthr...	0.000		0	N.D.		
53)	Naphthobenzothiophene	32.948	234	330013m	291.91		
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	323476m	214.32		
59)	Pyrene	29.675	202	340345m	243.12		
60)	2-Methylfluoranthene	30.438	216	213753m	260.29		
61)	Benzo(b)fluorene	31.026	216	190095m	224.65		
62)	C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63)	C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64)	C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65)	C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67)	Benz(a)anthracene	33.763	228	298648m	284.35		
68)	Chrysene/Triphenylene	33.879	228	371865m	258.96		
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	42.736	191	110991m	252.51		
77)	Benzo(b)fluoranthene	37.294	252	381621m	246.38		
78)	Benzo(k,j)fluoranthene	37.372	252	344430m	212.32		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.264	252	351102m	208.09		
81)	Benzo(a)pyrene	38.458	252	334688m	230.75		
82)	Indeno(1,2,3-c,d)pyrene	43.141	276	315593m	219.73		
83)	Dibenzo(a,h)anthracene	43.215	278	252383m	223.11		
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87)	Benzo(g,h,i)perylene	44.506	276	262090m	214.89		
89)	Perylene	38.769	252	345477m	226.76		
91)	C20-TAS	0.000		0	N.D.	d	
92)	C21-TAS	0.000		0	N.D.	d	
93)	C26(20S)-TAS	0.000		0	N.D.	d	
94)	C26(20R)/C27(20S)-TAS	39.390	231	457406m	255.82		
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\MS60140\
Data File : MS60140M.D
Acq On : 14 Aug 2013 6:29 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Aug 15 06:31:55 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

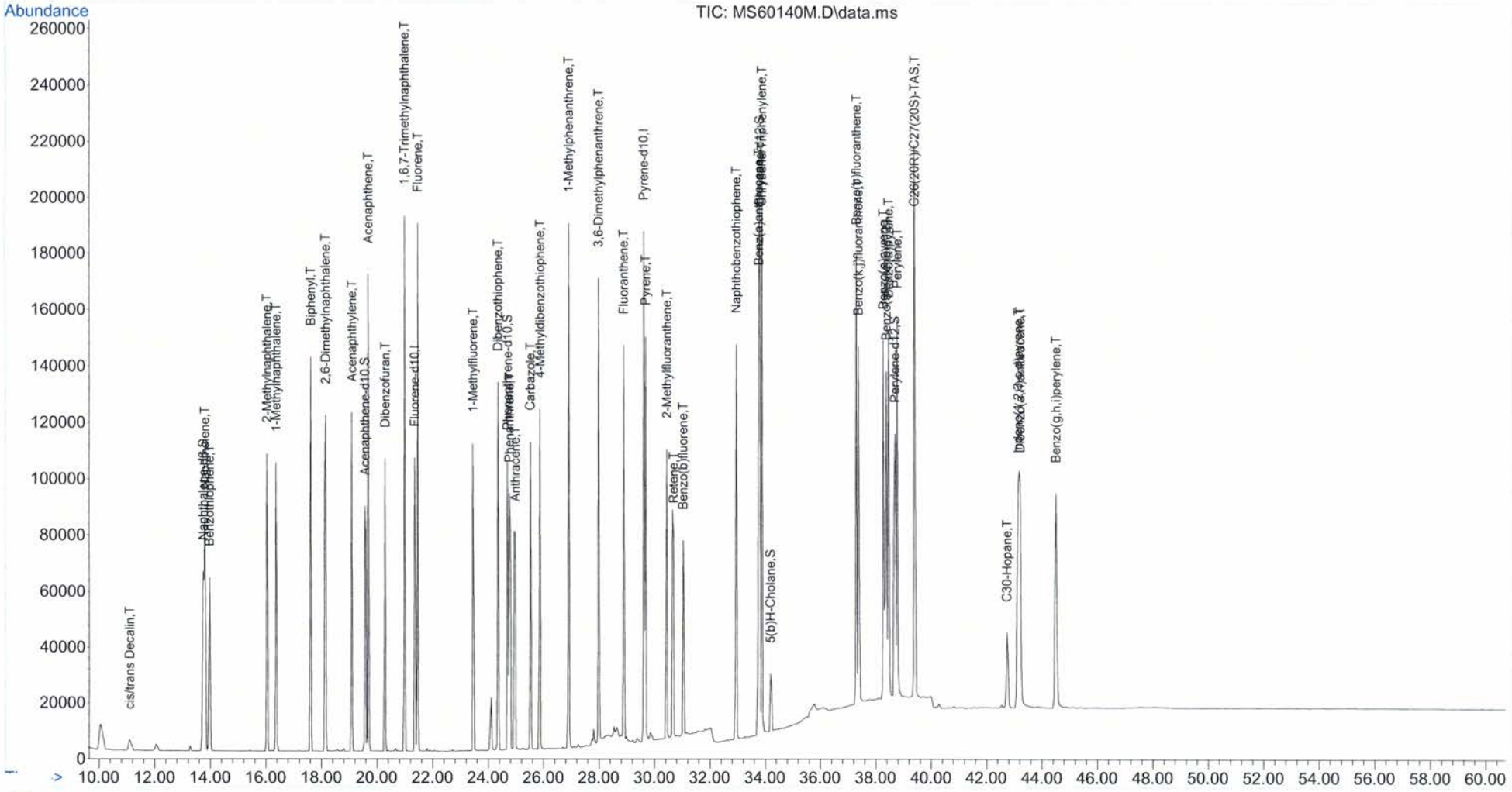
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140M.D
Acq On : 14 Aug 2013 6:29 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Aug 15 06:31:55 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60140\
Data File : MS60140N.D
Acq On : 15 Aug 2013 4:52 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Aug 15 06:38:38 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 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	110	0.02
2	S	Naphthalene-d8	1.831	1.495	18.4	96	0.02
3	T	cis/trans Decalin	0.318	0.263	17.3	94	0.02
4	un	C1-Decalins	0.318	0.000	100.0#	0#	-12.26#
5	un	C2-Decalins	0.318	0.000	100.0#	0#	-13.40#
6	un	C3-Decalins	0.318	0.000	100.0#	0#	-16.13#
7	un	C4-Decalins	0.318	0.000	100.0#	0#	-18.58#
8	T	Naphthalene	1.990	1.607	19.2	95	0.00
9	T	2-Methylnaphthalene	1.257	1.064	15.4	101	0.02
10	T	1-Methylnaphthalene	1.172	0.975	16.8	98	0.02
11	T	2,6-Dimethylnaphthalene	1.067	0.000	100.0#	0#	-18.14#
12	T	1,6,7-Trimethylnaphthalene	1.023	0.906	11.4	107	0.02
13	un	C2-Naphthalenes	1.990	0.000	100.0#	0#	-18.47#
14	un	C3-Naphthalenes	1.990	0.000	100.0#	0#	-20.28#
15	un	C4-Naphthalenes	1.990	0.000	100.0#	0#	-21.79#
16	T	Benzothiophene	1.576	1.283	18.6	95	0.00
17	un	C1-Benzothiophenes	1.576	0.000	100.0#	0#	-15.41#
18	un	C2-Benzothiophenes	1.576	0.000	100.0#	0#	-18.14#
19	un	C3-Benzothiophenes	1.576	0.000	100.0#	0#	-20.23#
20	un	C4-Benzothiophenes	1.576	0.000	100.0#	0#	-22.18#
21	S	Acenaphthene-d10	0.974	0.859	11.8	106	0.02
22	T	Biphenyl	1.596	1.413	11.5	105	0.00
23	T	Acenaphthylene	1.705	1.720	-0.9	125	0.00
24	T	Acenaphthene	1.091	0.941	13.7	103	0.02
25	T	Dibenzofuran	1.721	1.602	6.9	110	0.00
26	T	Fluorene	1.373	1.281	6.7	113	0.00
27	T	1-Methylfluorene	0.754	0.692	8.2	112	0.03
28	un	C1-Fluorenes	1.373	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.373	0.000	100.0#	0#	-25.10#
30	un	C3-Fluorenes	1.373	0.000	100.0#	0#	-26.70#
31	I	Pyrene-d10	1.000	1.000	0.0	121	0.00
32	S	Phenanthrene-d10	0.986	0.727	26.3#	95	0.00
33	T	Carbazole	0.896	0.806	10.0	124	0.00
34	T	Dibenzothiophene	1.114	0.893	19.8	104	0.00
35	T	4-Methyldibenzothiophene	0.656	0.685	-4.4	139	0.00
36	un	2/3-Methyldibenzothiophene	0.656	0.000	100.0#	0#	-26.14#
37	un	1-Methyldibenzothiophene	0.656	0.000	100.0#	0#	-26.49#
38	un	C2-Dibenzothiophenes	1.114	0.000	100.0#	0#	-26.94#
39	un	C3-Dibenzothiophenes	1.114	0.000	100.0#	0#	-28.78#
40	un	C4-Dibenzothiophenes	1.114	0.000	100.0#	0#	-30.44#
41	T	Phenanthrene	1.030	0.834	19.0	102	0.03
42	T	Anthracene	0.914	0.814	10.9	115	0.03
43	un	3-Methylphenanthrene	0.767	0.000	100.0#	0#	-26.70#
44	un	2-Methylphenanthrene	0.767	0.000	100.0#	0#	-26.91#
45	un	2-Methylanthracene	0.767	0.000	100.0#	0#	-26.91#
46	un	4/9-Methylphenanthrene	0.767	0.000	100.0#	0#	-26.91#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60140\
Data File : MS60140N.D
Acq On : 15 Aug 2013 4:52 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Aug 15 06:38:38 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 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	0.767	0.794	-3.5	141	0.00
48	T	3,6-Dimethylphenanthrene	0.778	0.637	18.1	110	0.00
49	T	Retene	0.289	0.347	-20.1	163	0.03
50	un	C2-Phenanthrenes/Anthracene	1.030	0.000	100.0#	0#	-28.53#
51	un	C3-Phenanthrenes/Anthracene	1.030	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.030	0.000	100.0#	0#	-32.03#
53	T	Naphthobenzothiophene	0.958	1.158	-20.9	170	0.00
54	un	C1-Naphthobenzothiophenes	0.958	0.000	100.0#	0#	-33.92#
55	un	C2-Naphthobenzothiophenes	0.958	0.000	100.0#	0#	-35.78#
56	un	C3-Naphthobenzothiophenes	0.958	0.000	100.0#	0#	-37.06#
57	un	C4-Naphthobenzothiophenes	0.958	0.000	100.0#	0#	-37.68#
58	T	Fluoranthene	1.278	1.051	17.8	109	0.00
59	T	Pyrene	1.186	1.261	-6.3	145	0.00
60	T	2-Methylfluoranthene	0.696	0.822	-18.1	163	0.03
61	T	Benzo(b)fluorene	0.717	0.671	6.4	123	0.03
62	un	C1-Fluoranthenes/Pyrenes	1.278	0.000	100.0#	0#	-30.65#
63	un	C2-Fluoranthenes/Pyrenes	1.278	0.000	100.0#	0#	-32.13#
64	un	C3-Fluoranthenes/Pyrenes	1.278	0.000	100.0#	0#	-33.80#
65	un	C4-Fluoranthenes/Pyrenes	1.278	0.000	100.0#	0#	-35.28#
66	S	Chrysene-d12	0.987	1.135	-15.0	162	0.00
67	T	Benz(a)anthracene	0.890	1.060	-19.1	168	0.00
68	T	Chrysene/Triphenylene	1.216	1.285	-5.7	148	0.00
69	un	C1-Chrysenes	1.216	0.000	100.0#	0#	-35.39#
70	un	C2-Chrysenes	1.216	0.000	100.0#	0#	-36.01#
71	un	C3-Chrysenes	1.216	0.000	100.0#	0#	-38.07#
72	un	C4-Chrysenes	1.216	0.000	100.0#	0#	-39.66#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	99	0.04
74	un	C29-Hopane	0.415	0.000	100.0#	0#	-40.67#
75	un	18a-Oleanane	0.415	0.000	100.0#	0#	-41.48#
76	T	C30-Hopane	0.415	0.431	-3.9	110	0.00
77	T	Benzo(b)fluoranthene	1.462	1.700	-16.3	128	0.00
78	T	Benzo(k,j)fluoranthene	1.531	1.581	-3.3	107	0.00
79	un	Benzo(a)fluoranthene	1.531	0.000	100.0#	0#	-37.29#
80	T	Benzo(e)pyrene	1.593	1.583	0.6	105	0.00
81	T	Benzo(a)pyrene	1.369	1.548	-13.1	125	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.356	1.162	14.3	93	0.04
83	T	Dibenzo(a,h)anthracene	1.068	0.930	12.9	94	0.04
84	un	C1-Dibenzo(a,h)anthracenes	1.068	0.000	100.0#	0#	-48.67#
85	un	C2-Dibenzo(a,h)anthracenes	1.068	0.000	100.0#	0#	-50.37#
86	un	C3-Dibenzo(a,h)anthracenes	1.068	0.000	100.0#	0#	-50.77#
87	T	Benzo(g,h,i)perylene	1.151	0.876	23.9	82	0.04
88	S	Perylene-d12	1.245	1.246	-0.1	104	0.04
89	T	Perylene	1.438	1.539	-7.0	114	0.00
90	S	5(b)H-Cholane	0.260	0.295	-13.5	120	0.00
91	un	C20-TAS	1.688	0.000	100.0#	0#	-33.10#
92	un	C21-TAS	1.688	0.000	100.0#	0#	-34.23#

Data Path : C:\GCMS6\MS60140\
Data File : MS60140N.D
Acq On : 15 Aug 2013 4:52 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Aug 15 06:38:38 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 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	1.688	0.000	100.0#	0#	-38.65#
94 T	C26(20R)/C27(20S)-TAS	1.688	2.070	-22.6	136	0.00
95 un	C28(20S)-TAS	1.688	0.000	100.0#	0#	-39.97#
96 un	C27(20R)-TAS	1.688	0.000	100.0#	0#	-40.63#
97 un	C28(20R)-TAS	1.688	0.000	100.0#	0#	-41.55#

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140N.D
Acq On : 15 Aug 2013 4:52 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Aug 15 06:38:38 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.369	176	157798m	251.05		0.02
31) Pyrene-d10	29.606	212	332086m	250.63		0.00
73) Benzo(a)pyrene-d12	38.381	264	218972m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.734	136	234995m	204.16		0.02
21) Acenaphthene-d10	19.586	164	135113m	220.60		0.02
32) Phenanthrene-d10	24.687	188	241151m	184.56		0.00
66) Chrysene-d12	33.802	240	376022m	287.48		0.00
88) Perylene-d12	38.692	264	272514m	250.15		0.04
90) 5(b)H-Cholane	34.190	217	64434m	283.76		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.114	138	40826m	204.51		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.789	128	252469m	201.84		
9) 2-Methylnaphthalene	16.047	142	167315m	211.72		
10) 1-Methylnaphthalene	16.381	142	153075m	207.76		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	21.007	170	142408m	221.39		
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	13.957	134	200337m	202.28		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.607	154	220039m	219.30		
23) Acenaphthylene	19.084	152	268093m	250.14		
24) Acenaphthene	19.697	154	148092m	215.93		
25) Dibenzofuran	20.282	168	250467m	231.59		
26) Fluorene	21.453	166	201685m	233.69		
27) 1-Methylfluorene	23.475	180	109624m	231.18		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.518	167	264512m	222.91		
34) Dibenzothiophene	24.341	184	291551m	197.46		
35) 4-Methyldibenzothiophene	25.865	198	228878m	263.50		
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.791	178	273718m	200.47		
42) Anthracene	24.964	178	270387m	223.20		

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140N.D
Acq On : 15 Aug 2013 4:52 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Aug 15 06:38:38 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D.	d	
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	26.904	192	260159m	255.84		
48) 3,6-Dimethylphenanthrene	27.978	206	211209m	204.84		
49) Retene	30.680	234	102720m	268.61		
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	32.949	234	386079m	304.27		
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.878	202	348456m	205.70		
59) Pyrene	29.675	202	417867m	265.95		
60) 2-Methylfluoranthene	30.437	216	274034m	297.32		
61) Benzo(b)fluorene	31.061	216	224263m	236.14		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.763	228	350565m	297.39		
68) Chrysene/Triphenylene	33.880	228	423042m	262.48		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.736	191	94347m	259.98		
77) Benzo(b)fluoranthene	37.295	252	372416m	291.23		
78) Benzo(k,j)fluoranthene	37.372	252	344433m	257.18		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.265	252	344716m	247.46		
81) Benzo(a)pyrene	38.459	252	337751m	282.05		
82) Indeno(1,2,3-c,d)pyrene	43.141	276	249736m	210.61		
83) Dibenzo(a,h)anthracene	43.215	278	201539m	215.80		
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	189740m	188.43		
89) Perylene	38.769	252	336994m	267.91		
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	39.390	231	452686m	306.66		
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\MS60140\
Data File : MS60140N.D
Acq On : 15 Aug 2013 4:52 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Aug 15 06:38:38 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

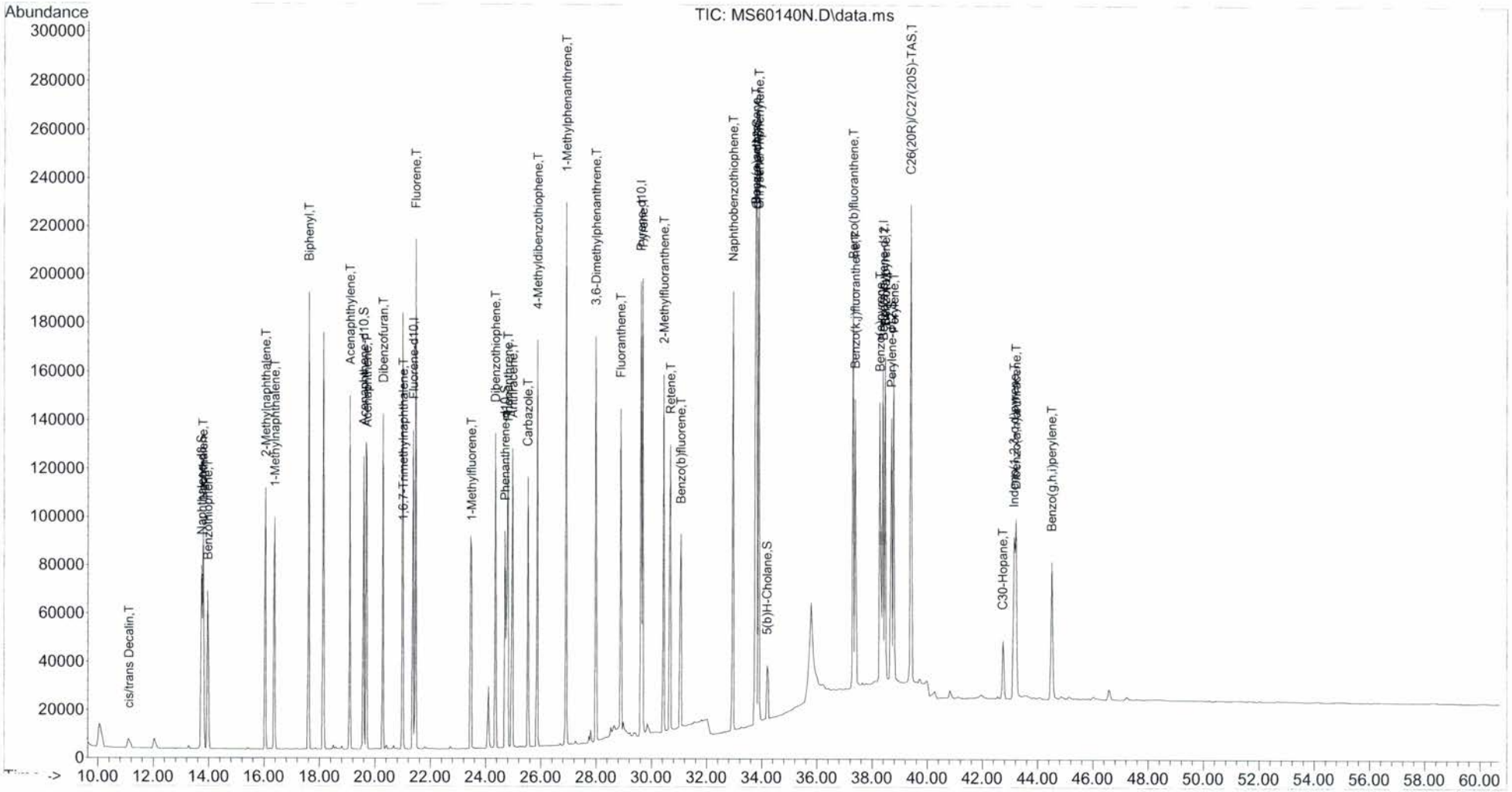
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140N.D
Acq On : 15 Aug 2013 4:52 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Aug 15 06:38:38 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



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

Data File Name MS60140H.D
Data File Path C:\GCMS6\MS60140\
Operator YM
Date Acquired 8/13/2013 2:19
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

MS60140H.D
AR-WKISSU-250-002
8/13/2013
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	215531	241.75	96.65
21)	Acenaphthene-d10	19.56	107612	226.84	90.68
32)	Phenanthrene-d10	24.69	201040	248.79	99.44
66)	Chrysene-d12	33.80	169296	209.28	83.70
88)	Perylene-d12	38.65	195508	248.26	99.29
90)	5(b)H-Cholane	34.19	44131	268.86	107.54
	Internal Standards				
1)	Fluorene-d10	21.34	122222	251.05	
31)	Pyrene-d10	29.61	205379	250.63	
73)	Benzo(a)pyrene-d12	38.34	158291	250.33	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : MS60140H.D
Acq On : 13 Aug 2013 2:19 am
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 13 13:56:27 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.344	176	122222m	251.05		0.00
31) Pyrene-d10	29.606	212	205379m	250.63		0.00
73) Benzo(a)pyrene-d12	38.342	264	158291m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.709	136	215531m	241.75		0.00
21) Acenaphthene-d10	19.561	164	107612m	226.84		0.00
32) Phenanthrene-d10	24.687	188	201040m	248.79		0.00
66) Chrysene-d12	33.802	240	169296m	209.28		0.00
88) Perylene-d12	38.653	264	195508m	248.26		0.00
90) 5(b)H-Cholane	34.190	217	44131m	268.86		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	0.000		0	N.D.	d	
9) 2-Methylnaphthalene	0.000		0	N.D.	d	
10) 1-Methylnaphthalene	0.000		0	N.D.	d	
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.	d	
16) Benzothiophene	0.000		0	N.D.		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	0.000		0	N.D.	d	
23) Acenaphthylene	0.000		0	N.D.	d	
24) Acenaphthene	0.000		0	N.D.	d	
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	0.000		0	N.D.	d	
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	0.000		0	N.D.	d	
35) 4-Methyldibenzothiophene	0.000		0	N.D.	d	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	0.000		0	N.D.	d	
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : C:\msdchem\2\data\MS60140\
Data File : MS60140H.D
Acq On : 13 Aug 2013 2:19 am
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 13 13:56:27 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : MS60140H.D
Acq On : 13 Aug 2013 2:19 am
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 13 13:56:27 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

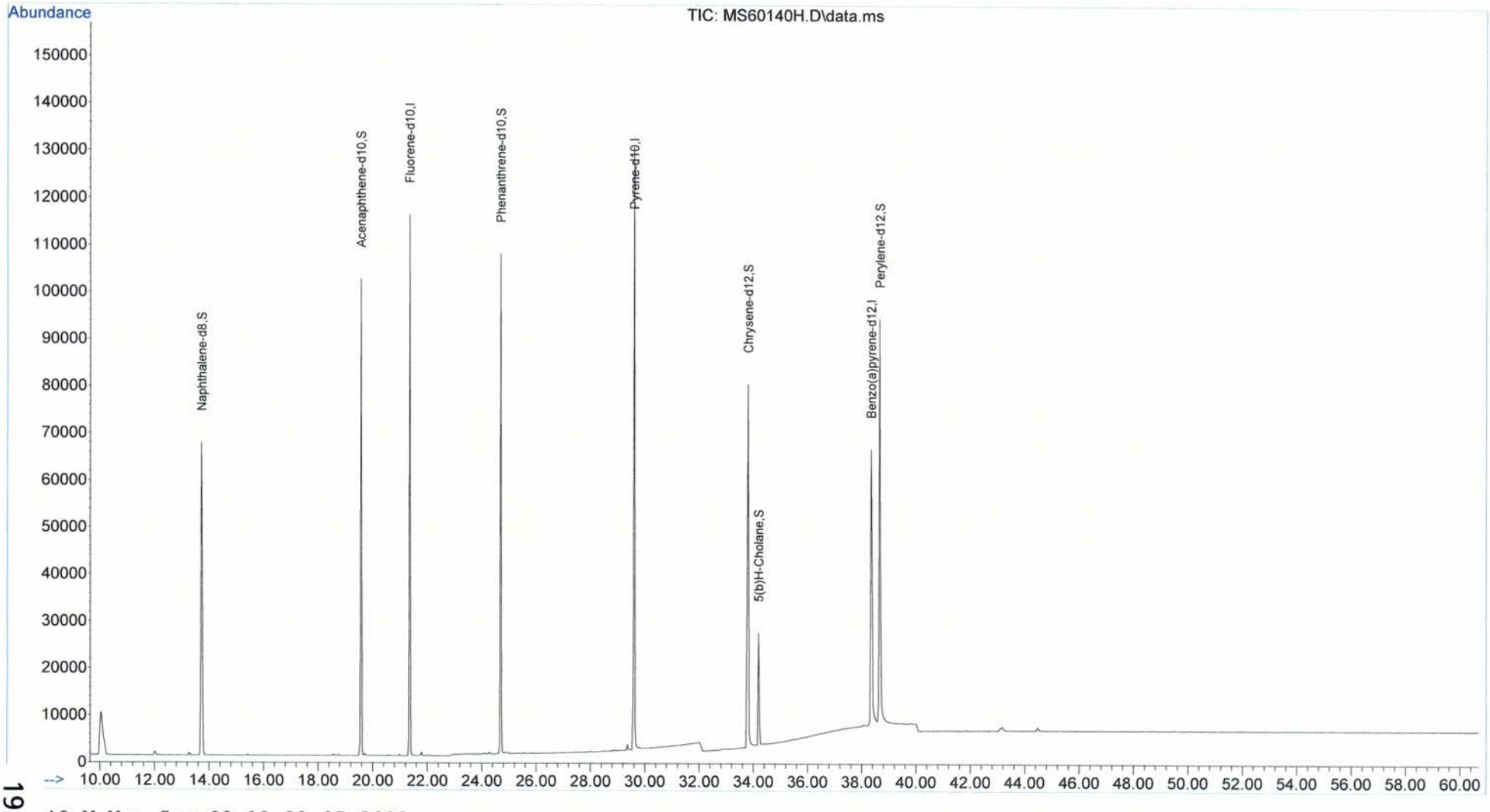
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : MS60140H.D
Acq On : 13 Aug 2013 2:19 am
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 13 13:56:27 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



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

Data File Name MS60140K.D
Data File Path C:\msdchem\2\data\MS60140\
Operator YM
Date Acquired 8/13/2013 5:47
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

MS60140K.D
AR-SRM2779-WK-4.0-002
8/13/2013
PAH-2012.M
4.088140305

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.09	600701	601.8458	741.4687
4)	C1-Decalins	12.26	813789	815.3414	1004.4934
5)	C2-Decalins	14.63	626550	627.7451	773.3764
6)	C3-Decalins	16.61	576462	577.5609	711.5499
7)	C4-Decalins	18.59	474117	475.0204	585.2209
8)	Naphthalene	13.79	3620480	578.9087	713.2104
9)+10)	C1-Naphthalenes	16.19	7673180	1226.9287	1511.5653
13)	C2-Naphthalenes	18.50	9311320	1488.8652	1834.2688
14)	C3-Naphthalenes	20.29	6260140	1000.9881	1233.2086
15)	C4-Naphthalenes	22.74	3393930	542.6844	668.5824
16)	Benzothiophene	13.99	33807	6.8273	8.4112
17)	C1-Benzothiophenes	15.55	137327	27.7334	34.1673
18)	C2-Benzothiophenes	18.53	122346	24.7078	30.4398
19)	C3-Benzothiophenes	20.23	135450	27.3542	33.7002
20)	C4-Benzothiophenes	22.01	110634	22.3426	27.5259
22)	Biphenyl	17.61	681472	135.8427	167.3570
23)	Acenaphthylene	19.09	36734	6.8550	8.4453
24)	Acenaphthene	19.67	34276	9.9960	12.3150
25)	Dibenzofuran	20.29	145312	26.8738	33.1083
26)	Fluorene	21.46	427589	99.0949	122.0841
28)	C1-Fluorenes	23.44	884700	205.0316	252.5971
29)	C2-Fluorenes	25.10	1353040	313.5705	386.3160
30)	C3-Fluorenes	26.83	1133310	262.6475	323.5795
33)	Carbazole	25.52	21785	3.6709	4.5225
42)	Anthracene	24.90	14518	2.3963	2.9522
41)	Phenanthrene	24.76	1183560	173.3282	213.5388
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.68	3085298	451.8310	556.6519
50)	C2-Phenanthrenes/Anthracenes	28.36	3520540	515.5718	635.1800
51)	C3-Phenanthrenes/Anthracenes	29.92	2464970	360.9881	444.7342
52)	C4-Phenanthrenes/Anthracenes	31.75	1412210	206.8131	254.7919
34)	Dibenzothiophene	24.34	241199	32.6645	40.2424
35)+36)+37)	C1-Dibenzothiophenes	26.17	613443	83.0758	102.3487
38)	C2-Dibenzothiophenes	27.25	855276	115.8265	142.6972
39)	C3-Dibenzothiophenes	28.77	822597	111.4010	137.2451
40)	C4-Dibenzothiophenes	30.19	381434	51.6560	63.6397
58)	Fluoranthene	28.91	38922	4.5942	5.6601
59)	Pyrene	29.68	84245	10.7212	13.2084
62)	C1-Fluoranthenes/Pyrenes	30.82	570889	67.3861	83.0191
63)	C2-Fluoranthenes/Pyrenes	32.29	774540	91.4245	112.6341
64)	C3-Fluoranthenes/Pyrenes	34.00	1016770	120.0162	147.8589
65)	C4-Fluoranthenes/Pyrenes	35.12	815108	96.2132	118.5338
53)	Naphthobenzothiophene	32.95	175284	27.6221	34.0302
54)	C1-Naphthobenzothiophenes	34.11	346173	54.5515	67.2069
55)	C2-Naphthobenzothiophenes	35.78	534912	84.2938	103.8493
56)	C3-Naphthobenzothiophenes	37.18	336239	52.9860	65.2782
57)	C4-Naphthobenzothiophenes	38.15	153451	24.1815	29.7914
67)	Benz(a)anthracene	33.76	26463	4.4888	5.5302
68)	Chrysene/Triphenylene	33.84	292706	36.3146	44.7392
69)	C1-Chrysenes	35.08	719534	89.2690	109.9786
70)	C2-Chrysenes	36.29	919681	114.1000	140.5703
71)	C3-Chrysenes	37.99	642658	79.7314	98.2283
72)	C4-Chrysenes	39.39	409670	50.8256	62.6166
77)	Benzo(b)fluoranthene	37.29	38157	4.0418	4.9794
78)	Benzo(k,j)fluoranthene	37.33	7051	0.7131	0.8786
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.26	71075	6.9110	8.5143
81)	Benzo(a)pyrene	38.46	11181	1.2647	1.5582
89)	Perylene	38.77	3937	0.4240	0.5223
82)	Indeno(1,2,3-c,d)pyrene	43.14	4076	0.4656	0.5736
83)	Dibenzo(a,h)anthracene	43.18	3071	0.4454	0.5487
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	44.47	10397	1.3986	1.7231

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	4718470	1194.2007	1471.2447
10)	1-Methylnaphthalene	16.36	2954710	802.1055	988.1870
11)	2,6-Dimethylnaphthalene	18.17	2617540	780.7829	961.9176
12)	1,6,7-Trimethylnaphthalene	20.98	515949	160.4267	197.6443
27)	1-Methylfluorene	23.44	448928	189.3541	233.2825
35)	4-Methyldibenzothiophene	25.87	335256	77.1754	95.0795
36)	2/3-Methyldibenzothiophene	26.14	158045	36.3816	44.8218
37)	1-Methyldibenzothiophene	26.49	120142	27.6566	34.0727
43)	3-Methylphenanthrene	26.45	672366	132.2080	162.8791
44)	2-Methylphenanthrene	26.52	793414	156.0098	192.2027
45)	2-Methylanthracene	26.70	38965	7.6617	9.4392
46)	4/9-Methylphenanthrene	26.80	917506	180.4099	222.2634
47)	1-Methylphenanthrene	26.90	663047	130.3754	160.6214
48)	3,6-Dimethylphenanthrene	27.98	179075	34.7275	42.7840
49)	Retene	30.68	37974	19.8557	24.4620
60)	2-Methylfluoranthene	30.40	7686	1.6674	2.0542
61)	Benzo(b)fluorene	31.06	60228	12.6804	15.6221
74)	C29-Hopane	40.71	58025	21.6579	26.6823
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	42.03	123653	46.1535	56.8607
91)	C20-TAS	33.34	66604	6.1115	7.5293
92)	C21-TAS	34.42	73896	6.7806	8.3537
93)	C26(20S)-TAS	38.54	41308	3.7904	4.6697
94)	C26(20R)/C27(20S)-TAS	39.47	114193	10.4782	12.9091
95)	C28(20S)-TAS	40.19	76681	7.0362	8.6685
96)	C27(20R)-TAS	40.63	69137	6.3439	7.8157
97)	C28(20R)-TAS	41.78	67036	6.1511	7.5781
	Surrogate Standards				
2)	Naphthalene-d8	13.71	304324	52.88	86.43
21)	Acenaphthene-d10	19.56	186334	60.85	99.44
32)	Phenanthrene-d10	24.69	324609	49.68	81.17
66)	Chrysene-d12	33.80	382168	58.42	95.52
88)	Perylene-d12	38.69	426290	53.00	86.66
90)	5(b)H-Cholane	34.19	105273	62.80	102.69
	Internal Standards				
1)	Fluorene-d10	21.34	192986	61.41	
31)	Pyrene-d10	29.61	406251	61.31	
73)	Benzo(a)pyrene-d12	38.38	395432	61.23	

Data Path : C:\msdchem\2\data\MS60140\
Data File : MS60140K.D
Acq On : 13 Aug 2013 5:47 am
Operator : YM
Sample : AR-SRM2779-WK-4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Aug 18 07:11:13 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.344	176	192986m	251.05		0.00
31) Pyrene-d10	29.606	212	406251m	250.63		0.00
73) Benzo(a)pyrene-d12	38.381	264	395432m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.709	136	304324m	52.88		0.00
21) Acenaphthene-d10	19.561	164	186334m	60.85		0.00
32) Phenanthrene-d10	24.687	188	324609m	49.68		0.00
66) Chrysene-d12	33.802	240	382168m	58.42		0.00
88) Perylene-d12	38.692	264	426290m	53.00		0.04
90) 5(b)H-Cholane	34.190	217	105273m	62.80		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.089	138	600701m	601.85		
4) C1-Decalins	12.260	152	813789m	815.34		
5) C2-Decalins	14.628	166	626550m	627.74		
6) C3-Decalins	16.607	180	576462m	577.56		
7) C4-Decalins	18.585	194	474117m	475.02		
8) Naphthalene	13.792	128	3620475m	578.91		
9) 2-Methylnaphthalene	16.022	142	4718471m	1194.20		
10) 1-Methylnaphthalene	16.356	142	2954705m	802.11		
11) 2,6-Dimethylnaphthalene	18.167	156	2617543m	780.78		
12) 1,6,7-Trimethylnaphtha...	20.982	170	515949m	160.43		
13) C2-Naphthalenes	18.502	156	9311321m	1488.87		
14) C3-Naphthalenes	20.285	170	6260144m	1000.99		
15) C4-Naphthalenes	22.737	184	3393927m	542.68		
16) Benzothiophene	13.987	134	33807m	6.83		
17) C1-Benzothiophenes	15.548	148	137327m	27.73		
18) C2-Benzothiophenes	18.530	162	122346m	24.71		
19) C3-Benzothiophenes	20.229	176	135450m	27.35		
20) C4-Benzothiophenes	22.013	190	110634m	22.34		
22) Biphenyl	17.610	154	681472m	135.84		
23) Acenaphthylene	19.087	152	36734m	6.86		
24) Acenaphthene	19.672	154	34276m	10.00		
25) Dibenzofuran	20.285	168	145312m	26.87		
26) Fluorene	21.456	166	427589m	99.09		
27) 1-Methylfluorene	23.440	180	448928m	189.35		
28) C1-Fluorenes	23.440	180	884700m	205.03		
29) C2-Fluorenes	25.103	194	1353037m	313.57		
30) C3-Fluorenes	26.835	208	1133308m	262.65		
33) Carbazole	25.519	167	21785m	3.67		
34) Dibenzothiophene	24.341	184	241199m	32.66		
35) 4-Methyldibenzothiophene	25.865	198	335256m	77.18		
36) 2/3-Methyldibenzothiop...	26.142	198	158045m	36.38		
37) 1-Methyldibenzothiophene	26.488	198	120142m	27.66		
38) C2-Dibenzothiophenes	27.251	212	855276m	115.83		
39) C3-Dibenzothiophenes	28.775	226	822597m	111.40		
40) C4-Dibenzothiophenes	30.195	240	381434m	51.66		
41) Phenanthrene	24.756	178	1183557m	173.33		
42) Anthracene	24.895	178	14518m	2.40		
43) 3-Methylphenanthrene	26.454	192	672366m	132.21		

Data Path : C:\msdchem\2\data\MS60140\
Data File : MS60140K.D
Acq On : 13 Aug 2013 5:47 am
Operator : YM
Sample : AR-SRM2779-WK-4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Aug 18 07:11:13 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.523	192	793414m	156.01		
45) 2-Methylanthracene	26.696	192	38965m	7.66		
46) 4/9-Methylphenanthrene	26.800	192	917506m	180.41		
47) 1-Methylphenanthrene	26.904	192	663047m	130.38		
48) 3,6-Dimethylphenanthrene	27.978	206	179075m	34.73		
49) Retene	30.680	234	37974m	19.86		
50) C2-Phenanthrenes/Anthr...	28.359	206	3520537m	515.57		
51) C3-Phenanthrenes/Anthr...	29.918	220	2464969m	360.99		
52) C4-Phenanthrenes/Anthr...	31.754	234	1412205m	206.81		
53) Naphthobenzothiophene	32.949	234	175284m	27.62		
54) C1-Naphthobenzothiophenes	34.113	248	346173m	54.55		
55) C2-Naphthobenzothiophenes	35.781	262	534912m	84.29		
56) C3-Naphthobenzothiophenes	37.178	276	336239m	52.99		
57) C4-Naphthobenzothiophenes	38.149	290	153451m	24.18		
58) Fluoranthene	28.913	202	38922m	4.59		
59) Pyrene	29.675	202	84245m	10.72		
60) 2-Methylfluoranthene	30.403	216	7686m	1.67		
61) Benzo(b)fluorene	31.061	216	60228m	12.68		
62) C1-Fluoranthenes/Pyrenes	30.818	216	570889m	67.39		
63) C2-Fluoranthenes/Pyrenes	32.289	230	774540m	91.42		
64) C3-Fluoranthenes/Pyrenes	33.996	244	1016766m	120.02		
65) C4-Fluoranthenes/Pyrenes	35.122	258	815108m	96.21		
67) Benz(a)anthracene	33.763	228	26463m	4.49		
68) Chrysene/Triphenylene	33.841	228	292706m	36.31		
69) C1-Chrysenes	35.083	242	719534m	89.27		
70) C2-Chrysenes	36.286	256	919681m	114.10		
71) C3-Chrysenes	37.993	270	642658m	79.73		
72) C4-Chrysenes	39.390	284	409670m	50.83		
74) C29-Hopane	40.707	191	58025m	21.66		
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.035	191	123653m	46.15		
77) Benzo(b)fluoranthene	37.295	252	38157m	4.04		
78) Benzo(k,j)fluoranthene	37.334	252	7051m	0.71		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.265	252	71075m	6.91		
81) Benzo(a)pyrene	38.459	252	11181m	1.26		
82) Indeno(1,2,3-c,d)pyrene	43.141	276	4076m	0.47		
83) Dibenzo(a,h)anthracene	43.178	278	3071m	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	44.469	276	10397m	1.40		
89) Perylene	38.769	252	3937m	0.42		
91) C20-TAS	33.337	231	66604m	6.11		
92) C21-TAS	34.423	231	73896m	6.78		
93) C26(20S)-TAS	38.537	231	41308m	3.79		
94) C26(20R)/C27(20S)-TAS	39.468	231	114193m	10.48		
95) C28(20S)-TAS	40.191	231	76681m	7.04		
96) C27(20R)-TAS	40.633	231	69137m	6.34		
97) C28(20R)-TAS	41.776	231	67036m	6.15		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : MS60140K.D
Acq On : 13 Aug 2013 5:47 am
Operator : YM
Sample : AR-SRM2779-WK-4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Aug 18 07:11:13 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

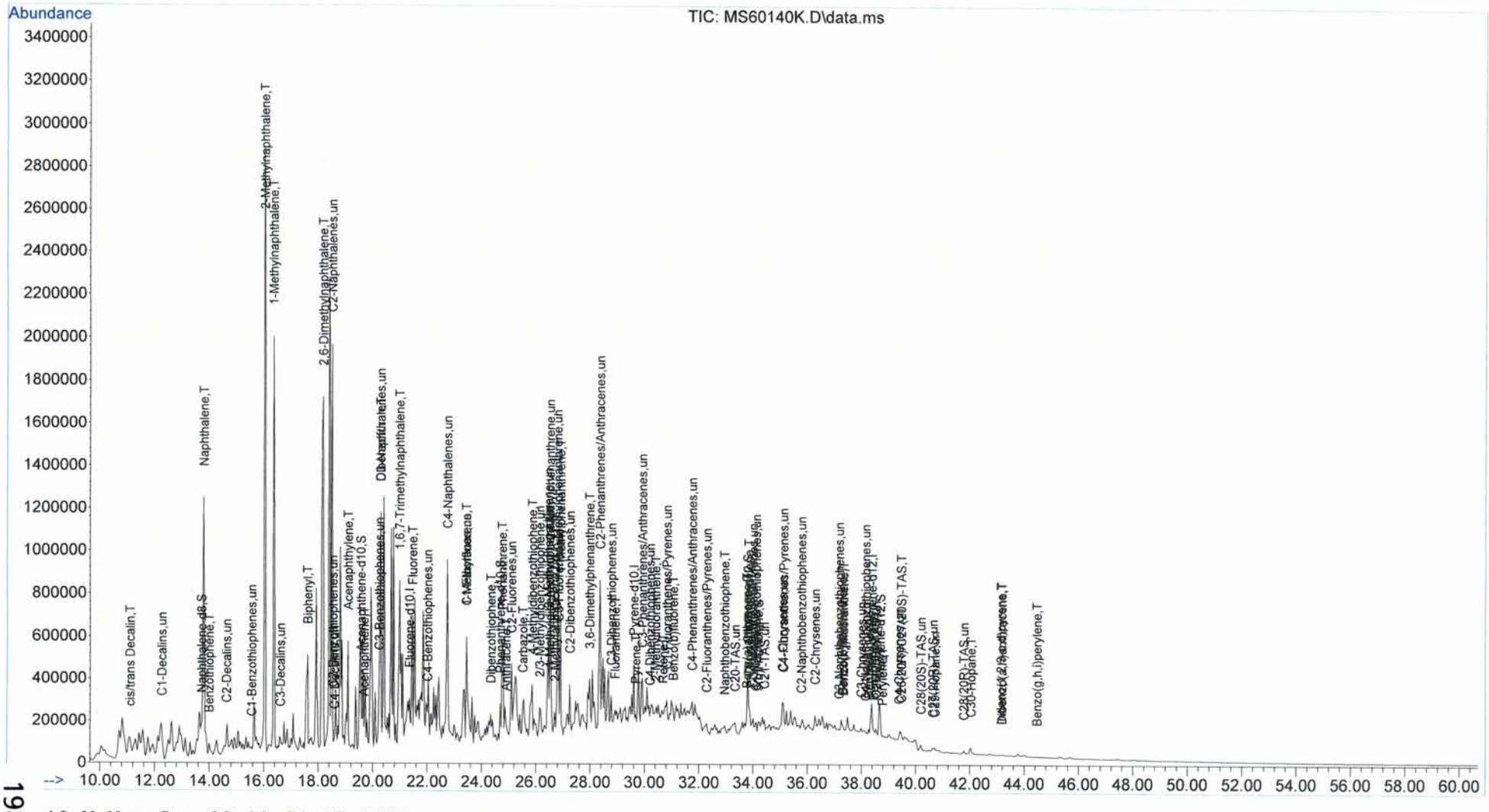
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : MS60140K.D
Acq On : 13 Aug 2013 5:47 am
Operator : YM
Sample : AR-SRM2779-WK-4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Aug 18 07:11:13 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



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

Data File Name ENV3076A.D
Data File Path C:\msdchem\2\data\MS60140\
Operator YM
Date Acquired 8/13/2013 6:56
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

ENV3076A.D
Procedural Blank
8/13/2013
PAH-2012.M
14.99925004

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	1503	0.1081	0.1452
9)+10)	C1-Naphthalenes	16.19	402	0.0289	0.0388
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	17.61	1239	0.1111	0.1492
23)	Acenaphthylene	0.00	0	0.0000	0.0000
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	20.28	629	0.0523	0.0703
26)	Fluorene	21.45	115	0.0120	0.0161
28)	C1-Fluorenes	0.00	0	0.0000	0.0000
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	25.52	295	0.0227	0.0305
42)	Anthracene	0.00	0	0.0000	0.0000
41)	Phenanthrene	24.75	626	0.0419	0.0563
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	44.47	327	0.0227	0.0304

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	278	0.0317	0.0425
10)	1-Methylnaphthalene	16.35	124	0.0151	0.0203
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	169036	13.21	79.23
21)	Acenaphthene-d10	19.56	89489	13.15	78.82
32)	Phenanthrene-d10	24.68	177595	12.42	74.48
66)	Chrysene-d12	33.80	164048	11.46	68.77
88)	Perylene-d12	38.65	221662	14.20	85.19
90)	5(b)H-Cholane	34.19	51528	15.84	95.02
	Internal Standards				
1)	Fluorene-d10	21.34	116928	16.74	
31)	Pyrene-d10	29.60	242224	16.71	
73)	Benzo(a)pyrene-d12	38.34	209175	16.69	

Data Path : C:\msdchem\2\data\MS60140\
Data File : ENV3076A.D
Acq On : 13 Aug 2013 6:56 am
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 0.06667

Quant Time: Aug 18 07:18:25 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.340	176	116928m	251.05		0.00
31) Pyrene-d10	29.603	212	242224m	250.63		0.00
73) Benzo(a)pyrene-d12	38.342	264	209175m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.705	136	169036m	13.21		0.00
21) Acenaphthene-d10	19.557	164	89489m	13.15		0.00
32) Phenanthrene-d10	24.684	188	177595m	12.42		0.00
66) Chrysene-d12	33.802	240	164048m	11.46		0.00
88) Perylene-d12	38.652	264	221662m	14.20		0.00
90) 5(b)H-Cholane	34.190	217	51528m	15.84		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.789	128	1503m	0.11		
9) 2-Methylnaphthalene	16.018	142	278m	0.03		
10) 1-Methylnaphthalene	16.352	142	124m	0.02		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.	d	
16) Benzothiophene	0.000		0	N.D.	d	
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.606	154	1239m	0.11		
23) Acenaphthylene	0.000		0	N.D.	d	
24) Acenaphthene	0.000		0	N.D.	d	
25) Dibenzofuran	20.282	168	629m	0.05		
26) Fluorene	21.452	166	115m	0.01		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.516	167	295m	0.02		
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	24.754	178	626m	0.04		
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ENV3076A.D
Acq On : 13 Aug 2013 6:56 am
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 0.06667

Quant Time: Aug 18 07:18:25 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 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	44.468	276	327m	0.02		
89) Perylene	0.000		0	N.D.	d	
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ENV3076A.D
Acq On : 13 Aug 2013 6:56 am
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 0.06667

Quant Time: Aug 18 07:18:25 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

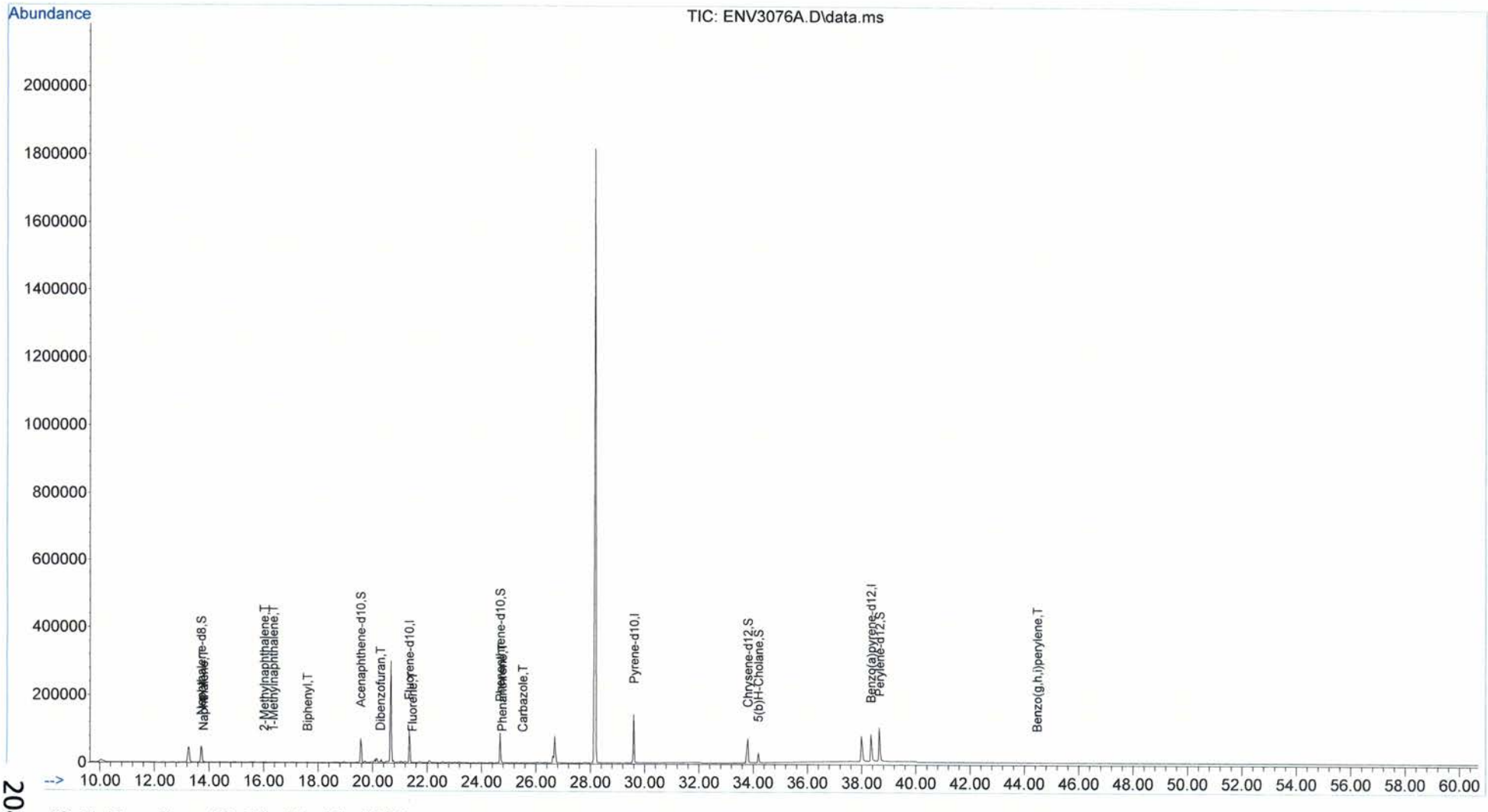
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ENV3076A.D
Acq On : 13 Aug 2013 6:56 am
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 0.06667

Quant Time: Aug 18 07:18:25 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



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

Data File Name ENV3076B.D
Data File Path C:\msdchem\2\data\MS60140\
Operator YM
Date Acquired 8/13/2013 8:05
Acq. Method File PAH-2012.M
Sample Name SRM 1941b
Misc Info 0
Instrument Name GCMS6
Vial Number 13
Sample Multiplier 0.24938
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

ENV3076B.D
SRM 1941b
8/13/2013
PAH-2012.M
4.009944663

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.31	20540	32.9453	53.3185
4)	C1-Decalins	12.62	5887	9.4425	15.2816
5)	C2-Decalins	14.63	6855	10.9951	17.7944
6)	C3-Decalins	17.22	11573	18.5626	30.0416
7)	C4-Decalins	17.50	19941	31.9845	51.7635
8)	Naphthalene	13.79	2449950	627.1433	1014.9650
9)+10)	C1-Naphthalenes	16.19	702048	179.7117	290.8444
13)	C2-Naphthalenes	18.39	600858	153.8089	248.9233
14)	C3-Naphthalenes	20.76	407486	104.3092	168.8133
15)	C4-Naphthalenes	22.74	264896	67.8087	109.7411
16)	Benzothiophene	13.96	74893	24.2132	39.1864
17)	C1-Benzothiophenes	16.22	39018	12.6146	20.4155
18)	C2-Benzothiophenes	18.17	33044	10.6832	17.2897
19)	C3-Benzothiophenes	20.23	45475	14.7022	23.7940
20)	C4-Benzothiophenes	21.54	35542	11.4909	18.5967
22)	Biphenyl	17.61	167942	53.5935	86.7354
23)	Acenaphthylene	19.09	128680	38.4429	62.2158
24)	Acenaphthene	19.67	49655	23.1828	37.5188
25)	Dibenzofuran	20.28	226436	67.0408	108.4985
26)	Fluorene	21.45	109896	40.7729	65.9866
28)	C1-Fluorenes	23.44	101721	37.7399	61.0781
29)	C2-Fluorenes	25.87	274569	101.8687	164.8638
30)	C3-Fluorenes	27.53	435873	161.7147	261.7181
33)	Carbazole	25.52	57156	16.6537	26.9523
42)	Anthracene	24.93	585013	166.9704	270.2239
41)	Phenanthrene	24.76	1327150	336.0770	543.9049
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.67	937476	237.3990	384.2051
50)	C2-Phenanthrenes/Anthracenes	28.36	907904	229.9112	372.0868
51)	C3-Phenanthrenes/Anthracenes	29.78	674994	170.9308	276.6334
52)	C4-Phenanthrenes/Anthracenes	31.75	539353	136.5819	221.0434
34)	Dibenzothiophene	24.34	172188	40.3223	65.2573
35)+36)+37)	C1-Dibenzothiophenes	26.17	188256	44.0850	71.3469
38)	C2-Dibenzothiophenes	27.25	349368	81.8136	132.4066
39)	C3-Dibenzothiophenes	28.78	421753	98.7642	159.8394
40)	C4-Dibenzothiophenes	30.82	238096	55.7564	90.2358
58)	Fluoranthene	28.88	2633080	537.4314	869.7757
59)	Pyrene	29.68	1903130	418.8013	677.7855
62)	C1-Fluoranthenes/Pyrenes	31.17	1373610	280.3630	453.7377
63)	C2-Fluoranthenes/Pyrenes	33.26	1499110	305.9793	495.1950
64)	C3-Fluoranthenes/Pyrenes	33.96	726216	148.2262	239.8884
65)	C4-Fluoranthenes/Pyrenes	35.28	570256	116.3936	188.3707
53)	Naphthobenzothiophene	32.95	488394	133.0834	215.3813
54)	C1-Naphthobenzothiophenes	34.34	438187	119.4024	193.2401
55)	C2-Naphthobenzothiophenes	35.78	472617	128.7843	208.4238
56)	C3-Naphthobenzothiophenes	37.18	386365	105.2813	170.3865
57)	C4-Naphthobenzothiophenes	38.03	144827	39.4641	63.8685
67)	Benz(a)anthracene	33.76	720573	211.3548	342.0553
68)	Chrysene/Triphenylene	33.88	1174420	251.9486	407.7521
69)	C1-Chrysenes	35.12	1175490	252.1780	408.1234
70)	C2-Chrysenes	36.56	701604	150.5153	243.5930
71)	C3-Chrysenes	37.99	349493	74.9768	121.3421
72)	C4-Chrysenes	39.43	170946	36.6731	59.3515
77)	Benzo(b)fluoranthene	37.29	2146090	361.1970	584.5591
78)	Benzo(k,j)fluoranthene	37.29	2161350	347.3290	562.1151
79)	Benzo(a)fluoranthene	37.64	330162	53.0571	85.8673
80)	Benzo(e)pyrene	38.26	1568900	242.3934	392.2880
81)	Benzo(a)pyrene	38.46	1106050	198.7905	321.7214
89)	Perylene	38.77	1498160	256.3402	414.8594
82)	Indeno(1,2,3-c,d)pyrene	43.14	1166100	211.6515	342.5356
83)	Dibenzo(a,h)anthracene	43.18	197939	45.6151	73.8232
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.50	927776	198.3055	320.9364

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	487649	197.5823	319.7660
10)	1-Methylnaphthalene	16.36	214399	93.1763	150.7960
11)	2,6-Dimethylnaphthalene	18.14	112422	53.6850	86.8835
12)	1,6,7-Trimethylnaphthalene	20.98	34137	16.9926	27.5008
27)	1-Methylfluorene	23.44	40291	27.2064	44.0306
35)	4-Methyldibenzothiophene	25.87	91896	36.5796	59.2001
36)	2/3-Methyldibenzothiophene	26.14	67767	26.9749	43.6561
37)	1-Methyldibenzothiophene	26.49	28593	11.3816	18.4198
43)	3-Methylphenanthrene	26.42	205917	70.0139	113.3101
44)	2-Methylphenanthrene	26.52	302807	102.9575	166.6258
45)	2-Methylanthracene	26.70	94293	32.0605	51.8866
46)	4/9-Methylphenanthrene	26.80	195883	66.6022	107.7885
47)	1-Methylphenanthrene	26.91	138576	47.1174	76.2544
48)	3,6-Dimethylphenanthrene	27.74	12332	4.1353	6.6926
49)	Retene	30.65	35328	31.9416	51.6941
60)	2-Methylfluoranthene	30.44	172403	64.6740	104.6679
61)	Benzo(b)fluorene	31.03	198795	72.3733	117.1285
74)	C29-Hopane	40.71	359532	213.2246	345.0815
75)	18a-Oleanane	41.78	54179	32.1316	52.0016
76)	C30-Hopane	42.03	453760	269.1085	435.5235
91)	C20-TAS	33.34	17474	2.5476	4.1231
92)	C21-TAS	34.42	22026	3.2113	5.1972
93)	C26(20S)-TAS	38.54	10503	1.5313	2.4782
94)	C26(20R)/C27(20S)-TAS	39.47	45460	6.6279	10.7265
95)	C28(20S)-TAS	40.19	27584	4.0217	6.5086
96)	C27(20R)-TAS	40.63	35574	5.1866	8.3939
97)	C28(20R)-TAS	41.78	23131	3.3724	5.4579
	Surrogate Standards				
2)	Naphthalene-d8	13.71	126647	35.23	56.48
21)	Acenaphthene-d10	19.56	70858	37.04	59.38
32)	Phenanthrene-d10	24.69	145691	38.55	61.79
66)	Chrysene-d12	33.80	151605	40.07	64.27
88)	Perylene-d12	38.65	165731	32.74	52.51
90)	5(b)H-Cholane	34.19	38790	36.77	58.97
	Internal Standards				
1)	Fluorene-d10	21.34	122899	62.61	
31)	Pyrene-d10	29.61	239520	62.50	
73)	Benzo(a)pyrene-d12	38.38	253723	62.43	

Data Path : C:\msdchem\2\data\MS60140\
Data File : ENV3076B.D
Acq On : 13 Aug 2013 8:05 am
Operator : YM
Sample : SRM 1941b
Misc :
ALS Vial : 13 Sample Multiplier: 0.24938

Quant Time: Sep 02 17:58:15 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.343	176	122899m	251.05		0.00
31) Pyrene-d10	29.607	212	239520m	250.63		0.00
73) Benzo(a)pyrene-d12	38.380	264	253723m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.708	136	126647m	35.23		0.00
21) Acenaphthene-d10	19.560	164	70858m	37.04		0.00
32) Phenanthrene-d10	24.688	188	145691m	38.55		0.00
66) Chrysene-d12	33.801	240	151605m	40.07		0.00
88) Perylene-d12	38.652	264	165731m	32.74		0.00
90) 5(b)H-Cholane	34.189	217	38790m	36.77		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.311	138	20540m	32.95		
4) C1-Decalins	12.621	152	5887m	9.44		
5) C2-Decalins	14.627	166	6855m	11.00		
6) C3-Decalins	17.219	180	11573m	18.56		
7) C4-Decalins	17.498	194	19941m	31.98		
8) Naphthalene	13.791	128	2449948m	627.14		
9) 2-Methylnaphthalene	16.021	142	487649m	197.58		
10) 1-Methylnaphthalene	16.355	142	214399m	93.18		
11) 2,6-Dimethylnaphthalene	18.139	156	112422m	53.68		
12) 1,6,7-Trimethylnaphtha...	20.981	170	34137m	16.99		
13) C2-Naphthalenes	18.389	156	600858m	153.81		
14) C3-Naphthalenes	20.758	170	407486m	104.31		
15) C4-Naphthalenes	22.736	184	264896m	67.81		
16) Benzothiophene	13.959	134	74893m	24.21		
17) C1-Benzothiophenes	16.216	148	39018m	12.61		
18) C2-Benzothiophenes	18.166	162	33044m	10.68		
19) C3-Benzothiophenes	20.228	176	45475m	14.70		
20) C4-Benzothiophenes	21.538	190	35542m	11.49		
22) Biphenyl	17.609	154	167942m	53.59		
23) Acenaphthylene	19.086	152	128680m	38.44		
24) Acenaphthene	19.671	154	49655m	23.18		
25) Dibenzofuran	20.284	168	226436m	67.04		
26) Fluorene	21.455	166	109896m	40.77		
27) 1-Methylfluorene	23.441	180	40291m	27.21		
28) C1-Fluorenes	23.441	180	101721m	37.74		
29) C2-Fluorenes	25.866	194	274569m	101.87		
30) C3-Fluorenes	27.529	208	435873m	161.71		
33) Carbazole	25.520	167	57156m	16.65		
34) Dibenzothiophene	24.342	184	172188m	40.32		
35) 4-Methyldibenzothiophene	25.866	198	91896m	36.58		
36) 2/3-Methyldibenzothiop...	26.143	198	67767m	26.97		
37) 1-Methyldibenzothiophene	26.490	198	28593m	11.38		
38) C2-Dibenzothiophenes	27.252	212	349368m	81.81		
39) C3-Dibenzothiophenes	28.776	226	421753m	98.76		
40) C4-Dibenzothiophenes	30.819	240	238096m	55.76		
41) Phenanthrene	24.758	178	1327149m	336.08		
42) Anthracene	24.931	178	585013m	166.97		
43) 3-Methylphenanthrene	26.420	192	205917m	70.01		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ENV3076B.D
Acq On : 13 Aug 2013 8:05 am
Operator : YM
Sample : SRM 1941b
Misc :
ALS Vial : 13 Sample Multiplier: 0.24938

Quant Time: Sep 02 17:58:15 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.524	192	302807m	102.96		
45)	2-Methylanthracene	26.697	192	94293m	32.06		
46)	4/9-Methylphenanthrene	26.801	192	195883m	66.60		
47)	1-Methylphenanthrene	26.905	192	138576m	47.12		
48)	3,6-Dimethylphenanthrene	27.737	206	12332m	4.14		
49)	Retene	30.646	234	35328m	31.94		
50)	C2-Phenanthrenes/Anthr...	28.360	206	907904m	229.91		
51)	C3-Phenanthrenes/Anthr...	29.780	220	674994m	170.93		
52)	C4-Phenanthrenes/Anthr...	31.755	234	539353m	136.58		
53)	Naphthobenzothiophene	32.948	234	488394m	133.08		
54)	C1-Naphthobenzothiophenes	34.345	248	438187m	119.40		
55)	C2-Naphthobenzothiophenes	35.780	262	472617m	128.78		
56)	C3-Naphthobenzothiophenes	37.177	276	386365m	105.28		
57)	C4-Naphthobenzothiophenes	38.031	290	144827m	39.46		
58)	Fluoranthene	28.880	202	2633081m	537.43		
59)	Pyrene	29.676	202	1903127m	418.80		
60)	2-Methylfluoranthene	30.438	216	172403m	64.67		
61)	Benzo(b)fluorene	31.027	216	198795m	72.37		
62)	C1-Fluoranthenes/Pyrenes	31.166	216	1373609m	280.36		
63)	C2-Fluoranthenes/Pyrenes	33.258	230	1499107m	305.98		
64)	C3-Fluoranthenes/Pyrenes	33.957	244	726216m	148.23		
65)	C4-Fluoranthenes/Pyrenes	35.276	258	570256m	116.39		
67)	Benz(a)anthracene	33.762	228	720573m	211.35		
68)	Chrysene/Triphenylene	33.879	228	1174415m	251.95		
69)	C1-Chrysenes	35.121	242	1175487m	252.18		
70)	C2-Chrysenes	36.557	256	701604m	150.52		
71)	C3-Chrysenes	37.992	270	349493m	74.98		
72)	C4-Chrysenes	39.428	284	170946m	36.67		
74)	C29-Hopane	40.706	191	359532m	213.22		
75)	18a-Oleanane	41.776	191	54179m	32.13		
76)	C30-Hopane	42.034	191	453760m	269.11		
77)	Benzo(b)fluoranthene	37.294	252	2146090m	361.20		
78)	Benzo(k,j)fluoranthene	37.294	252	2161351m	347.33		
79)	Benzo(a)fluoranthene	37.643	252	330162m	53.06		
80)	Benzo(e)pyrene	38.264	252	1568901m	242.39		
81)	Benzo(a)pyrene	38.458	252	1106047m	198.79		
82)	Indeno(1,2,3-c,d)pyrene	43.140	276	1166102m	211.65		
83)	Dibenzo(a,h)anthracene	43.177	278	197939m	45.62		
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87)	Benzo(g,h,i)perylene	44.505	276	927776m	198.31		
89)	Perylene	38.768	252	1498159m	256.34		
91)	C20-TAS	33.336	231	17474m	2.55		
92)	C21-TAS	34.422	231	22026m	3.21		
93)	C26(20S)-TAS	38.536	231	10503m	1.53		
94)	C26(20R)/C27(20S)-TAS	39.467	231	45460m	6.63		
95)	C28(20S)-TAS	40.190	231	27584m	4.02		
96)	C27(20R)-TAS	40.633	231	35574m	5.19		
97)	C28(20R)-TAS	41.776	231	23131m	3.37		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ENV3076B.D
Acq On : 13 Aug 2013 8:05 am
Operator : YM
Sample : SRM 1941b
Misc :
ALS Vial : 13 Sample Multiplier: 0.24938

Quant Time: Sep 02 17:58:15 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

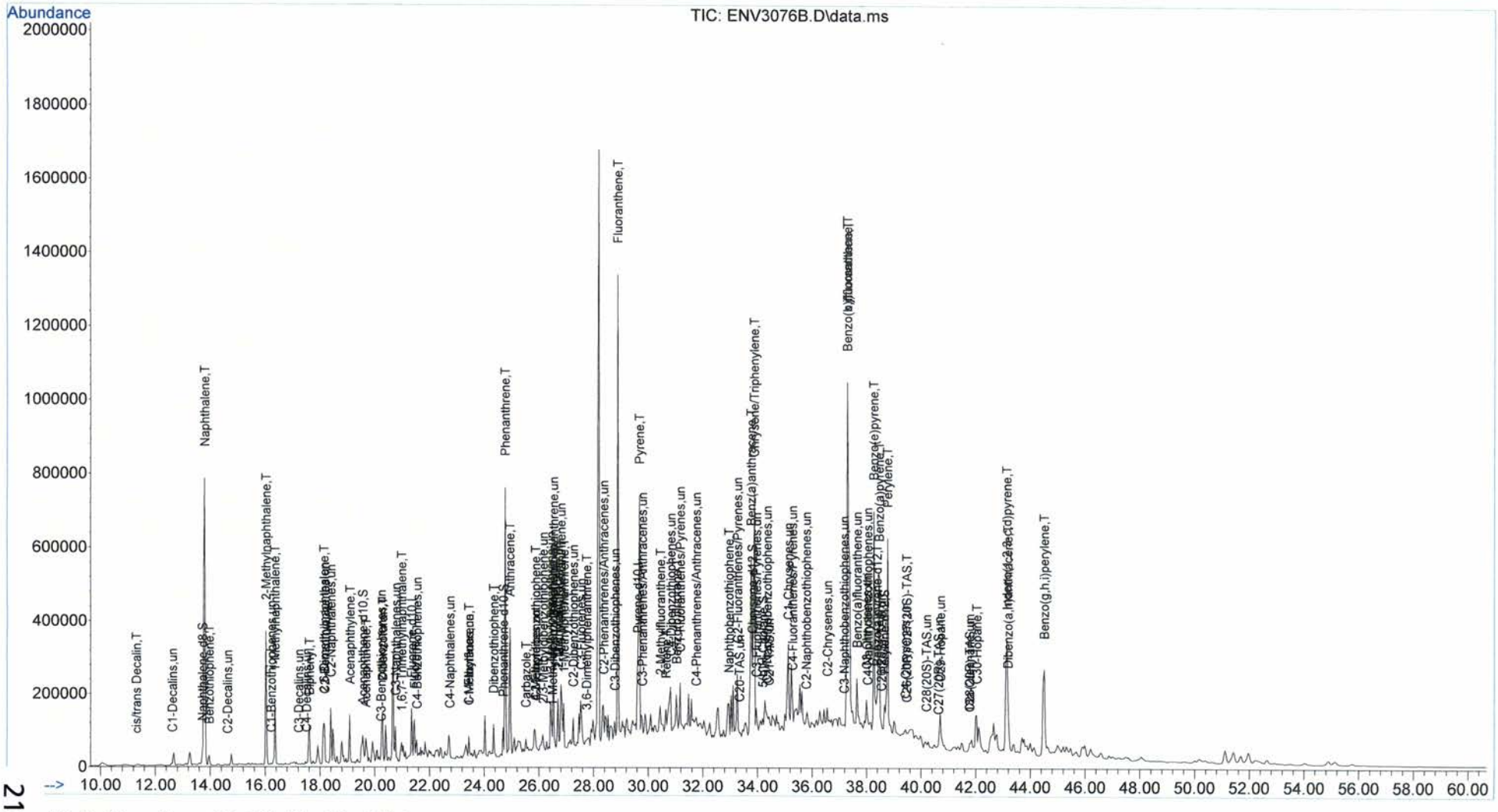
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ENV3076B.D
Acq On : 13 Aug 2013 8:05 am
Operator : YM
Sample : SRM 1941b
Misc :
ALS Vial : 13 Sample Multiplier: 0.24938

Quant Time: Sep 02 17:58:15 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



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

Data File Name ENV3076C.D
Data File Path C:\GCMS6\MS60140\
Operator YM
Date Acquired 8/13/2013 9:15
Acq. Method File PAH-2012.M
Sample Name MS (SED-DA-028 (0-0.5) MS/MSD)
Misc Info 0
Instrument Name GCMS6
Vial Number 14
Sample Multiplier 0.0664
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ENV3076C.D
(SED-DA-028 (0-0.5) MS/MSD)
8/13/2013
PAH-2012.M
15.06024096

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.89	128936	44.9995	49.2889
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	298026	16.5999	18.1822
9)+10)	C1-Naphthalenes	16.19	297312	16.5601	18.1386
13)	C2-Naphthalenes	0.00	0	0.0000	0.0000
14)	C3-Naphthalenes	0.00	0	0.0000	0.0000
15)	C4-Naphthalenes	0.00	0	0.0000	0.0000
16)	Benzothiophene	13.96	85454	6.0115	6.5845
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.61	185112	12.8537	14.0789
23)	Acenaphthylene	19.08	1053050	68.4538	74.9787
24)	Acenaphthene	19.67	131925	13.4020	14.6795
25)	Dibenzofuran	20.28	350145	22.5571	24.7072
26)	Fluorene	21.45	344407	27.8037	30.4540
28)	C1-Fluorenes	0.00	0	0.0000	0.0000
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	25.52	304815	22.3868	24.5207
42)	Anthracene	24.96	1832850	131.8584	144.4271
41)	Phenanthrene	24.79	1933420	123.4110	135.1745
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	5.38	346383	22.1098	24.2173
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	291684	17.2172	18.8583
35)+36)+37)	C1-Dibenzothiophenes	8.62	201790	11.9110	13.0464
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	28.91	6013480	309.3802	338.8702
59)	Pyrene	29.71	4639370	257.3392	281.8686
62)	C1-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.76	3986040	294.7018	322.7927
68)	Chrysene/Triphenylene	33.88	3874920	209.5365	229.5094
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	37.33	5795120	436.9731	478.6252
78)	Benzo(k,j)fluoranthene	37.41	2238110	161.1362	176.4956
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.30	2219810	153.6516	168.2976
81)	Benzo(a)pyrene	38.50	1985360	159.8673	175.1058
89)	Perylene	38.81	5956920	456.6428	500.1698
82)	Indeno(1,2,3-c,d)pyrene	43.29	1108890	90.1719	98.7670
83)	Dibenzo(a,h)anthracene	43.33	320062	33.0451	36.1949
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	44.80	955178	91.4687	100.1874

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	187065	16.4920	18.0640
10)	1-Methylnaphthalene	16.35	110247	10.4253	11.4191
11)	2,6-Dimethylnaphthalene	18.14	251312	26.1129	28.6020
12)	1,6,7-Trimethylnaphthalene	20.98	81232	8.7984	9.6371
27)	1-Methylfluorene	23.47	85068	12.4989	13.6903
35)	4-Methyldibenzothiophene	25.86	201790	20.2464	22.1763
36)	2/3-Methyldibenzothiophene	0.00	0	0.0000	0.0000
37)	1-Methyldibenzothiophene	0.00	0	0.0000	0.0000
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	26.90	346383	29.6862	32.5159
48)	3,6-Dimethylphenanthrene	28.01	138752	11.7280	12.8459
49)	Retene	30.68	5126890	1168.4209	1279.7943
60)	2-Methylfluoranthene	30.47	656683	62.0936	68.0124
61)	Benzo(b)fluorene	31.10	570644	52.3656	57.3570
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	39.39	58689	3.8335	4.1990
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	13.73	245577	14.86	89.50
21)	Acenaphthene-d10	19.59	110543	12.57	75.70
32)	Phenanthrene-d10	24.69	227392	15.17	91.30
66)	Chrysene-d12	33.80	225145	15.00	90.36
88)	Perylene-d12	38.73	147692	13.07	78.74
90)	5(b)H-Cholane	34.23	69840	29.66	178.66
	Internal Standards				
1)	Fluorene-d10	21.37	150388	16.67	
31)	Pyrene-d10	29.64	253012	16.64	
73)	Benzo(a)pyrene-d12	38.42	150789	16.62	

Data Path : C:\msdchem\2\data\MS60140\
Data File : ENV3076C.D
Acq On : 13 Aug 2013 9:15 am
Operator : YM
Sample : MS (SED-DA-028 (0-0.5) MS/MSD)
Misc :
ALS Vial : 14 Sample Multiplier: 0.0664

Quant Time: Aug 18 09:45:45 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.369	176	150388m	251.05	0.03
31) Pyrene-d10	29.640	212	253012m	250.63	0.03
73) Benzo(a)pyrene-d12	38.420	264	150789m	250.32	0.08
System Monitoring Compounds					
2) Naphthalene-d8	13.734	136	245577m	14.86	0.02
21) Acenaphthene-d10	19.586	164	110543m	12.57	0.02
32) Phenanthrene-d10	24.687	188	227392m	15.17	0.00
66) Chrysene-d12	33.802	240	225145m	15.00	0.00
88) Perylene-d12	38.731	264	147692m	13.07	0.08
90) 5(b)H-Cholane	34.229	217	69840m	29.66	0.04
Target Compounds					Qvalue
3) cis/trans Decalin	11.895	138	128936m	45.00	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.790	128	298026m	16.60	
9) 2-Methylnaphthalene	16.019	142	187065m	16.49	
10) 1-Methylnaphthalene	16.353	142	110247m	10.43	
11) 2,6-Dimethylnaphthalene	18.137	156	251312m	26.11	
12) 1,6,7-Trimethylnaphtha...	20.979	170	81232m	8.80	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D. d	
16) Benzothiophene	13.957	134	85454m	6.01	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.607	154	185112m	12.85	
23) Acenaphthylene	19.084	152	1053052m	68.45	
24) Acenaphthene	19.669	154	131925m	13.40	
25) Dibenzofuran	20.282	168	350145m	22.56	
26) Fluorene	21.453	166	344407m	27.80	
27) 1-Methylfluorene	23.475	180	85068m	12.50	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.518	167	304815m	22.39	
34) Dibenzothiophene	24.341	184	291684m	17.22	
35) 4-Methyldibenzothiophene	25.865	198	201790m	20.25	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.791	178	1933422m	123.41	
42) Anthracene	24.964	178	1832851m	131.86	
43) 3-Methylphenanthrene	0.000		0	N.D. d	

Data Path : C:\msdchem\2\data\MS60140\
Data File : ENV3076C.D
Acq On : 13 Aug 2013 9:15 am
Operator : YM
Sample : MS (SED-DA-028 (0-0.5) MS/MSD)
Misc :
ALS Vial : 14 Sample Multiplier: 0.0664

Quant Time: Aug 18 09:45:45 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	26.904	192	346383m	29.69		
48) 3,6-Dimethylphenanthrene	28.012	206	138752m	11.73		
49) Retene	30.680	234	5126887m	1168.42		
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.		
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.913	202	6013479m	309.38		
59) Pyrene	29.710	202	4639370m	257.34		
60) 2-Methylfluoranthene	30.472	216	656683m	62.09		
61) Benzo(b)fluorene	31.095	216	570644m	52.37		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.764	228	3986044m	294.70		
68) Chrysene/Triphenylene	33.880	228	3874924m	209.54		
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	37.334	252	5795122m	436.97		
78) Benzo(k,j)fluoranthene	37.411	252	2238106m	161.14		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.304	252	2219809m	153.65		
81) Benzo(a)pyrene	38.498	252	1985364m	159.87		
82) Indeno(1,2,3-c,d)pyrene	43.289	276	1108891m	90.17		
83) Dibenzo(a,h)anthracene	43.325	278	320062m	33.05		
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	44.801	276	955178m	91.47		
89) Perylene	38.808	252	5956918m	456.64		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.390	231	58689m	3.83		
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ENV3076C.D
Acq On : 13 Aug 2013 9:15 am
Operator : YM
Sample : MS (SED-DA-028 (0-0.5) MS/MSD)
Misc :
ALS Vial : 14 Sample Multiplier: 0.0664

Quant Time: Aug 18 09:45:45 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

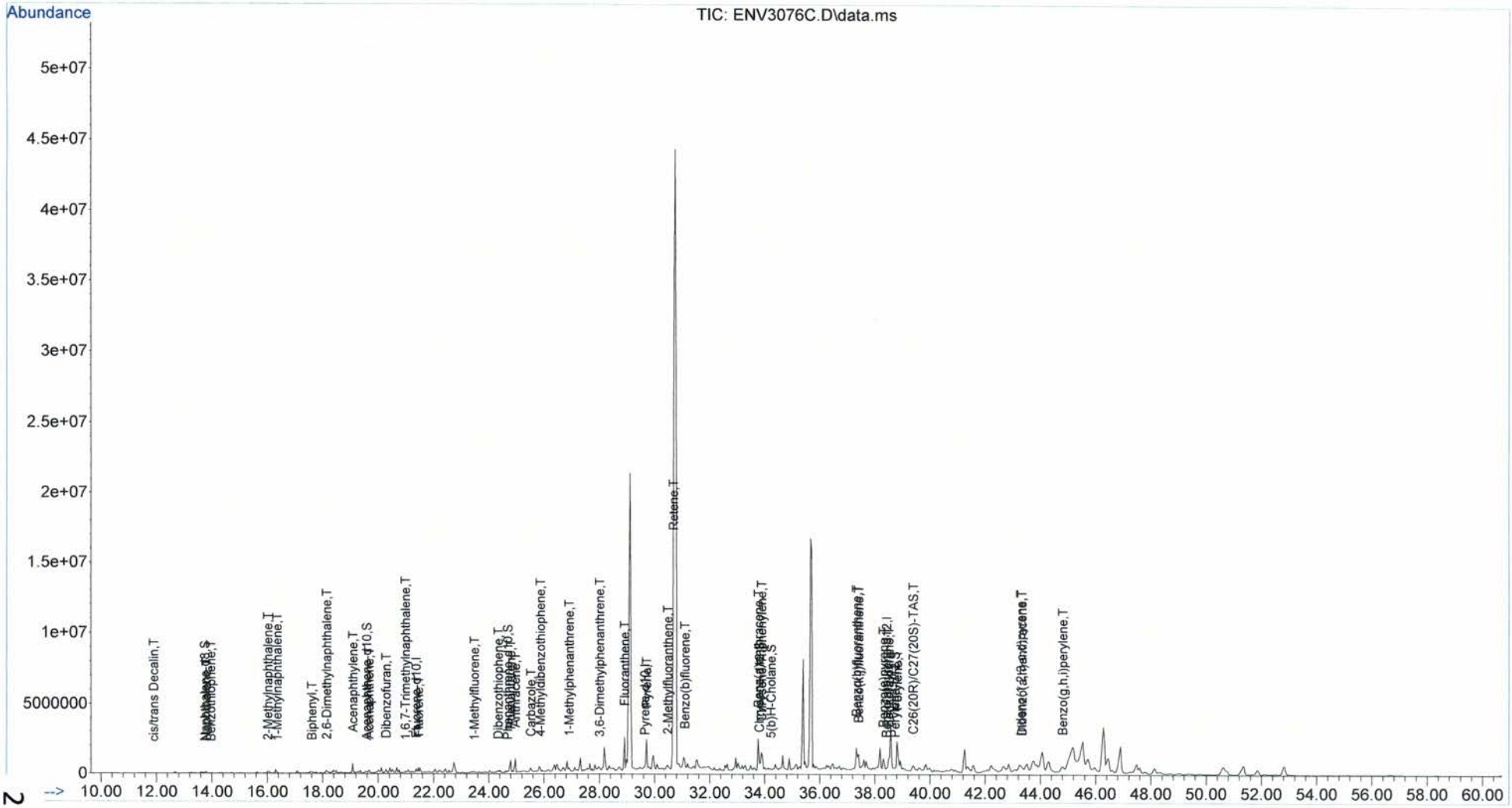
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ENV3076C.D
Acq On : 13 Aug 2013 9:15 am
Operator : YM
Sample : MS (SED-DA-028 (0-0.5) MS/MSD)
Misc :
ALS Vial : 14 Sample Multiplier: 0.0664

Quant Time: Aug 18 09:45:45 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



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

Data File Name ENV3076D.D
Data File Path C:\msdchem\2\data\MS60140\
Operator YM
Date Acquired 8/13/2013 10:24
Acq. Method File PAH-2012.M
Sample Name MSD (SED-DA-028 (0-0.5) MS/MSD)
Misc Info 0
Instrument Name GCMS6
Vial Number 15
Sample Multiplier 0.06658
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ENV3076D.D
(SED-DA-028 (0-0.5) MS/MSD)
8/13/2013
PAH-2012.M
15.01952538

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.90	132502	45.3676	50.9462
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	300152	16.4015	18.4182
9)+10)	C1-Naphthalenes	16.19	290578	15.8783	17.8307
13)	C2-Naphthalenes	0.00	0	0.0000	0.0000
14)	C3-Naphthalenes	0.00	0	0.0000	0.0000
15)	C4-Naphthalenes	0.00	0	0.0000	0.0000
16)	Benzothiophene	13.96	78964	5.4497	6.1198
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.61	177892	12.1183	13.6084
23)	Acenaphthylene	19.09	800754	51.0665	57.3458
24)	Acenaphthene	19.67	130652	13.0211	14.6222
25)	Dibenzofuran	20.29	346254	21.8836	24.5745
26)	Fluorene	21.46	271847	21.5300	24.1774
28)	C1-Fluorenes	0.00	0	0.0000	0.0000
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	25.52	240040	17.7054	19.8825
42)	Anthracene	24.96	1327860	95.9391	107.7361
41)	Phenanthrene	24.79	2000130	128.2184	143.9846
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	5.38	285424	18.2971	20.5470
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	274761	16.2880	18.2908
35)+36)+37)	C1-Dibenzothiophenes	8.62	214559	12.7192	14.2832
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	28.91	4865900	251.4167	282.3318
59)	Pyrene	29.67	3867450	215.4449	241.9367
62)	C1-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.76	2328310	172.8803	194.1382
68)	Chrysene/Triphenylene	33.88	2452860	133.2086	149.5884
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	37.33	3572550	285.9338	321.0932
78)	Benzo(k,j)fluoranthene	37.41	1328400	101.5165	113.9993
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.30	1416700	104.0872	116.8861
81)	Benzo(a)pyrene	38.50	1112950	95.1235	106.8202
89)	Perylene	38.81	5208590	423.8090	475.9220
82)	Indeno(1,2,3-c,d)pyrene	43.29	748369	64.5941	72.5368
83)	Dibenzo(a,h)anthracene	43.36	228910	25.0861	28.1707
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	44.80	680461	69.1653	77.6701

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	180721	15.6308	17.5528
10)	1-Methylnaphthalene	16.36	109857	10.1916	11.4448
11)	2,6-Dimethylnaphthalene	18.14	238173	24.2787	27.2641
12)	1,6,7-Trimethylnaphthalene	20.98	83744	8.8986	9.9927
27)	1-Methylfluorene	23.47	87164	12.5641	14.1090
35)	4-Methyldibenzothiophene	25.86	214559	21.6203	24.2788
36)	2/3-Methyldibenzothiophene	0.00	0	0.0000	0.0000
37)	1-Methyldibenzothiophene	0.00	0	0.0000	0.0000
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	26.90	285424	24.5671	27.5879
48)	3,6-Dimethylphenanthrene	28.01	132296	11.2304	12.6114
49)	Retene	30.68	1402580	321.0241	360.4983
60)	2-Methylfluoranthene	30.44	451681	42.8932	48.1675
61)	Benzo(b)fluorene	31.06	489239	45.0885	50.6327
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	39.39	61911	4.2925	4.8203
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.74	244152	14.50	87.06
21)	Acenaphthene-d10	19.59	111024	12.39	74.39
32)	Phenanthrene-d10	24.69	221442	14.83	89.05
66)	Chrysene-d12	33.80	217220	14.54	87.31
88)	Perylene-d12	38.73	137248	12.89	77.46
90)	5(b)H-Cholane	34.23	71951	32.43	194.84
	Internal Standards				
1)	Fluorene-d10	21.37	153709	16.71	
31)	Pyrene-d10	29.64	252611	16.69	
73)	Benzo(a)pyrene-d12	38.42	142446	16.67	

Data Path : C:\msdchem\2\data\MS60140\
Data File : ENV3076D.D
Acq On : 13 Aug 2013 10:24 am
Operator : YM
Sample : MSD (SED-DA-028 (0-0.5) MS/MSD)
Misc :
ALS Vial : 15 Sample Multiplier: 0.06658

Quant Time: Aug 18 09:50:08 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.372	176	153709m	251.05		0.03
31) Pyrene-d10	29.640	212	252611m	250.63		0.03
73) Benzo(a)pyrene-d12	38.420	264	142446m	250.32		0.08
System Monitoring Compounds						
2) Naphthalene-d8	13.737	136	244152m	14.50		0.03
21) Acenaphthene-d10	19.588	164	111024m	12.39		0.03
32) Phenanthrene-d10	24.687	188	221442m	14.83		0.00
66) Chrysene-d12	33.802	240	217220m	14.54		0.00
88) Perylene-d12	38.730	264	137248m	12.89		0.08
90) 5(b)H-Cholane	34.229	217	71951m	32.43		0.04
Target Compounds						Qvalue
3) cis/trans Decalin	11.897	138	132502m	45.37		
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	13.792	128	300152m	16.40		
9) 2-Methylnaphthalene	16.022	142	180721m	15.63		
10) 1-Methylnaphthalene	16.356	142	109857m	10.19		
11) 2,6-Dimethylnaphthalene	18.139	156	238173m	24.28		
12) 1,6,7-Trimethylnaphtha...	20.982	170	83744m	8.90		
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.	d	
16) Benzothiophene	13.959	134	78964m	5.45		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.610	154	177892m	12.12		
23) Acenaphthylene	19.087	152	800754m	51.07		
24) Acenaphthene	19.672	154	130652m	13.02		
25) Dibenzofuran	20.285	168	346254m	21.88		
26) Fluorene	21.455	166	271847m	21.53		
27) 1-Methylfluorene	23.474	180	87164m	12.56		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.518	167	240040m	17.71		
34) Dibenzothiophene	24.340	184	274761m	16.29		
35) 4-Methyldibenzothiophene	25.864	198	214559m	21.62		
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.791	178	2000133m	128.22		
42) Anthracene	24.964	178	1327855m	95.94		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ENV3076D.D
Acq On : 13 Aug 2013 10:24 am
Operator : YM
Sample : MSD (SED-DA-028 (0-0.5) MS/MSD)
Misc :
ALS Vial : 15 Sample Multiplier: 0.06658

Quant Time: Aug 18 09:50:08 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	0.000		0	N.D.	d	
45)	2-Methylanthracene	0.000		0	N.D.	d	
46)	4/9-Methylphenanthrene	0.000		0	N.D.	d	
47)	1-Methylphenanthrene	26.904	192	285424m	24.57		
48)	3,6-Dimethylphenanthrene	28.012	206	132296m	11.23		
49)	Retene	30.679	234	1402582m	321.02		
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	28.913	202	4865904m	251.42		
59)	Pyrene	29.675	202	3867448m	215.44		
60)	2-Methylfluoranthene	30.437	216	451681m	42.89		
61)	Benzo(b)fluorene	31.060	216	489239m	45.09		
62)	C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63)	C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64)	C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65)	C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67)	Benz(a)anthracene	33.763	228	2328307m	172.88		
68)	Chrysene/Triphenylene	33.879	228	2452858m	133.21		
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	0.000		0	N.D.	d	
77)	Benzo(b)fluoranthene	37.333	252	3572550m	285.93		
78)	Benzo(k,j)fluoranthene	37.411	252	1328404m	101.52		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.303	252	1416704m	104.09		
81)	Benzo(a)pyrene	38.497	252	1112948m	95.12		
82)	Indeno(1,2,3-c,d)pyrene	43.288	276	748369m	64.59		
83)	Dibenzo(a,h)anthracene	43.362	278	228910m	25.09		
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87)	Benzo(g,h,i)perylene	44.800	276	680461m	69.17		
89)	Perylene	38.808	252	5208587m	423.81		
91)	C20-TAS	0.000		0	N.D.	d	
92)	C21-TAS	0.000		0	N.D.	d	
93)	C26(20S)-TAS	0.000		0	N.D.	d	
94)	C26(20R)/C27(20S)-TAS	39.390	231	61911m	4.29		
95)	C28(20S)-TAS	0.000		0	N.D.	d	
96)	C27(20R)-TAS	0.000		0	N.D.	d	
97)	C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ENV3076D.D
Acq On : 13 Aug 2013 10:24 am
Operator : YM
Sample : MSD (SED-DA-028 (0-0.5) MS/MSD)
Misc :
ALS Vial : 15 Sample Multiplier: 0.06658

Quant Time: Aug 18 09:50:08 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

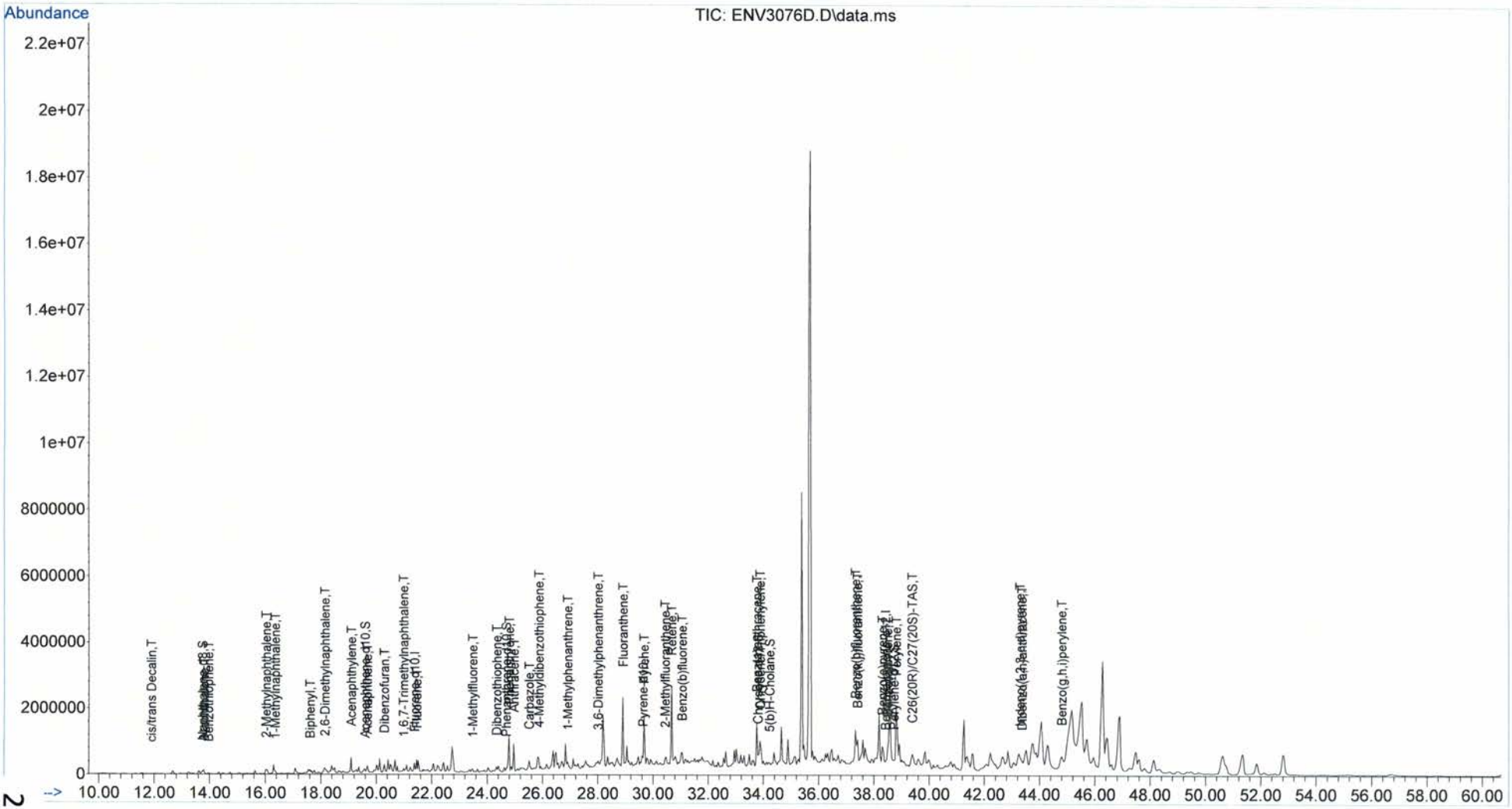
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ENV3076D.D
Acq On : 13 Aug 2013 10:24 am
Operator : YM
Sample : MSD (SED-DA-028 (0-0.5) MS/MSD)
Misc :
ALS Vial : 15 Sample Multiplier: 0.06658

Quant Time: Aug 18 09:50:08 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



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

Data File Name ENV3076E.D
Data File Path C:\GCMS6\MS60140\
Operator YM
Date Acquired 8/13/2013 11:33
Acq. Method File PAH-2012.M
Sample Name Dupl. (SED-DA-032 (1.0-1.5))
Misc Info 0
Instrument Name GCMS6
Vial Number 16
Sample Multiplier 0.06649
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ENV3076E.D
)upl. (SED-DA-032 (1.0-1.5))
8/13/2013
PAH-2012.M
15.03985562

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	12600	0.9444	1.2461
9)+10)	C1-Naphthalenes	16.19	7763	0.5818	0.7677
13)	C2-Naphthalenes	18.50	35147	2.6342	3.4758
14)	C3-Naphthalenes	21.35	43351	3.2491	4.2872
15)	C4-Naphthalenes	22.74	56167	4.2097	5.5546
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	0.00	0	0.0000	0.0000
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.46	18137	1.9702	2.5997
28)	C1-Fluorenes	23.44	5948	0.6461	0.8526
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	24.76	74499	4.5977	6.0666
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.68	45320	2.7969	3.6905
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	2365	0.1350	0.1781
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	28.88	19616	0.9757	1.2875
59)	Pyrene	29.68	8336	0.4471	0.5899
62)	C1-Fluoranthenes/Pyrenes	31.48	6954	0.3459	0.4564
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.76	1814	0.1297	0.1711
68)	Chrysene/Triphenylene	33.88	4724	0.2470	0.3259
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.29	4708	0.2968	0.3917
78)	Benzo(k,j)fluoranthene	37.33	1420	0.0855	0.1128
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	0.00	0	0.0000	0.0000
81)	Benzo(a)pyrene	0.00	0	0.0000	0.0000
89)	Perylene	38.77	2865230	183.6467	242.3189
82)	Indeno(1,2,3-c,d)pyrene	0.00	0	0.0000	0.0000
83)	Dibenzo(a,h)anthracene	0.00	0	0.0000	0.0000
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	0.00	0	0.0000	0.0000

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	5472	0.6492	0.8565
10)	1-Methylnaphthalene	16.36	2291	0.2915	0.3847
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	26.45	3718	0.3081	0.4065
44)	2-Methylphenanthrene	26.52	5578	0.4622	0.6099
45)	2-Methylanthracene	26.70	29833	2.4720	3.2618
46)	4/9-Methylphenanthrene	26.80	3132	0.2595	0.3424
47)	1-Methylphenanthrene	26.90	3059	0.2535	0.3345
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	153164	12.47	75.01
21)	Acenaphthene-d10	19.56	92758	14.20	85.36
32)	Phenanthrene-d10	24.69	195497	12.61	75.79
66)	Chrysene-d12	33.80	216127	13.92	83.75
88)	Perylene-d12	38.65	132002	9.77	58.76
90)	5(b)H-Cholane	34.19	52328	18.58	111.77
	Internal Standards				
1)	Fluorene-d10	21.35	111914	16.69	
31)	Pyrene-d10	29.61	262041	16.66	
73)	Benzo(a)pyrene-d12	38.38	180588	16.64	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ENV3076E.D
Acq On : 13 Aug 2013 11:33 am
Operator : YM
Sample : Dupl. (SED-DA-032 (1.0-1.5))
Misc :
ALS Vial : 16 Sample Multiplier: 0.06649

Quant Time: Aug 18 10:49:52 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.345	176	111914m	251.05		0.00
31) Pyrene-d10	29.607	212	262041m	250.63		0.00
73) Benzo(a)pyrene-d12	38.380	264	180588m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.710	136	153164m	12.47		0.00
21) Acenaphthene-d10	19.562	164	92758m	14.20		0.00
32) Phenanthrene-d10	24.688	188	195497m	12.61		0.00
66) Chrysene-d12	33.801	240	216127m	13.92		0.00
88) Perylene-d12	38.652	264	132002m	9.77		0.00
90) 5(b)H-Cholane	34.189	217	52328m	18.58		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.793	128	12600m	0.94		
9) 2-Methylnaphthalene	16.023	142	5472m	0.65		
10) 1-Methylnaphthalene	16.357	142	2291m	0.29		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.503	156	35147m	2.63		
14) C3-Naphthalenes	21.345	170	43351m	3.25		
15) C4-Naphthalenes	22.738	184	56167m	4.21		
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	0.000		0	N.D.	d	
24) Acenaphthene	0.000		0	N.D.	d	
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.456	166	18137m	1.97		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.441	180	5948m	0.65		
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.341	184	2365m	0.13		
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	24.757	178	74499m	4.60		
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	26.454	192	3718m	0.31		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ENV3076E.D
Acq On : 13 Aug 2013 11:33 am
Operator : YM
Sample : Dupl. (SED-DA-032 (1.0-1.5))
Misc :
ALS Vial : 16 Sample Multiplier: 0.06649

Quant Time: Aug 18 10:49:52 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.524	192	5578m	0.46		
45) 2-Methylanthracene	26.697	192	29833m	2.47		
46) 4/9-Methylphenanthrene	26.801	192	3132m	0.26		
47) 1-Methylphenanthrene	26.905	192	3059m	0.25		
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.		d
49) Retene	0.000		0	N.D.		d
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.		d
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.		d
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.		d
53) Naphthobenzothiophene	0.000		0	N.D.		d
54) C1-Naphthobenzothiophenes	0.000		0	N.D.		d
55) C2-Naphthobenzothiophenes	0.000		0	N.D.		d
56) C3-Naphthobenzothiophenes	0.000		0	N.D.		d
57) C4-Naphthobenzothiophenes	0.000		0	N.D.		d
58) Fluoranthene	28.879	202	19616m	0.98		
59) Pyrene	29.676	202	8336m	0.45		
60) 2-Methylfluoranthene	0.000		0	N.D.		d
61) Benzo(b)fluorene	0.000		0	N.D.		d
62) C1-Fluoranthenes/Pyrenes	31.477	216	6954m	0.35		
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	33.762	228	1814m	0.13		
68) Chrysene/Triphenylene	33.879	228	4724m	0.25		
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.		
74) C29-Hopane	0.000		0	N.D.		d
75) 18a-Oleanane	0.000		0	N.D.		d
76) C30-Hopane	0.000		0	N.D.		d
77) Benzo(b)fluoranthene	37.294	252	4708m	0.30		
78) Benzo(k,j)fluoranthene	37.333	252	1420m	0.09		
79) Benzo(a)fluoranthene	0.000		0	N.D.		d
80) Benzo(e)pyrene	0.000		0	N.D.		
81) Benzo(a)pyrene	0.000		0	N.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	38.768	252	2865226m	183.65		
91) C20-TAS	0.000		0	N.D.		d
92) C21-TAS	0.000		0	N.D.		d
93) C26(20S)-TAS	0.000		0	N.D.		d
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.		d
95) C28(20S)-TAS	0.000		0	N.D.		d
96) C27(20R)-TAS	0.000		0	N.D.		d
97) C28(20R)-TAS	0.000		0	N.D.		d

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ENV3076E.D
Acq On : 13 Aug 2013 11:33 am
Operator : YM
Sample : Dupl. (SED-DA-032 (1.0-1.5))
Misc :
ALS Vial : 16 Sample Multiplier: 0.06649

Quant Time: Aug 18 10:49:52 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

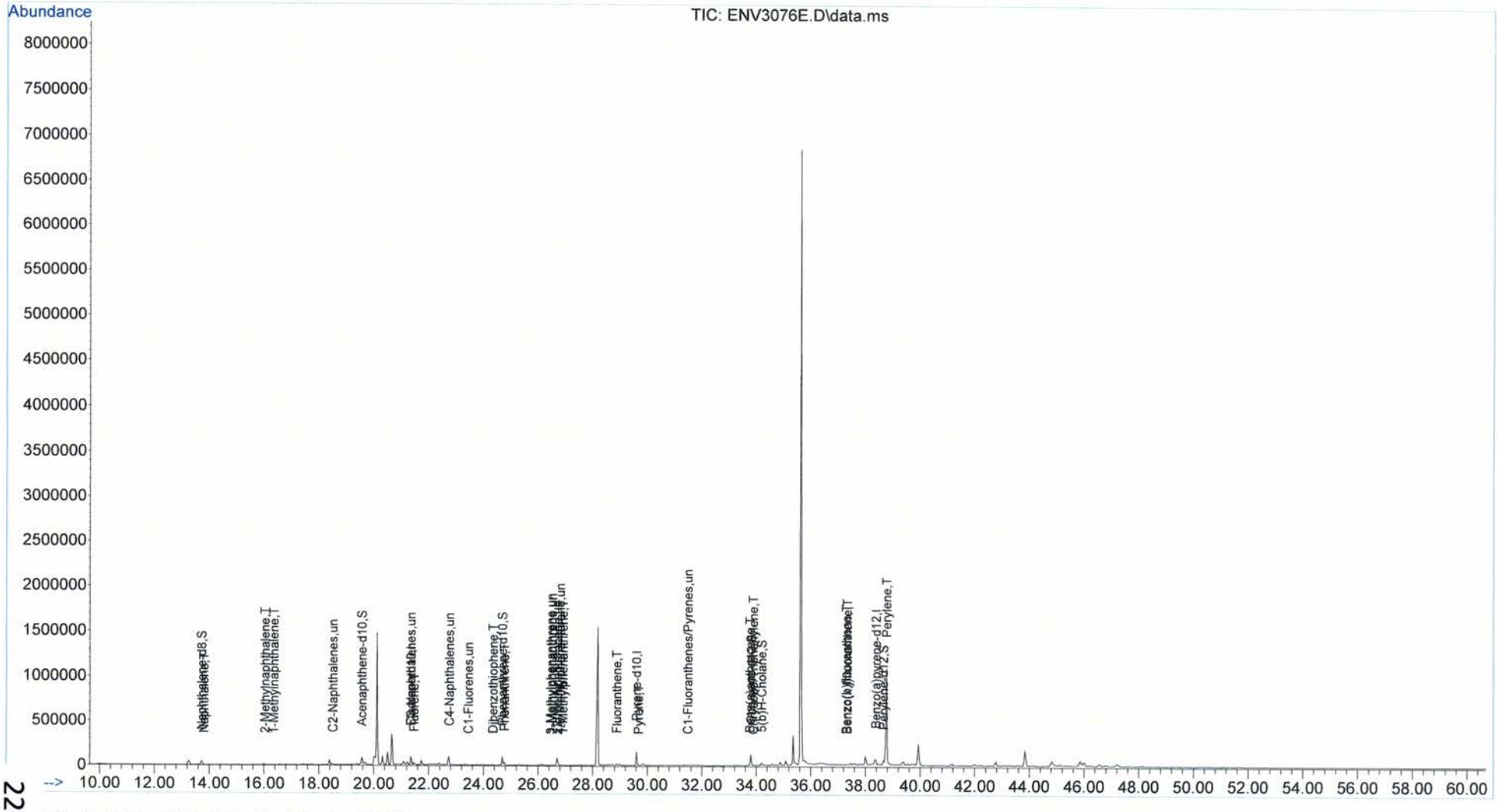
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ENV3076E.D
Acq On : 13 Aug 2013 11:33 am
Operator : YM
Sample : Dupl. (SED-DA-032 (1.0-1.5))
Misc :
ALS Vial : 16 Sample Multiplier: 0.06649

Quant Time: Aug 18 10:49:52 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



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

Data File Name ARC1558.D
Data File Path C:\GCMS6\MS60140\
Operator YM
Date Acquired 8/13/2013 12:42
Acq. Method File PAH-2012.M
Sample Name SED-DA-032 (0-0.5)
Misc Info 0
Instrument Name GCMS6
Vial Number 17
Sample Multiplier 0.06618
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

ARC1558.D
SED-DA-032 (0-0.5)
8/13/2013
PAH-2012.M
15.11030523

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	10.95	54086	21.1407	28.4735
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	150727	9.4025	12.6638
9)+10)	C1-Naphthalenes	16.20	170037	10.6071	14.2862
13)	C2-Naphthalenes	18.50	406641	25.3667	34.1652
14)	C3-Naphthalenes	20.06	604585	37.7147	50.7961
15)	C4-Naphthalenes	22.73	363714	22.6889	30.5586
16)	Benzothiophene	13.96	15154	1.1939	1.6081
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.61	64604	5.0241	6.7667
23)	Acenaphthylene	19.08	43967	3.2009	4.3112
24)	Acenaphthene	19.67	24719	2.8124	3.7879
25)	Dibenzofuran	20.28	96271	6.9460	9.3552
26)	Fluorene	21.45	131500	11.8894	16.0132
28)	C1-Fluorenes	23.37	89357	8.0791	10.8813
29)	C2-Fluorenes	25.52	343359	31.0443	41.8121
30)	C3-Fluorenes	27.56	339183	30.6668	41.3036
33)	Carbazole	25.52	46784	3.0007	4.0416
42)	Anthracene	24.96	101394	6.3704	8.5800
41)	Phenanthrene	24.79	454932	25.3600	34.1561
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.69	500984	27.9271	37.6137
50)	C2-Phenanthrenes/Anthracenes	28.36	919385	51.2507	69.0271
51)	C3-Phenanthrenes/Anthracenes	29.92	1050350	58.5512	78.8598
52)	C4-Phenanthrenes/Anthracenes	31.75	942514	52.5400	70.7636
34)	Dibenzothiophene	24.34	124506	6.4182	8.6444
35)+36)+37)	C1-Dibenzothiophenes	26.17	230916	11.9036	16.0324
38)	C2-Dibenzothiophenes	27.60	526327	27.1318	36.5426
39)	C3-Dibenzothiophenes	28.77	1150920	59.3294	79.9080
40)	C4-Dibenzothiophenes	30.19	1006070	51.8621	69.8506
58)	Fluoranthene	28.88	525502	23.6110	31.8006
59)	Pyrene	29.68	538832	26.1021	35.1556
62)	C1-Fluoranthenes/Pyrenes	30.82	551856	24.7951	33.3954
63)	C2-Fluoranthenes/Pyrenes	32.17	1276280	57.3440	77.2339
64)	C3-Fluoranthenes/Pyrenes	34.11	820542	36.8674	49.6549
65)	C4-Fluoranthenes/Pyrenes	35.78	982121	44.1272	59.4328
53)	Naphthobenzothiophene	32.95	433479	26.0018	35.0206
54)	C1-Naphthobenzothiophenes	34.11	1312760	78.7443	106.0569
55)	C2-Naphthobenzothiophenes	35.39	2275580	136.4982	183.8430
56)	C3-Naphthobenzothiophenes	36.91	1836140	110.1387	148.3406
57)	C4-Naphthobenzothiophenes	38.26	855557	51.3197	69.1200
67)	Benz(a)anthracene	33.76	229981	14.8493	19.9999
68)	Chrysene/Triphenylene	33.88	508377	24.0081	32.3353
69)	C1-Chrysenes	35.66	1123890	53.0753	71.4846
70)	C2-Chrysenes	36.60	939244	44.3557	59.7406
71)	C3-Chrysenes	37.53	651213	30.7534	41.4204
72)	C4-Chrysenes	39.35	367634	17.3615	23.3833
77)	Benzo(b)fluoranthene	37.33	504161	32.5925	43.8973
78)	Benzo(k,j)fluoranthene	37.41	129269	7.9793	10.7469
79)	Benzo(a)fluoranthene	37.68	123364	7.6148	10.2560
80)	Benzo(e)pyrene	38.30	265555	15.7592	21.2253
81)	Benzo(a)pyrene	38.50	128475	8.8694	11.9457
89)	Perylene	38.81	3417450	224.6017	302.5053
82)	Indeno(1,2,3-c,d)pyrene	43.21	134623	9.3855	12.6409
83)	Dibenzo(a,h)anthracene	43.29	39748	3.5184	4.7388
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	44.65	128150	10.5212	14.1705

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	123083	12.1530	16.3682
10)	1-Methylnaphthalene	16.35	46954	4.9728	6.6976
11)	2,6-Dimethylnaphthalene	18.14	127336	14.8182	19.9580
12)	1,6,7-Trimethylnaphthalene	20.98	25246	3.0625	4.1247
27)	1-Methylfluorene	23.44	29326	4.8257	6.4995
35)	4-Methyldibenzothiophene	25.86	100506	8.8068	11.8614
36)	2/3-Methyldibenzothiophene	26.14	93085	8.1565	10.9856
37)	1-Methyldibenzothiophene	26.49	37325	3.2706	4.4050
43)	3-Methylphenanthrene	26.45	114751	8.5888	11.5678
44)	2-Methylphenanthrene	26.52	132382	9.9084	13.3452
45)	2-Methylanthracene	26.73	93151	6.9721	9.3903
46)	4/9-Methylphenanthrene	26.83	81464	6.0973	8.2122
47)	1-Methylphenanthrene	26.90	79236	5.9306	7.9876
48)	3,6-Dimethylphenanthrene	28.01	42971	3.1720	4.2723
49)	Retene	30.68	30366	6.0438	8.1401
60)	2-Methylfluoranthene	30.44	44815	3.7007	4.9844
61)	Benzo(b)fluorene	31.06	88921	7.1262	9.5979
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	13.73	186075	12.61	76.20
21)	Acenaphthene-d10	19.59	104811	13.35	80.65
32)	Phenanthrene-d10	24.69	211047	12.29	74.25
66)	Chrysene-d12	33.80	282855	16.46	99.46
88)	Perylene-d12	38.69	71327	5.41	32.71
90)	5(b)H-Cholane	34.23	77592	28.25	170.74
	Internal Standards				
1)	Fluorene-d10	21.37	133835	16.61	
31)	Pyrene-d10	29.61	288752	16.59	
73)	Benzo(a)pyrene-d12	38.42	175296	16.57	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1558.D
Acq On : 13 Aug 2013 12:42 pm
Operator : YM
Sample : SED-DA-032 (0-0.5)
Misc :
ALS Vial : 17 Sample Multiplier: 0.06618

Quant Time: Aug 18 11:10:51 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.368	176	133835m	251.05		0.02
31) Pyrene-d10	29.606	212	288752m	250.63		0.00
73) Benzo(a)pyrene-d12	38.420	264	175296m	250.32		0.08
System Monitoring Compounds						
2) Naphthalene-d8	13.733	136	186075m	12.61		0.02
21) Acenaphthene-d10	19.585	164	104811m	13.35		0.02
32) Phenanthrene-d10	24.687	188	211047m	12.29		0.00
66) Chrysene-d12	33.802	240	282855m	16.46		0.00
88) Perylene-d12	38.692	264	71327m	5.41		0.04
90) 5(b)H-Cholane	34.229	217	77592m	28.25		0.04
Target Compounds						Qvalue
3) cis/trans Decalin	10.947	138	54086m	21.14		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.789	128	150727m	9.40		
9) 2-Methylnaphthalene	16.046	142	123083m	12.15		
10) 1-Methylnaphthalene	16.353	142	46954m	4.97		
11) 2,6-Dimethylnaphthalene	18.136	156	127336m	14.82		
12) 1,6,7-Trimethylnaphtha...	20.978	170	25246m	3.06		
13) C2-Naphthalenes	18.498	156	406641m	25.37		
14) C3-Naphthalenes	20.059	170	604585m	37.71		
15) C4-Naphthalenes	22.734	184	363714m	22.69		
16) Benzothiophene	13.956	134	15154m	1.19		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.607	154	64604m	5.02		
23) Acenaphthylene	19.083	152	43967m	3.20		
24) Acenaphthene	19.669	154	24719m	2.81		
25) Dibenzofuran	20.282	168	96271m	6.95		
26) Fluorene	21.452	166	131500m	11.89		
27) 1-Methylfluorene	23.440	180	29326m	4.83		
28) C1-Fluorenes	23.371	180	89357m	8.08		
29) C2-Fluorenes	25.518	194	343359m	31.04		
30) C3-Fluorenes	27.562	208	339183m	30.67		
33) Carbazole	25.518	167	46784m	3.00		
34) Dibenzothiophene	24.341	184	124506m	6.42		
35) 4-Methyldibenzothiophene	25.865	198	100506m	8.81		
36) 2/3-Methyldibenzothiop...	26.142	198	93085m	8.16		
37) 1-Methyldibenzothiophene	26.488	198	37325m	3.27		
38) C2-Dibenzothiophenes	27.597	212	526327m	27.13		
39) C3-Dibenzothiophenes	28.774	226	1150924m	59.33		
40) C4-Dibenzothiophenes	30.195	240	1006066m	51.86		
41) Phenanthrene	24.791	178	454932m	25.36		
42) Anthracene	24.964	178	101394m	6.37		
43) 3-Methylphenanthrene	26.454	192	114751m	8.59		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1558.D
Acq On : 13 Aug 2013 12:42 pm
Operator : YM
Sample : SED-DA-032 (0-0.5)
Misc :
ALS Vial : 17 Sample Multiplier: 0.06618

Quant Time: Aug 18 11:10:51 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.523	192	132382m	9.91		
45)	2-Methylanthracene	26.731	192	93151m	6.97		
46)	4/9-Methylphenanthrene	26.835	192	81464m	6.10		
47)	1-Methylphenanthrene	26.904	192	79236m	5.93		
48)	3,6-Dimethylphenanthrene	28.012	206	42971m	3.17		
49)	Retene	30.680	234	30366m	6.04		
50)	C2-Phenanthrenes/Anthr...	28.359	206	919385m	51.25		
51)	C3-Phenanthrenes/Anthr...	29.918	220	1050349m	58.55		
52)	C4-Phenanthrenes/Anthr...	31.753	234	942514m	52.54		
53)	Naphthobenzothiophene	32.948	234	433479m	26.00		
54)	C1-Naphthobenzothiophenes	34.112	248	1312758m	78.74		
55)	C2-Naphthobenzothiophenes	35.393	262	2275580m	136.50		
56)	C3-Naphthobenzothiophenes	36.907	276	1836138m	110.14		
57)	C4-Naphthobenzothiophenes	38.265	290	855557m	51.32		
58)	Fluoranthene	28.878	202	525502m	23.61		
59)	Pyrene	29.675	202	538832m	26.10		
60)	2-Methylfluoranthene	30.437	216	44815m	3.70		
61)	Benzo(b)fluorene	31.061	216	88921m	7.13		
62)	C1-Fluoranthenes/Pyrenes	30.818	216	551856m	24.80		
63)	C2-Fluoranthenes/Pyrenes	32.172	230	1276283m	57.34		
64)	C3-Fluoranthenes/Pyrenes	34.112	244	820542m	36.87		
65)	C4-Fluoranthenes/Pyrenes	35.781	258	982121m	44.13		
67)	Benz(a)anthracene	33.763	228	229981m	14.85		
68)	Chrysene/Triphenylene	33.880	228	508377m	24.01		
69)	C1-Chrysenes	35.665	242	1123885m	53.08		
70)	C2-Chrysenes	36.596	256	939244m	44.36		
71)	C3-Chrysenes	37.527	270	651213m	30.75		
72)	C4-Chrysenes	39.351	284	367634m	17.36		
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	37.333	252	504161m	32.59		
78)	Benzo(k,j)fluoranthene	37.411	252	129269m	7.98		
79)	Benzo(a)fluoranthene	37.683	252	123364m	7.61		
80)	Benzo(e)pyrene	38.304	252	265555m	15.76		
81)	Benzo(a)pyrene	38.498	252	128475m	8.87		
82)	Indeno(1,2,3-c,d)pyrene	43.215	276	134623m	9.39		
83)	Dibenzo(a,h)anthracene	43.288	278	39748m	3.52		
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87)	Benzo(g,h,i)perylene	44.653	276	128150m	10.52		
89)	Perylene	38.808	252	3417445m	224.60		
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	0.000		0	N.D.	d	
95)	C28(20S)-TAS	0.000		0	N.D.	d	
96)	C27(20R)-TAS	0.000		0	N.D.	d	
97)	C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1558.D
Acq On : 13 Aug 2013 12:42 pm
Operator : YM
Sample : SED-DA-032 (0-0.5)
Misc :
ALS Vial : 17 Sample Multiplier: 0.06618

Quant Time: Aug 18 11:10:51 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

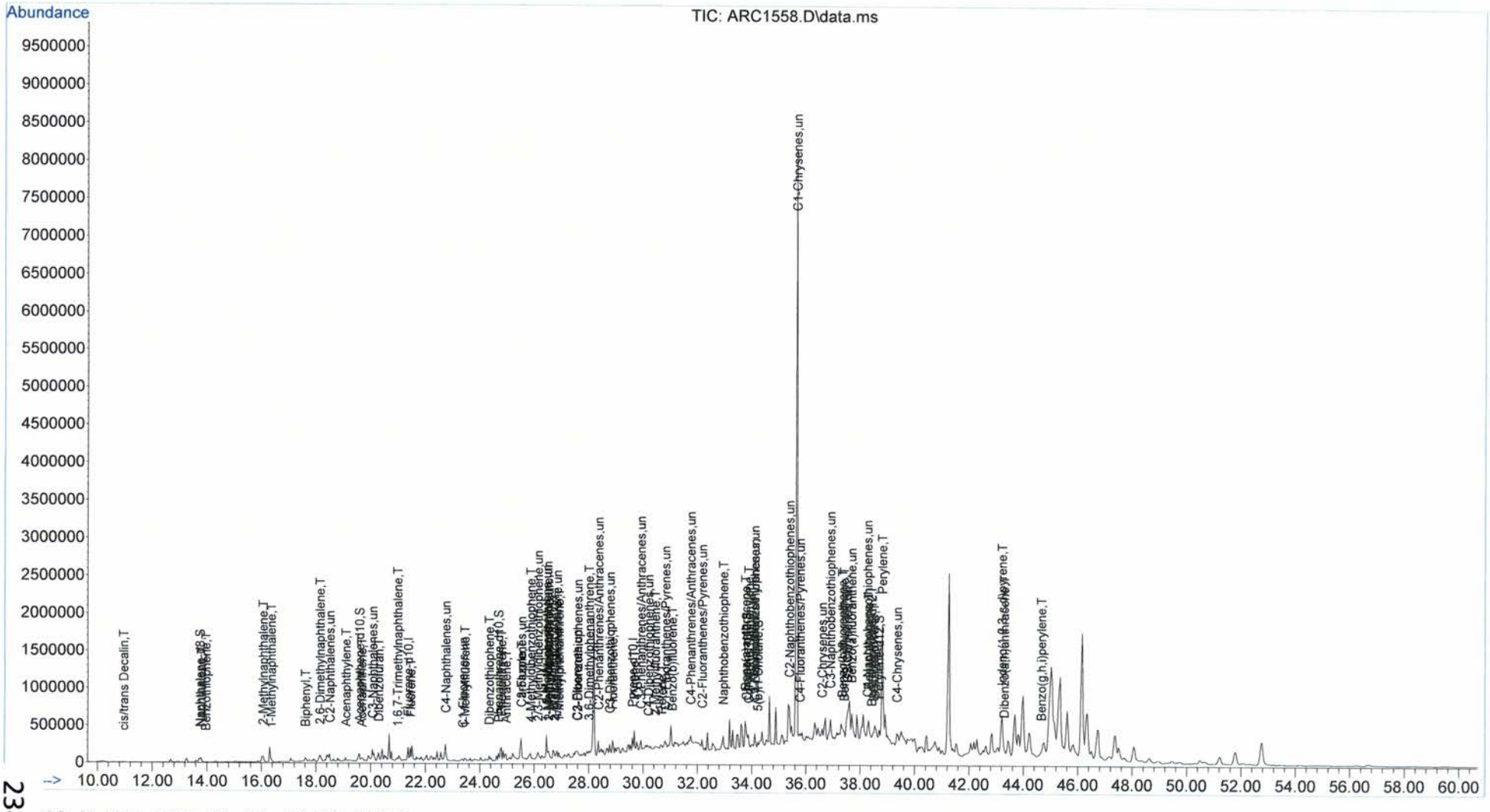
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1558.D
Acq On : 13 Aug 2013 12:42 pm
Operator : YM
Sample : SED-DA-032 (0-0.5)
Misc :
ALS Vial : 17 Sample Multiplier: 0.06618

Quant Time: Aug 18 11:10:51 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



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

Data File Name ARC1559.D
Data File Path C:\msdchem\2\data\MS60140\
Operator YM
Date Acquired 8/13/2013 13:52
Acq. Method File PAH-2012.M
Sample Name SED-DA-032 (0.5-1.0)
Misc Info 0
Instrument Name GCMS6
Vial Number 18
Sample Multiplier 0.06609
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ARC1559.D
SED-DA-032 (0.5-1.0)
8/13/2013
PAH-2012.M
15.13088213

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	52023	3.3799	4.5136
9)+10)	C1-Naphthalenes	16.19	38187	2.4810	3.3132
13)	C2-Naphthalenes	18.50	110088	7.1523	9.5514
14)	C3-Naphthalenes	21.34	74721	4.8546	6.4829
15)	C4-Naphthalenes	22.74	325332	21.1365	28.2262
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	19.09	5615	0.4257	0.5686
24)	Acenaphthene	19.67	6404	0.7588	1.0134
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.46	44771	4.2158	5.6299
28)	C1-Fluorenes	23.37	17913	1.6868	2.2525
29)	C2-Fluorenes	25.35	26690	2.5133	3.3563
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.93	7858	0.4946	0.6605
41)	Phenanthrene	24.76	184288	10.2922	13.7444
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.68	95328	5.3239	7.1097
50)	C2-Phenanthrenes/Anthracenes	28.19	86042	4.8053	6.4171
51)	C3-Phenanthrenes/Anthracenes	29.92	17774	0.9927	1.3256
52)	C4-Phenanthrenes/Anthracenes	32.44	22106	1.2346	1.6487
34)	Dibenzothiophene	24.34	19858	1.0256	1.3696
35)+36)+37)	C1-Dibenzothiophenes	26.15	17498	0.9037	1.2068
38)	C2-Dibenzothiophenes	27.25	13383	0.6912	0.9230
39)	C3-Dibenzothiophenes	28.78	6811	0.3518	0.4697
40)	C4-Dibenzothiophenes	29.61	12318	0.6362	0.8496
58)	Fluoranthene	28.88	67446	3.0360	4.0544
59)	Pyrene	29.68	43674	2.1196	2.8306
62)	C1-Fluoranthenes/Pyrenes	30.82	41854	1.8840	2.5160
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.76	15190	0.9826	1.3122
68)	Chrysene/Triphenylene	33.88	61729	2.9206	3.9002
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.29	80037	4.1262	5.5102
78)	Benzo(k,j)fluoranthene	37.33	15386	0.7574	1.0114
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	38.81	12748700	668.1699	892.2888
82)	Indeno(1,2,3-c,d)pyrene	43.14	19961	1.1098	1.4820
83)	Dibenzo(a,h)anthracene	43.29	19564	1.3810	1.8442
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.51	16426	1.0754	1.4362

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	27155	2.7925	3.7291
10)	1-Methylnaphthalene	16.36	11032	1.2168	1.6250
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	25.87	6475	0.5684	0.7591
36)	2/3-Methyldibenzothiophene	26.11	9616	0.8442	1.1273
37)	1-Methyldibenzothiophene	26.49	1407	0.1235	0.1649
43)	3-Methylphenanthrene	26.45	16767	1.2573	1.6790
44)	2-Methylphenanthrene	26.52	26430	1.9819	2.6467
45)	2-Methylanthracene	26.70	34463	2.5843	3.4511
46)	4/9-Methylphenanthrene	26.80	9296	0.6971	0.9309
47)	1-Methylphenanthrene	26.90	8372	0.6278	0.8384
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.74	177488	12.53	75.80
21)	Acenaphthene-d10	19.56	105212	13.96	84.43
32)	Phenanthrene-d10	24.69	212169	12.38	74.88
66)	Chrysene-d12	33.80	274385	16.00	96.80
88)	Perylene-d12	38.69	143050	8.66	52.39
90)	5(b)H-Cholane	34.19	54986	15.96	96.62
	Internal Standards				
1)	Fluorene-d10	21.34	128329	16.59	
31)	Pyrene-d10	29.61	287823	16.56	
73)	Benzo(a)pyrene-d12	38.38	219519	16.54	

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1559.D
Acq On : 13 Aug 2013 1:52 pm
Operator : YM
Sample : SED-DA-032 (0.5-1.0)
Misc :
ALS Vial : 18 Sample Multiplier: 0.06609

Quant Time: Aug 18 21:52:04 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.345	176	128329m	251.05		0.00
31) Pyrene-d10	29.607	212	287823m	250.63		0.00
73) Benzo(a)pyrene-d12	38.380	264	219519m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.738	136	177488m	12.53		0.03
21) Acenaphthene-d10	19.561	164	105212m	13.96		0.00
32) Phenanthrene-d10	24.688	188	212169m	12.38		0.00
66) Chrysene-d12	33.801	240	274385m	16.00		0.00
88) Perylene-d12	38.690	264	143050m	8.66		0.04
90) 5(b)H-Cholane	34.189	217	54986m	15.96		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.793	128	52023m	3.38		
9) 2-Methylnaphthalene	16.023	142	27155m	2.79		
10) 1-Methylnaphthalene	16.357	142	11032m	1.22		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.503	156	110088m	7.15		
14) C3-Naphthalenes	21.345	170	74721m	4.85		
15) C4-Naphthalenes	22.738	184	325332m	21.14		
16) Benzothiophene	0.000		0	N.D.	d	
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	0.000		0	N.D.	d	
23) Acenaphthylene	19.088	152	5615m	0.43		
24) Acenaphthene	19.673	154	6404m	0.76		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.456	166	44771m	4.22		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.371	180	17913m	1.69		
29) C2-Fluorenes	25.346	194	26690m	2.51		
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.341	184	19858m	1.03		
35) 4-Methyldibenzothiophene	25.865	198	6475m	0.57		
36) 2/3-Methyldibenzothiop...	26.108	198	9616m	0.84		
37) 1-Methyldibenzothiophene	26.489	198	1407m	0.12		
38) C2-Dibenzothiophenes	27.251	212	13383m	0.69		
39) C3-Dibenzothiophenes	28.775	226	6811m	0.35		
40) C4-Dibenzothiophenes	29.607	240	12318m	0.64		
41) Phenanthrene	24.757	178	184288m	10.29		
42) Anthracene	24.930	178	7858m	0.49		
43) 3-Methylphenanthrene	26.454	192	16767m	1.26		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1559.D
Acq On : 13 Aug 2013 1:52 pm
Operator : YM
Sample : SED-DA-032 (0.5-1.0)
Misc :
ALS Vial : 18 Sample Multiplier: 0.06609

Quant Time: Aug 18 21:52:04 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.524	192	26430m	1.98		
45) 2-Methylanthracene	26.697	192	34463m	2.58		
46) 4/9-Methylphenanthrene	26.801	192	9296m	0.70		
47) 1-Methylphenanthrene	26.905	192	8372m	0.63		
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	86042m	4.81		
51) C3-Phenanthrenes/Anthr...	29.918	220	17774m	0.99		
52) C4-Phenanthrenes/Anthr...	32.443	234	22106m	1.23		
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	28.879	202	67446m	3.04		
59) Pyrene	29.676	202	43674m	2.12		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	30.819	216	41854m	1.88		
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.762	228	15190m	0.98		
68) Chrysene/Triphenylene	33.878	228	61729m	2.92		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	37.293	252	80037m	4.13		
78) Benzo(k,j)fluoranthene	37.332	252	15386m	0.76		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	0.000		0	N.D.	d	
81) Benzo(a)pyrene	0.000		0	N.D.	d	
82) Indeno(1,2,3-c,d)pyrene	43.140	276	19961m	1.11		
83) Dibenzo(a,h)anthracene	43.288	278	19564m	1.38		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.505	276	16426m	1.08		
89) Perylene	38.807	252	12748696m	668.17		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1559.D
Acq On : 13 Aug 2013 1:52 pm
Operator : YM
Sample : SED-DA-032 (0.5-1.0)
Misc :
ALS Vial : 18 Sample Multiplier: 0.06609

Quant Time: Aug 18 21:52:04 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

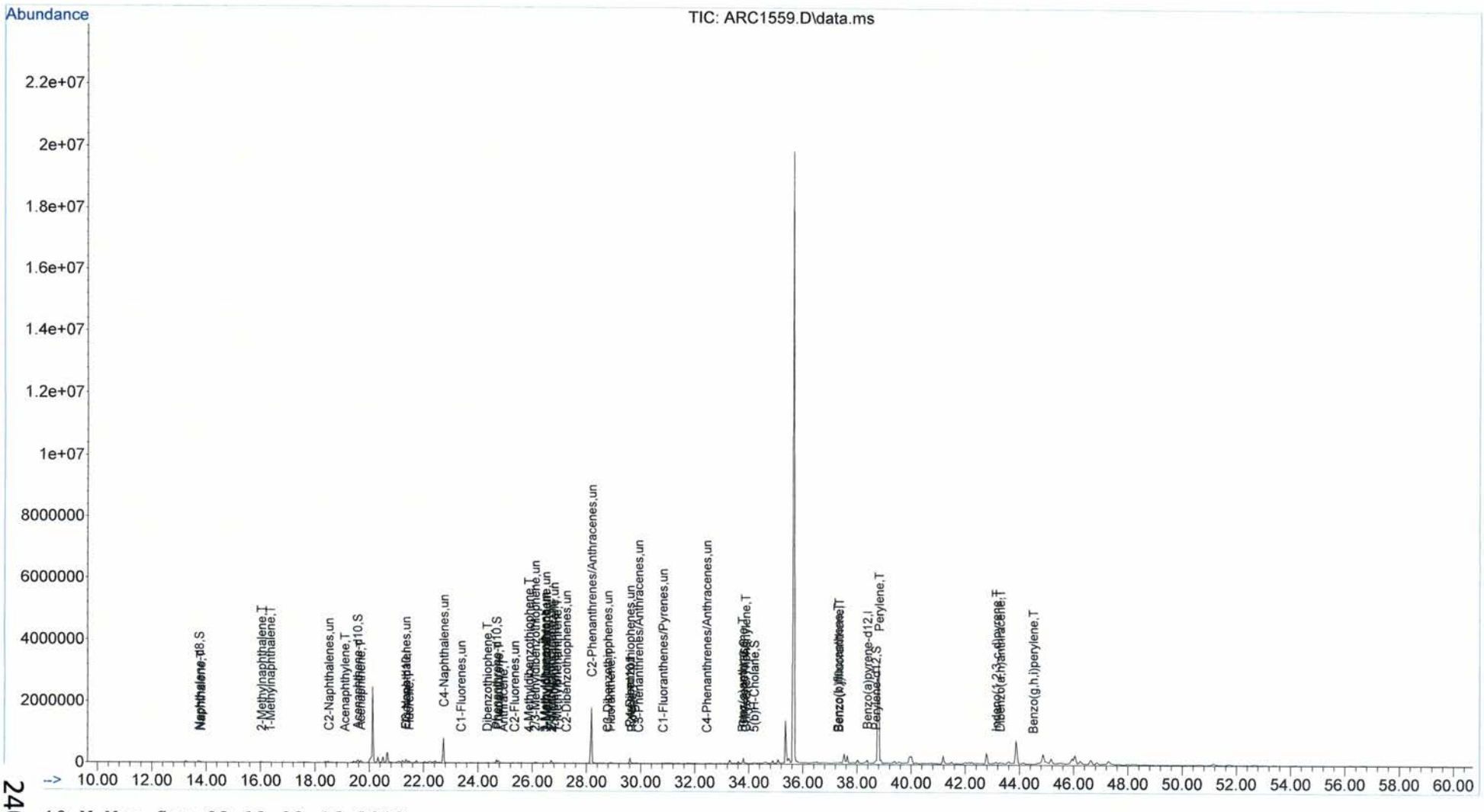
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1559.D
Acq On : 13 Aug 2013 1:52 pm
Operator : YM
Sample : SED-DA-032 (0.5-1.0)
Misc :
ALS Vial : 18 Sample Multiplier: 0.06609

Quant Time: Aug 18 21:52:04 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



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

Data File Name ARC1560.D
Data File Path C:\GCMS6\MS60140\
Operator YM
Date Acquired 8/13/2013 15:01
Acq. Method File PAH-2012.M
Sample Name SED-DA-032 (1.0-1.5)
Misc Info 0
Instrument Name GCMS6
Vial Number 19
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

ARC1560.D
SED-DA-032 (1.0-1.5)
8/13/2013
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	13.79	13476	0.8460	1.1656
9)+10)	C1-Naphthalenes	16.19	8838	0.5548	0.7644
13)	C2-Naphthalenes	18.50	36652	2.3010	3.1701
14)	C3-Naphthalenes	21.37	54280	3.4077	4.6948
15)	C4-Naphthalenes	22.73	65302	4.0996	5.6481
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	0.00	0	0.0000	0.0000
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.45	20407	1.8569	2.5582
28)	C1-Fluorenes	23.37	6813	0.6199	0.8541
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	24.76	85659	4.5225	6.2307
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.68	54696	2.8877	3.9785
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	3184	0.1555	0.2142
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	28.88	22953	0.9767	1.3457
59)	Pyrene	29.67	9822	0.4506	0.6208
62)	C1-Fluoranthenes/Pyrenes	30.82	6877	0.2926	0.4032
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.76	2144	0.1311	0.1806
68)	Chrysene/Triphenylene	33.88	5262	0.2354	0.3243
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.29	5737	0.3044	0.4194
78)	Benzo(k,j)fluoranthene	37.33	1423	0.0721	0.0993
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	0.00	0	0.0000	0.0000
81)	Benzo(a)pyrene	0.00	0	0.0000	0.0000
89)	Perylene	38.77	3553970	191.7202	264.1354
82)	Indeno(1,2,3-c,d)pyrene	0.00	0	0.0000	0.0000
83)	Dibenzo(a,h)anthracene	0.00	0	0.0000	0.0000
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	0.00	0	0.0000	0.0000

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	6278	0.6238	0.8595
10)	1-Methylnaphthalene	16.35	2560	0.2729	0.3759
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	26.45	4818	0.3415	0.4705
44)	2-Methylphenanthrene	26.52	6439	0.4565	0.6289
45)	2-Methylanthracene	26.70	35258	2.4994	3.4434
46)	4/9-Methylphenanthrene	26.80	4244	0.3009	0.4145
47)	1-Methylphenanthrene	26.90	3937	0.2791	0.3845
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	13.73	177670	12.12	72.93
21)	Acenaphthene-d10	19.59	109939	14.10	84.79
32)	Phenanthrene-d10	24.69	218730	12.07	72.58
66)	Chrysene-d12	33.80	281668	15.52	93.43
88)	Perylene-d12	38.69	155697	9.70	58.37
90)	5(b)H-Cholane	34.19	56878	17.00	102.31
	Internal Standards				
1)	Fluorene-d10	21.37	133528	16.68	
31)	Pyrene-d10	29.61	306120	16.65	
73)	Benzo(a)pyrene-d12	38.38	214436	16.63	

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1560.D
Acq On : 13 Aug 2013 3:01 pm
Operator : YM
Sample : SED-DA-032 (1.0-1.5)
Misc :
ALS Vial : 19 Sample Multiplier: 0.06645

Quant Time: Aug 18 10:59:58 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.369	176	133528m	251.05		0.02
31) Pyrene-d10	29.606	212	306120m	250.63		0.00
73) Benzo(a)pyrene-d12	38.381	264	214436m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.734	136	177670m	12.12		0.02
21) Acenaphthene-d10	19.585	164	109939m	14.10		0.02
32) Phenanthrene-d10	24.687	188	218730m	12.07		0.00
66) Chrysene-d12	33.802	240	281668m	15.52		0.00
88) Perylene-d12	38.691	264	155697m	9.70		0.04
90) 5(b)H-Cholane	34.190	217	56878m	17.00		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.789	128	13476m	0.85		
9) 2-Methylnaphthalene	16.019	142	6278m	0.62		
10) 1-Methylnaphthalene	16.353	142	2560m	0.27		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.499	156	36652m	2.30		
14) C3-Naphthalenes	21.369	170	54280m	3.41		
15) C4-Naphthalenes	22.734	184	65302m	4.10		
16) Benzothiophene	0.000		0	N.D.	d	
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	0.000		0	N.D.	d	
23) Acenaphthylene	0.000		0	N.D.	d	
24) Acenaphthene	0.000		0	N.D.	d	
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.452	166	20407m	1.86		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.371	180	6813m	0.62		
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	24.340	184	3184m	0.16		
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	85659m	4.52		
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	26.453	192	4818m	0.34		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1560.D
Acq On : 13 Aug 2013 3:01 pm
Operator : YM
Sample : SED-DA-032 (1.0-1.5)
Misc :
ALS Vial : 19 Sample Multiplier: 0.06645

Quant Time: Aug 18 10:59:58 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.523	192	6439m	0.46		
45) 2-Methylanthracene	26.696	192	35258m	2.50		
46) 4/9-Methylphenanthrene	26.800	192	4244m	0.30		
47) 1-Methylphenanthrene	26.904	192	3937m	0.28		
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.878	202	22953m	0.98		
59) Pyrene	29.675	202	9822m	0.45		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	30.818	216	6877m	0.29		
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	33.763	228	2144m	0.13		
68) Chrysene/Triphenylene	33.879	228	5262m	0.24		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	37.294	252	5737m	0.30		
78) Benzo(k,j)fluoranthene	37.333	252	1423m	0.07		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	0.000		0	N.D.		
81) Benzo(a)pyrene	0.000		0	N.D.		
82) Indeno(1,2,3-c,d)pyrene	0.000		0	N.D.	d	
83) Dibenzo(a,h)anthracene	0.000		0	N.D.	d	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	0.000		0	N.D.	d	
89) Perylene	38.769	252	3553967m	191.72		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1560.D
Acq On : 13 Aug 2013 3:01 pm
Operator : YM
Sample : SED-DA-032 (1.0-1.5)
Misc :
ALS Vial : 19 Sample Multiplier: 0.06645

Quant Time: Aug 18 10:59:58 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

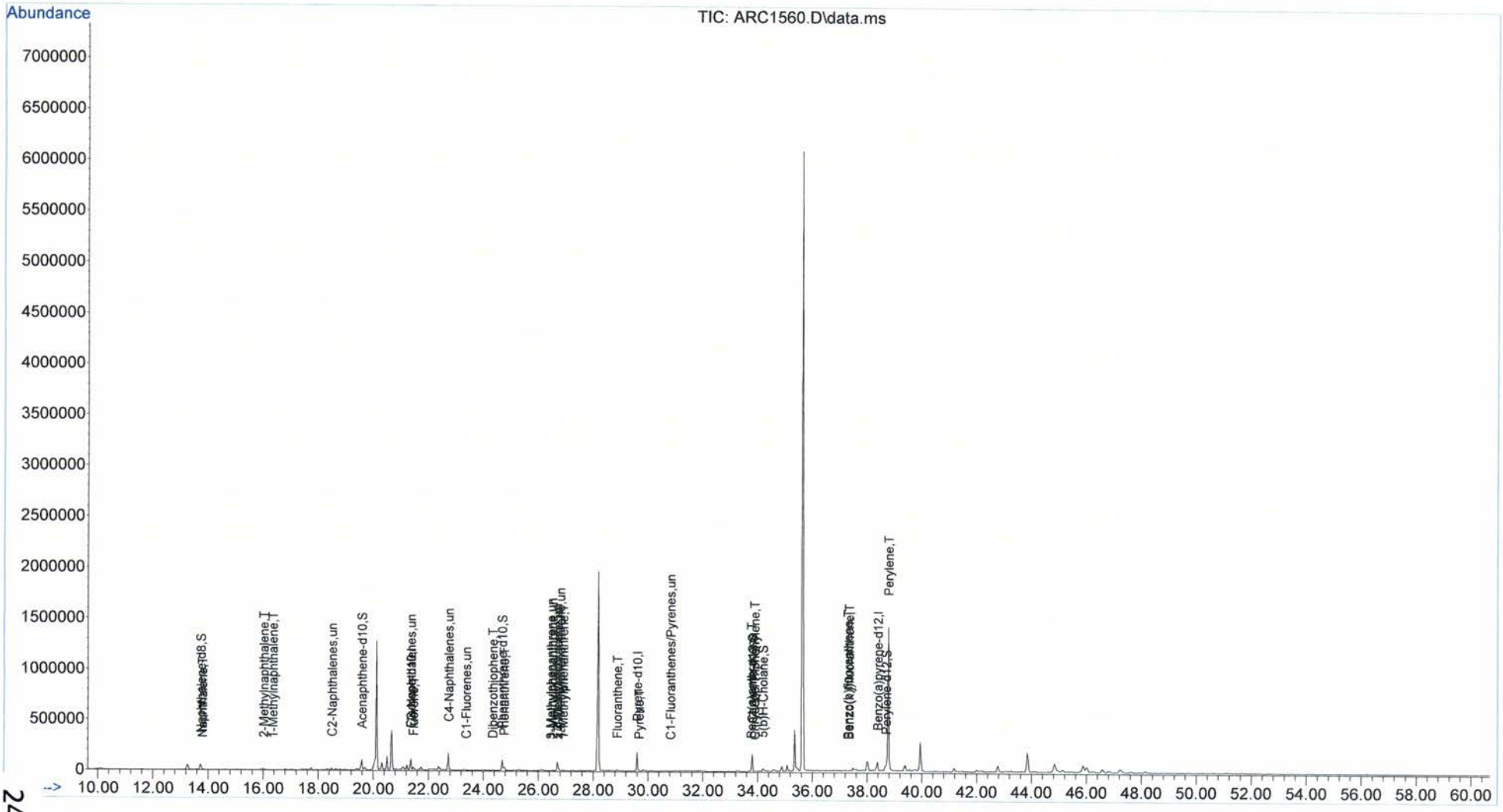
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1560.D
Acq On : 13 Aug 2013 3:01 pm
Operator : YM
Sample : SED-DA-032 (1.0-1.5)
Misc :
ALS Vial : 19 Sample Multiplier: 0.06645

Quant Time: Aug 18 10:59:58 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



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

Data File Name ARC1561.D
Data File Path C:\msdchem\2\data\MS60140\
Operator YM
Date Acquired 8/14/2013 9:14
Acq. Method File PAH-2012.M
Sample Name SED-DA-031 (0-0.5)
Misc Info 0
Instrument Name GCMS6
Vial Number 21
Sample Multiplier 0.06649
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ARC1561.D
SED-DA-031 (0-0.5)
8/14/2013
PAH-2012.M
15.03985562

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	10.95	71948	27.9104	35.8531
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	105378	6.5240	8.3806
9)+10)	C1-Naphthalenes	16.22	210749	13.0476	16.7607
13)	C2-Naphthalenes	18.14	778027	48.1680	61.8757
14)	C3-Naphthalenes	20.43	1096940	67.9122	87.2388
15)	C4-Naphthalenes	22.74	638225	39.5128	50.7574
16)	Benzothiophene	13.96	12396	0.9693	1.2451
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.61	49904	3.8516	4.9477
23)	Acenaphthylene	19.09	47828	3.4558	4.4392
24)	Acenaphthene	19.70	11525	1.3014	1.6717
25)	Dibenzofuran	20.29	77616	5.5578	7.1394
26)	Fluorene	21.46	97177	8.7198	11.2013
28)	C1-Fluorenes	23.48	104326	9.3613	12.0254
29)	C2-Fluorenes	25.52	386728	34.7017	44.5771
30)	C3-Fluorenes	27.56	282796	25.3757	32.5972
33)	Carbazole	25.52	43177	3.1689	4.0706
42)	Anthracene	24.97	110311	7.9303	10.1872
41)	Phenanthrene	24.79	463096	29.5387	37.9449
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.70	535750	34.1730	43.8980
50)	C2-Phenanthrenes/Anthracenes	28.36	817030	52.1145	66.9453
51)	C3-Phenanthrenes/Anthracenes	29.92	851221	54.2954	69.7468
52)	C4-Phenanthrenes/Anthracenes	31.75	866916	55.2965	71.0328
34)	Dibenzothiophene	24.34	117939	6.9566	8.9364
35)+36)+37)	C1-Dibenzothiophenes	26.17	237604	14.0151	18.0035
38)	C2-Dibenzothiophenes	27.60	457602	26.9917	34.6730
39)	C3-Dibenzothiophenes	28.78	843244	49.7388	63.8935
40)	C4-Dibenzothiophenes	30.85	741012	43.7087	56.1473
58)	Fluoranthene	28.91	642088	33.0106	42.4048
59)	Pyrene	29.68	679388	37.6580	48.3748
62)	C1-Fluoranthenes/Pyrenes	30.82	557685	28.6714	36.8307
63)	C2-Fluoranthenes/Pyrenes	32.56	994846	51.1464	65.7017
64)	C3-Fluoranthenes/Pyrenes	34.15	784762	40.3457	51.8274
65)	C4-Fluoranthenes/Pyrenes	35.78	822249	42.2729	54.3030
53)	Naphthobenzothiophene	32.95	337304	23.1513	29.7397
54)	C1-Naphthobenzothiophenes	34.38	960821	65.9472	84.7145
55)	C2-Naphthobenzothiophenes	35.39	2052960	140.9076	181.0072
56)	C3-Naphthobenzothiophenes	37.22	1772160	121.6341	156.2489
57)	C4-Naphthobenzothiophenes	38.26	1076970	73.9189	94.9549
67)	Benz(a)anthracene	33.76	374710	27.6840	35.5624
68)	Chrysene/Triphenylene	33.88	507084	27.4012	35.1991
69)	C1-Chrysenes	35.59	1233570	66.6582	85.6279
70)	C2-Chrysenes	36.60	1031050	55.7148	71.5701
71)	C3-Chrysenes	37.53	759470	41.0393	52.7183
72)	C4-Chrysenes	39.35	372580	20.1330	25.8625
77)	Benzo(b)fluoranthene	37.33	847364	38.7663	49.7985
78)	Benzo(k,j)fluoranthene	37.41	255220	11.1486	14.3213
79)	Benzo(a)fluoranthene	37.68	128314	5.6050	7.2001
80)	Benzo(e)pyrene	38.30	497333	20.8863	26.8302
81)	Benzo(a)pyrene	38.50	384168	18.7686	24.1098
89)	Perylene	38.81	3304180	153.6777	197.4114
82)	Indeno(1,2,3-c,d)pyrene	43.21	316774	15.6287	20.0764
83)	Dibenzo(a,h)anthracene	43.29	74461	4.6644	5.9918
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	44.65	362303	21.0500	27.0404

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	154393	15.1295	19.4350
10)	1-Methylnaphthalene	16.39	56356	5.9235	7.6092
11)	2,6-Dimethylnaphthalene	18.14	239509	27.6616	35.5336
12)	1,6,7-Trimethylnaphthalene	20.96	83804	10.0891	12.9603
27)	1-Methylfluorene	23.48	34045	5.5600	7.1422
35)	4-Methyldibenzothiophene	25.87	113774	11.4074	14.6537
36)	2/3-Methyldibenzothiophene	26.14	91528	9.1769	11.7885
37)	1-Methyldibenzothiophene	26.49	32302	3.2387	4.1604
43)	3-Methylphenanthrene	26.45	137554	11.7806	15.1331
44)	2-Methylphenanthrene	26.56	151323	12.9598	16.6479
45)	2-Methylanthracene	26.73	82107	7.0319	9.0331
46)	4/9-Methylphenanthrene	26.84	90356	7.7384	9.9406
47)	1-Methylphenanthrene	26.91	74410	6.3727	8.1863
48)	3,6-Dimethylphenanthrene	28.01	41803	3.5309	4.5357
49)	Retene	30.68	20895	4.7586	6.1128
60)	2-Methylfluoranthene	30.44	50846	4.8044	6.1717
61)	Benzo(b)fluorene	31.06	102892	9.4353	12.1204
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.74	187346	12.60	75.79
21)	Acenaphthene-d10	19.59	112144	14.18	85.24
32)	Phenanthrene-d10	24.69	194289	12.95	77.85
66)	Chrysene-d12	33.80	255530	17.01	102.34
88)	Perylene-d12	38.73	137458	7.38	44.40
90)	5(b)H-Cholane	34.23	89354	23.02	138.50
	Internal Standards				
1)	Fluorene-d10	21.37	135484	16.69	
31)	Pyrene-d10	29.61	253534	16.66	
73)	Benzo(a)pyrene-d12	38.42	248866	16.64	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1561.D
Acq On : 14 Aug 2013 9:14 am
Operator : YM
Sample : SED-DA-031 (0-0.5)
Misc :
ALS Vial : 21 Sample Multiplier: 0.06649

Quant Time: Aug 18 15:39:14 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.373	176	135484m	251.05		0.03
31) Pyrene-d10	29.607	212	253534m	250.63		0.00
73) Benzo(a)pyrene-d12	38.419	264	248866m	250.32		0.08
System Monitoring Compounds						
2) Naphthalene-d8	13.738	136	187346m	12.60		0.03
21) Acenaphthene-d10	19.590	164	112144m	14.18		0.03
32) Phenanthrene-d10	24.688	188	194289m	12.95		0.00
66) Chrysene-d12	33.801	240	255530m	17.01		0.00
88) Perylene-d12	38.730	264	137458m	7.38		0.08
90) 5(b)H-Cholane	34.228	217	89354m	23.02		0.04
Target Compounds						Qvalue
3) cis/trans Decalin	10.951	138	71948m	27.91		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.794	128	105378m	6.52		
9) 2-Methylnaphthalene	16.051	142	154393m	15.13		
10) 1-Methylnaphthalene	16.385	142	56356m	5.92		
11) 2,6-Dimethylnaphthalene	18.141	156	239509m	27.66		
12) 1,6,7-Trimethylnaphtha...	20.955	170	83804m	10.09		
13) C2-Naphthalenes	18.141	156	778027m	48.17		
14) C3-Naphthalenes	20.426	170	1096939m	67.91		
15) C4-Naphthalenes	22.739	184	638225m	39.51		
16) Benzothiophene	13.961	134	12396m	0.97		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.611	154	49904m	3.85		
23) Acenaphthylene	19.088	152	47828m	3.46		
24) Acenaphthene	19.701	154	11525m	1.30		
25) Dibenzofuran	20.286	168	77616m	5.56		
26) Fluorene	21.457	166	97177m	8.72		
27) 1-Methylfluorene	23.476	180	34045m	5.56		
28) C1-Fluorenes	23.476	180	104326m	9.36		
29) C2-Fluorenes	25.519	194	386728m	34.70		
30) C3-Fluorenes	27.563	208	282796m	25.38		
33) Carbazole	25.519	167	43177m	3.17		
34) Dibenzothiophene	24.342	184	117939m	6.96		
35) 4-Methyldibenzothiophene	25.866	198	113774m	11.41		
36) 2/3-Methyldibenzothiop...	26.143	198	91528m	9.18		
37) 1-Methyldibenzothiophene	26.489	198	32302m	3.24		
38) C2-Dibenzothiophenes	27.598	212	457602m	26.99		
39) C3-Dibenzothiophenes	28.776	226	843244m	49.74		
40) C4-Dibenzothiophenes	30.854	240	741012m	43.71		
41) Phenanthrene	24.792	178	463096m	29.54		
42) Anthracene	24.965	178	110311m	7.93		
43) 3-Methylphenanthrene	26.455	192	137554m	11.78		

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1561.D
Acq On : 14 Aug 2013 9:14 am
Operator : YM
Sample : SED-DA-031 (0-0.5)
Misc :
ALS Vial : 21 Sample Multiplier: 0.06649

Quant Time: Aug 18 15:39:14 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.559	192	151323m	12.96		
45) 2-Methylanthracene	26.732	192	82107m	7.03		
46) 4/9-Methylphenanthrene	26.836	192	90356m	7.74		
47) 1-Methylphenanthrene	26.905	192	74410m	6.37		
48) 3,6-Dimethylphenanthrene	28.013	206	41803m	3.53		
49) Retene	30.681	234	20895m	4.76		
50) C2-Phenanthrenes/Anthr...	28.360	206	817030m	52.11		
51) C3-Phenanthrenes/Anthr...	29.919	220	851221m	54.30		
52) C4-Phenanthrenes/Anthr...	31.755	234	866916m	55.30		
53) Naphthobenzothiophene	32.947	234	337304m	23.15		
54) C1-Naphthobenzothiophenes	34.383	248	960821m	65.95		
55) C2-Naphthobenzothiophenes	35.392	262	2052961m	140.91		
56) C3-Naphthobenzothiophenes	37.216	276	1772157m	121.63		
57) C4-Naphthobenzothiophenes	38.264	290	1076965m	73.92		
58) Fluoranthene	28.914	202	642088m	33.01		
59) Pyrene	29.676	202	679388m	37.66		
60) 2-Methylfluoranthene	30.438	216	50846m	4.80		
61) Benzo(b)fluorene	31.062	216	102892m	9.44		
62) C1-Fluoranthenes/Pyrenes	30.819	216	557685m	28.67		
63) C2-Fluoranthenes/Pyrenes	32.559	230	994846m	51.15		
64) C3-Fluoranthenes/Pyrenes	34.150	244	784762m	40.35		
65) C4-Fluoranthenes/Pyrenes	35.780	258	822249m	42.27		
67) Benz(a)anthracene	33.762	228	374710m	27.68		
68) Chrysene/Triphenylene	33.879	228	507084m	27.40		
69) C1-Chrysenes	35.586	242	1233570m	66.66		
70) C2-Chrysenes	36.595	256	1031053m	55.71		
71) C3-Chrysenes	37.527	270	759470m	41.04		
72) C4-Chrysenes	39.350	284	372580m	20.13		
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	37.332	252	847364m	38.77		
78) Benzo(k,j)fluoranthene	37.410	252	255220m	11.15		
79) Benzo(a)fluoranthene	37.682	252	128314m	5.61		
80) Benzo(e)pyrene	38.303	252	497333m	20.89		
81) Benzo(a)pyrene	38.497	252	384168m	18.77		
82) Indeno(1,2,3-c,d)pyrene	43.214	276	316774m	15.63		
83) Dibenzo(a,h)anthracene	43.288	278	74461m	4.66		
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	44.652	276	362303m	21.05		
89) Perylene	38.807	252	3304176m	153.68		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1561.D
Acq On : 14 Aug 2013 9:14 am
Operator : YM
Sample : SED-DA-031 (0-0.5)
Misc :
ALS Vial : 21 Sample Multiplier: 0.06649

Quant Time: Aug 18 15:39:14 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

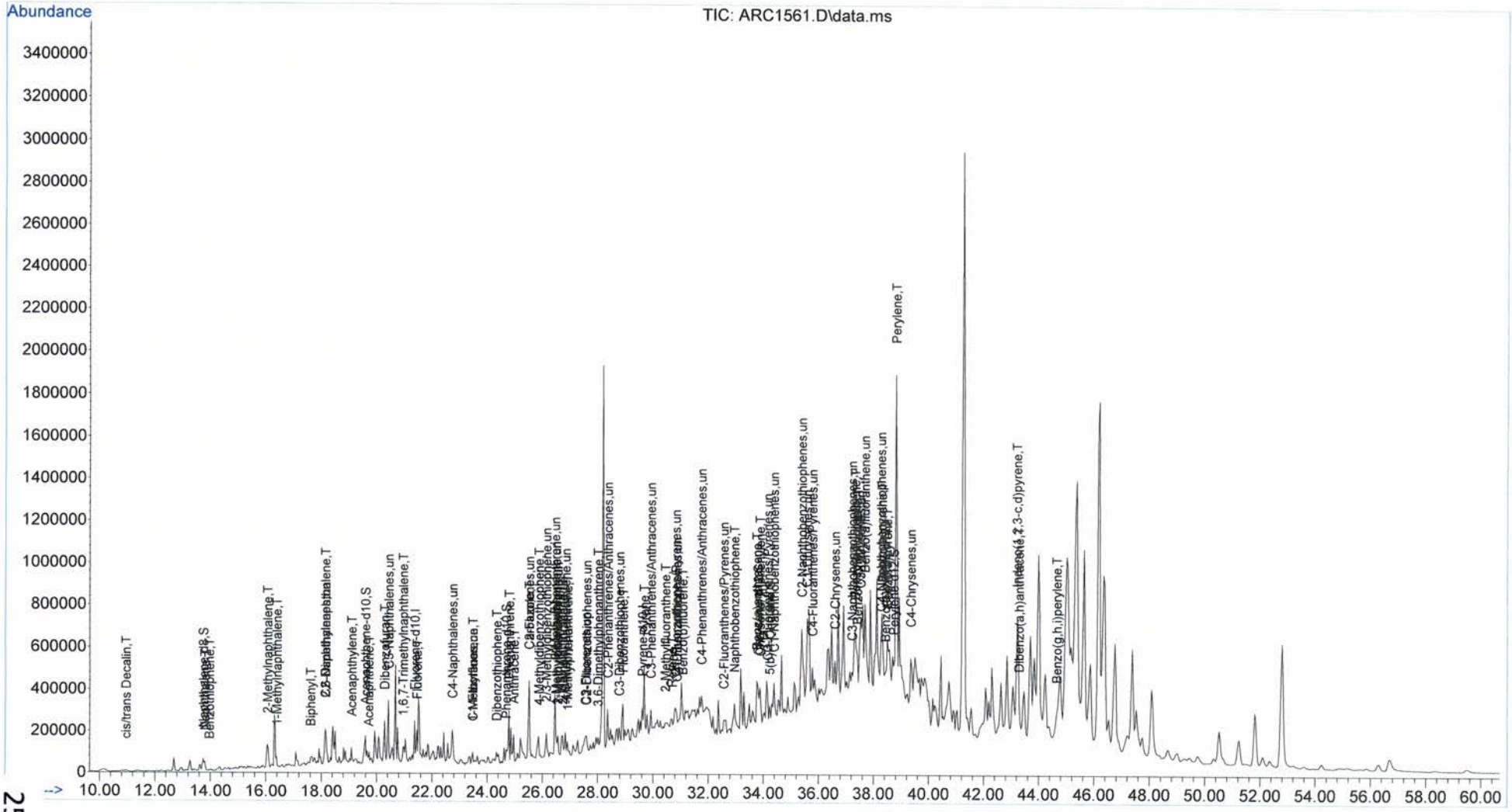
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1561.D
Acq On : 14 Aug 2013 9:14 am
Operator : YM
Sample : SED-DA-031 (0-0.5)
Misc :
ALS Vial : 21 Sample Multiplier: 0.06649

Quant Time: Aug 18 15:39:14 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



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

Data File Name ARC1562.D
Data File Path C:\GCMS6\MS60140\
Operator YM
Date Acquired 8/14/2013 10:23
Acq. Method File PAH-2012.M
Sample Name SED-DA-031 (0.5-1.0)
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

ARC1562.D
SED-DA-031 (0.5-1.0)
8/14/2013
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	13.79	184572	10.2466	14.1239
9)+10)	C1-Naphthalenes	16.22	231803	12.8686	17.7381
13)	C2-Naphthalenes	18.42	1100600	61.1006	84.2208
14)	C3-Naphthalenes	20.06	2065240	114.6528	158.0370
15)	C4-Naphthalenes	22.74	1258140	69.8463	96.2758
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	19.09	46824	3.0337	4.1817
24)	Acenaphthene	19.67	33487	3.3907	4.6737
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.45	152318	12.2559	16.8935
28)	C1-Fluorenes	23.48	128593	10.3469	14.2622
29)	C2-Fluorenes	25.52	504220	40.5709	55.9228
30)	C3-Fluorenes	27.56	358420	28.8394	39.7522
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.96	70017	4.1451	5.7135
41)	Phenanthrene	24.79	595989	31.3050	43.1507
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.69	657232	34.5219	47.5848
50)	C2-Phenanthrenes/Anthracenes	28.36	1104300	58.0045	79.9531
51)	C3-Phenanthrenes/Anthracenes	29.92	1209620	63.5364	87.5783
52)	C4-Phenanthrenes/Anthracenes	31.75	1128860	59.2947	81.7315
34)	Dibenzothiophene	24.34	138868	6.7453	9.2977
35)+36)+37)	C1-Dibenzothiophenes	26.17	315796	15.3392	21.1436
38)	C2-Dibenzothiophenes	27.60	667243	32.4101	44.6740
39)	C3-Dibenzothiophenes	28.77	1340010	65.0886	89.7179
40)	C4-Dibenzothiophenes	30.85	1063480	51.6564	71.2030
58)	Fluoranthene	28.88	391826	16.5885	22.8655
59)	Pyrene	29.68	365327	16.6754	22.9852
62)	C1-Fluoranthenes/Pyrenes	30.82	394835	16.7159	23.0411
63)	C2-Fluoranthenes/Pyrenes	32.56	625853	26.4963	36.5224
64)	C3-Fluoranthenes/Pyrenes	34.11	543024	22.9897	31.6889
65)	C4-Fluoranthenes/Pyrenes	35.78	792875	33.5675	46.2693
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.76	145941	8.8790	12.2388
68)	Chrysene/Triphenylene	33.88	367451	16.3510	22.5381
69)	C1-Chrysenes	35.67	1083900	48.2315	66.4821
70)	C2-Chrysenes	36.83	565856	25.1796	34.7075
71)	C3-Chrysenes	38.81	598279	26.6224	36.6962
72)	C4-Chrysenes	39.35	285615	12.7094	17.5185
77)	Benzo(b)fluoranthene	37.33	493502	21.0299	28.9875
78)	Benzo(k,j)fluoranthene	37.41	116700	4.7483	6.5451
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.30	233232	9.1236	12.5759
81)	Benzo(a)pyrene	38.50	93107	4.2370	5.8402
89)	Perylene	38.81	8671820	375.6824	517.8390
82)	Indeno(1,2,3-c,d)pyrene	43.22	162654	7.4748	10.3033
83)	Dibenzo(a,h)anthracene	43.29	50275	2.9335	4.0435
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.62	185285	10.0273	13.8216

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	166941	14.6692	20.2200
10)	1-Methylnaphthalene	16.38	64862	6.1133	8.4266
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	25.87	146040	12.0578	16.6204
36)	2/3-Methyldibenzothiophene	26.14	120283	9.9312	13.6891
37)	1-Methyldibenzothiophene	26.49	49473	4.0847	5.6304
43)	3-Methylphenanthrene	26.45	181684	12.8134	17.6619
44)	2-Methylphenanthrene	26.56	180915	12.7591	17.5871
45)	2-Methylanthracene	26.70	65534	4.6218	6.3707
46)	4/9-Methylphenanthrene	26.84	126230	8.9024	12.2711
47)	1-Methylphenanthrene	26.90	102869	7.2549	10.0001
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.74	205153	12.38	74.47
21)	Acenaphthene-d10	19.59	121695	13.80	83.00
32)	Phenanthrene-d10	24.69	219746	12.06	72.55
66)	Chrysene-d12	33.80	316195	17.34	104.34
88)	Perylene-d12	38.73	134687	6.74	40.55
90)	5(b)H-Cholane	34.23	80262	19.26	115.95
	Internal Standards				
1)	Fluorene-d10	21.37	151000	16.68	
31)	Pyrene-d10	29.61	307695	16.65	
73)	Benzo(a)pyrene-d12	38.42	267018	16.63	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1562.D
Acq On : 14 Aug 2013 10:23 am
Operator : YM
Sample : SED-DA-031 (0.5-1.0)
Misc :
ALS Vial : 22 Sample Multiplier: 0.06645

Quant Time: Aug 18 15:49:55 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.371	176	151000m	251.05		0.03
31) Pyrene-d10	29.606	212	307695m	250.63		0.00
73) Benzo(a)pyrene-d12	38.420	264	267018m	250.32		0.08
System Monitoring Compounds						
2) Naphthalene-d8	13.735	136	205153m	12.38		0.03
21) Acenaphthene-d10	19.587	164	121695m	13.80		0.03
32) Phenanthrene-d10	24.687	188	219746m	12.06		0.00
66) Chrysene-d12	33.802	240	316195m	17.34		0.00
88) Perylene-d12	38.731	264	134687m	6.74		0.08
90) 5(b)H-Cholane	34.229	217	80262m	19.26		0.04
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.791	128	184572m	10.25		
9) 2-Methylnaphthalene	16.048	142	166941m	14.67		
10) 1-Methylnaphthalene	16.383	142	64862m	6.11		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.417	156	1100604m	61.10		
14) C3-Naphthalenes	20.061	170	2065243m	114.65		
15) C4-Naphthalenes	22.736	184	1258144m	69.85		
16) Benzothiophene	0.000		0	N.D.	d	
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	0.000		0	N.D.	d	
23) Acenaphthylene	19.086	152	46824m	3.03		
24) Acenaphthene	19.671	154	33487m	3.39		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.454	166	152318m	12.26		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.475	180	128593m	10.35		
29) C2-Fluorenes	25.519	194	504220m	40.57		
30) C3-Fluorenes	27.562	208	358420m	28.84		
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.341	184	138868m	6.75		
35) 4-Methyldibenzothiophene	25.865	198	146040m	12.06		
36) 2/3-Methyldibenzothiop...	26.142	198	120283m	9.93		
37) 1-Methyldibenzothiophene	26.489	198	49473m	4.08		
38) C2-Dibenzothiophenes	27.597	212	667243m	32.41		
39) C3-Dibenzothiophenes	28.775	226	1340012m	65.09		
40) C4-Dibenzothiophenes	30.853	240	1063477m	51.66		
41) Phenanthrene	24.791	178	595989m	31.30		
42) Anthracene	24.964	178	70017m	4.15		
43) 3-Methylphenanthrene	26.454	192	181684m	12.81		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1562.D
Acq On : 14 Aug 2013 10:23 am
Operator : YM
Sample : SED-DA-031 (0.5-1.0)
Misc :
ALS Vial : 22 Sample Multiplier: 0.06645

Quant Time: Aug 18 15:49:55 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.558	192	180915m	12.76		
45) 2-Methylanthracene	26.696	192	65534m	4.62		
46) 4/9-Methylphenanthrene	26.835	192	126230m	8.90		
47) 1-Methylphenanthrene	26.904	192	102869m	7.25		
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	1104299m	58.00		
51) C3-Phenanthrenes/Anthr...	29.918	220	1209616m	63.54		
52) C4-Phenanthrenes/Anthr...	31.754	234	1128862m	59.29		
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.879	202	391826m	16.59		
59) Pyrene	29.675	202	365327m	16.68		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	30.818	216	394835m	16.72		
63) C2-Fluoranthenes/Pyrenes	32.561	230	625853m	26.50		
64) C3-Fluoranthenes/Pyrenes	34.113	244	543024m	22.99		
65) C4-Fluoranthenes/Pyrenes	35.781	258	792875m	33.57		
67) Benz(a)anthracene	33.764	228	145941m	8.88		
68) Chrysene/Triphenylene	33.880	228	367451m	16.35		
69) C1-Chrysenes	35.665	242	1083895m	48.23		
70) C2-Chrysenes	36.829	256	565856m	25.18		
71) C3-Chrysenes	38.808	270	598279m	26.62		
72) C4-Chrysenes	39.352	284	285615m	12.71		
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	37.334	252	493502m	21.03		
78) Benzo(k,j)fluoranthene	37.411	252	116700m	4.75		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.304	252	233232m	9.12		
81) Benzo(a)pyrene	38.498	252	93107m	4.24		
82) Indeno(1,2,3-c,d)pyrene	43.215	276	162654m	7.47		
83) Dibenzo(a,h)anthracene	43.289	278	50275m	2.93		
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	44.617	276	185285m	10.03		
89) Perylene	38.808	252	8671819m	375.68		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1562.D
Acq On : 14 Aug 2013 10:23 am
Operator : YM
Sample : SED-DA-031 (0.5-1.0)
Misc :
ALS Vial : 22 Sample Multiplier: 0.06645

Quant Time: Aug 18 15:49:55 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

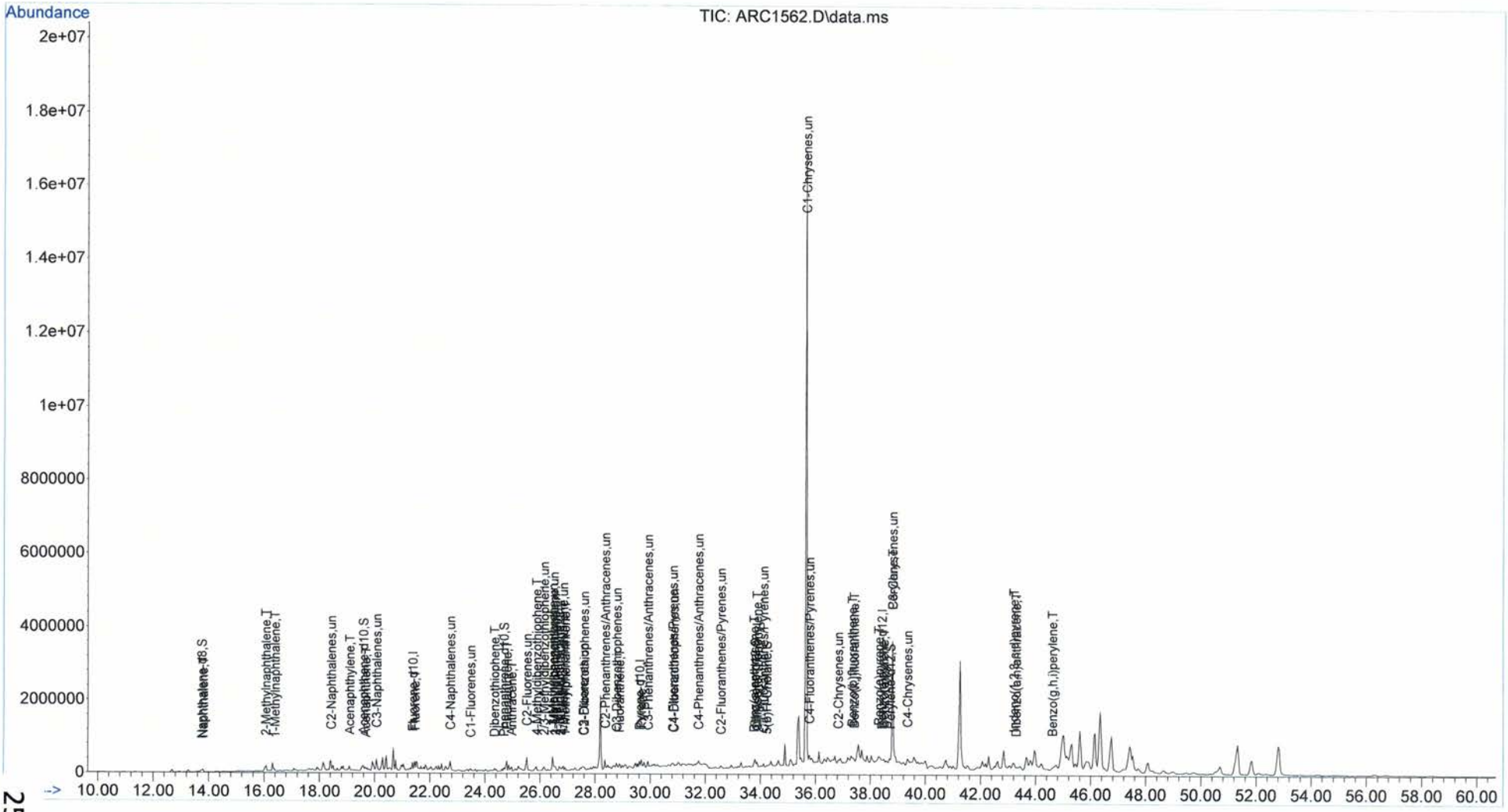
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1562.D
Acq On : 14 Aug 2013 10:23 am
Operator : YM
Sample : SED-DA-031 (0.5-1.0)
Misc :
ALS Vial : 22 Sample Multiplier: 0.06645

Quant Time: Aug 18 15:49:55 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



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

Data File Name ARC1563.D
Data File Path C:\msdchem\2\data\MS60140\
Operator YM
Date Acquired 8/14/2013 11:33
Acq. Method File PAH-2012.M
Sample Name SED-DA-031 (1.0-1.5)
Misc Info 0
Instrument Name GCMS6
Vial Number 23
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

ARC1563.D
SED-DA-031 (1.0-1.5)
8/14/2013
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	13.79	92907	5.6082	7.4291
9)+10)	C1-Naphthalenes	16.20	64827	3.9132	5.1837
13)	C2-Naphthalenes	18.42	224343	13.5421	17.9391
14)	C3-Naphthalenes	20.06	463540	27.9808	37.0659
15)	C4-Naphthalenes	21.48	144583	8.7275	11.5613
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	19.08	19517	1.3749	1.8214
24)	Acenaphthene	19.67	12291	1.3532	1.7925
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.45	70115	6.1343	8.1260
28)	C1-Fluorenes	23.37	39069	3.4181	4.5279
29)	C2-Fluorenes	25.21	89014	7.7877	10.3163
30)	C3-Fluorenes	26.73	114771	10.0412	13.3015
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.97	32858	1.9669	2.6055
41)	Phenanthrene	24.79	289518	15.3766	20.3692
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.68	199885	10.6161	14.0630
50)	C2-Phenanthrenes/Anthracenes	28.19	239543	12.7224	16.8532
51)	C3-Phenanthrenes/Anthracenes	29.92	187967	9.9831	13.2245
52)	C4-Phenanthrenes/Anthracenes	31.75	177553	9.4301	12.4919
34)	Dibenzothiophene	24.34	48123	2.3635	3.1309
35)+36)+37)	C1-Dibenzothiophenes	26.17	57162	2.8075	3.7190
38)	C2-Dibenzothiophenes	27.94	96412	4.7352	6.2727
39)	C3-Dibenzothiophenes	28.78	186885	9.1787	12.1589
40)	C4-Dibenzothiophenes	30.20	142976	7.0222	9.3022
58)	Fluoranthene	28.88	214197	9.1693	12.1465
59)	Pyrene	29.68	159101	7.3431	9.7273
62)	C1-Fluoranthenes/Pyrenes	30.82	157699	6.7508	8.9427
63)	C2-Fluoranthenes/Pyrenes	32.56	274200	11.7379	15.5491
64)	C3-Fluoranthenes/Pyrenes	34.58	186820	7.9974	10.5941
65)	C4-Fluoranthenes/Pyrenes	35.66	252147	10.7939	14.2985
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.76	66132	4.0683	5.3892
68)	Chrysene/Triphenylene	33.88	264198	11.8873	15.7470
69)	C1-Chrysenes	35.66	514245	23.1379	30.6505
70)	C2-Chrysenes	36.17	195911	8.8148	11.6769
71)	C3-Chrysenes	38.34	174435	7.8485	10.3968
72)	C4-Chrysenes	39.35	69089	3.1086	4.1179
77)	Benzo(b)fluoranthene	37.29	358431	14.4128	19.0925
78)	Benzo(k,j)fluoranthene	37.37	42129	1.6175	2.1427
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.30	127909	4.7214	6.2544
81)	Benzo(a)pyrene	38.46	71386	3.0654	4.0607
89)	Perylene	38.81	10477300	428.3055	567.3715
82)	Indeno(1,2,3-c,d)pyrene	43.18	111348	4.8285	6.3963
83)	Dibenzo(a,h)anthracene	43.25	35339	1.9457	2.5775
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	44.58	92426	4.7199	6.2524

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	45161	4.3149	5.7159
10)	1-Methylnaphthalene	16.35	19666	2.0154	2.6698
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	25.87	26320	2.1973	2.9108
36)	2/3-Methyldibenzothiophene	26.14	20712	1.7291	2.2906
37)	1-Methyldibenzothiophene	26.49	10130	0.8457	1.1203
43)	3-Methylphenanthrene	26.45	40945	2.9198	3.8679
44)	2-Methylphenanthrene	26.52	55323	3.9451	5.2261
45)	2-Methylanthracene	26.70	44443	3.1693	4.1983
46)	4/9-Methylphenanthrene	26.80	31622	2.2550	2.9872
47)	1-Methylphenanthrene	26.91	27552	1.9648	2.6027
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	13.73	190031	12.47	75.00
21)	Acenaphthene-d10	19.59	117389	14.47	87.05
32)	Phenanthrene-d10	24.69	226136	12.55	75.49
66)	Chrysene-d12	33.80	320586	17.77	106.97
88)	Perylene-d12	38.69	239179	11.29	67.95
90)	5(b)H-Cholane	34.23	60423	13.68	82.37
	Internal Standards				
1)	Fluorene-d10	21.37	138873	16.68	
31)	Pyrene-d10	29.61	304306	16.65	
73)	Benzo(a)pyrene-d12	38.38	282973	16.63	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1563.D
Acq On : 14 Aug 2013 11:33 am
Operator : YM
Sample : SED-DA-031 (1.0-1.5)
Misc :
ALS Vial : 23 Sample Multiplier: 0.06645

Quant Time: Aug 18 15:59:02 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.524	192	55323m	3.95		
45) 2-Methylanthracene	26.697	192	44443m	3.17		
46) 4/9-Methylphenanthrene	26.801	192	31622m	2.25		
47) 1-Methylphenanthrene	26.905	192	27552m	1.96		
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	28.187	206	239543m	12.72		
51) C3-Phenanthrenes/Anthr...	29.919	220	187967m	9.98		
52) C4-Phenanthrenes/Anthr...	31.755	234	177553m	9.43		
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.879	202	214197m	9.17		
59) Pyrene	29.676	202	159101m	7.34		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	30.819	216	157699m	6.75		
63) C2-Fluoranthenes/Pyrenes	32.559	230	274200m	11.74		
64) C3-Fluoranthenes/Pyrenes	34.577	244	186820m	8.00		
65) C4-Fluoranthenes/Pyrenes	35.663	258	252147m	10.79		
67) Benz(a)anthracene	33.762	228	66132m	4.07		
68) Chrysene/Triphenylene	33.878	228	264198m	11.89		
69) C1-Chrysenes	35.663	242	514245m	23.14		
70) C2-Chrysenes	36.168	256	195911m	8.81		
71) C3-Chrysenes	38.341	270	174435m	7.85		
72) C4-Chrysenes	39.350	284	69089m	3.11		
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	37.293	252	358431m	14.41		
78) Benzo(k,j)fluoranthene	37.371	252	42129m	1.62		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.302	252	127909m	4.72		
81) Benzo(a)pyrene	38.458	252	71386m	3.07		
82) Indeno(1,2,3-c,d)pyrene	43.179	276	111348m	4.83		
83) Dibenzo(a,h)anthracene	43.252	278	35339m	1.95		
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	44.580	276	92426m	4.72		
89) Perylene	38.807	252	10477253m	428.31		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1563.D
Acq On : 14 Aug 2013 11:33 am
Operator : YM
Sample : SED-DA-031 (1.0-1.5)
Misc :
ALS Vial : 23 Sample Multiplier: 0.06645

Quant Time: Aug 18 15:59:02 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

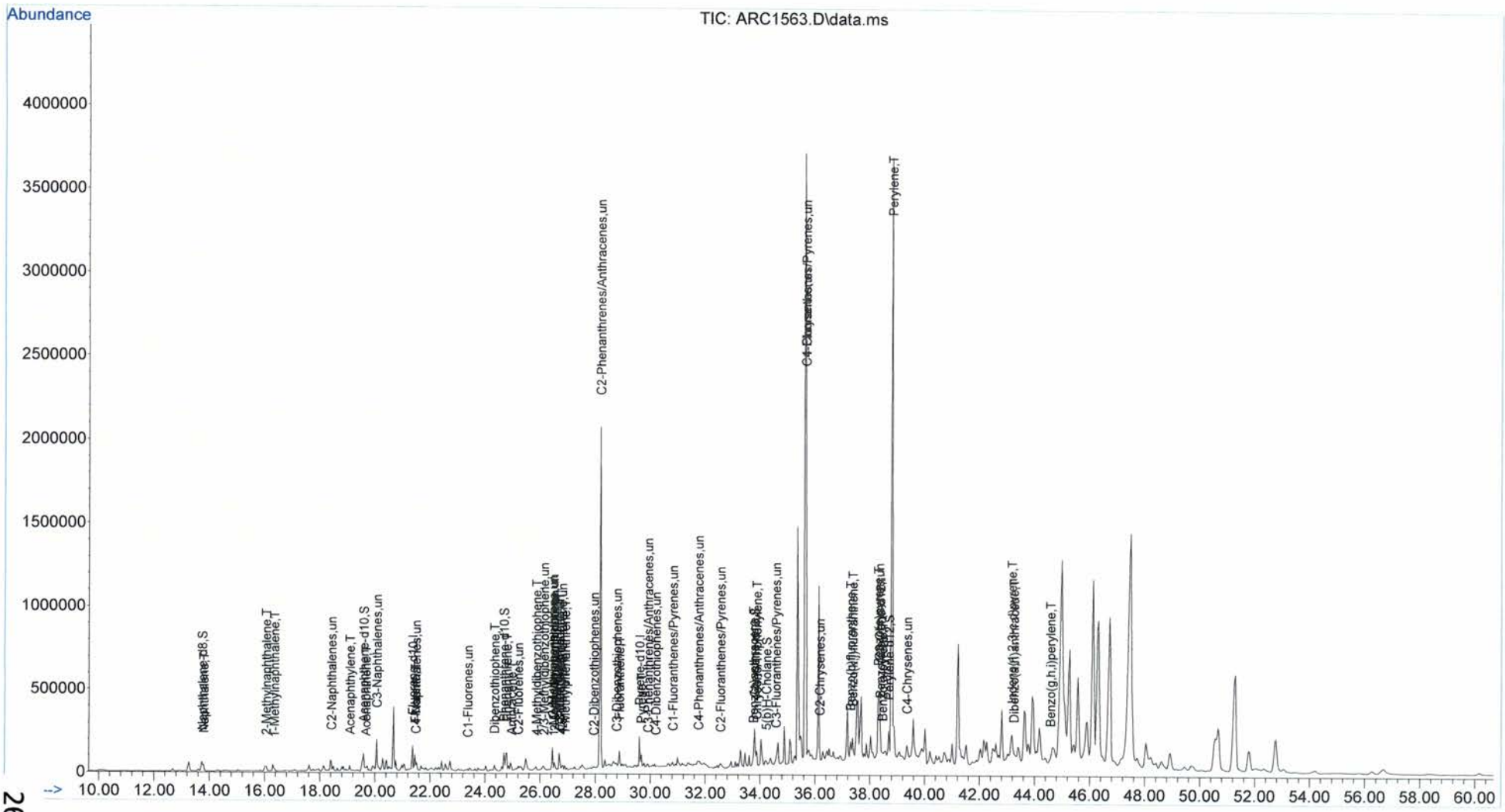
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1563.D
Acq On : 14 Aug 2013 11:33 am
Operator : YM
Sample : SED-DA-031 (1.0-1.5)
Misc :
ALS Vial : 23 Sample Multiplier: 0.06645

Quant Time: Aug 18 15:59:02 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



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

Data File Name ARC1566.D
Data File Path C:\msdchem\2\data\MS60140\
Operator YM
Date Acquired 8/14/2013 12:42
Acq. Method File PAH-2012.M
Sample Name SED-DA-029 (0-0.5)
Misc Info 0
Instrument Name GCMS6
Vial Number 24
Sample Multiplier 0.06649
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ARC1566.D
SED-DA-029 (0-0.5)
8/14/2013
PAH-2012.M
15.03985562

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	10.95	43379	15.6384	20.1613
4)	C1-Decalins	12.67	105377	37.9891	48.9761
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	70224	4.0403	5.2088
9)+10)	C1-Naphthalenes	16.21	111033	6.3883	8.2358
13)	C2-Naphthalenes	18.50	286736	16.4973	21.2686
14)	C3-Naphthalenes	0.00	0	0.0000	0.0000
15)	C4-Naphthalenes	22.73	307121	17.6701	22.7806
16)	Benzothiophene	13.96	9122	0.6629	0.8546
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.61	55372	3.9716	5.1202
23)	Acenaphthylene	19.08	34841	2.3395	3.0161
24)	Acenaphthene	19.67	19757	2.0732	2.6728
25)	Dibenzofuran	20.28	54069	3.5980	4.6386
26)	Fluorene	21.45	80626	6.7233	8.6678
28)	C1-Fluorenes	23.47	79869	6.6602	8.5865
29)	C2-Fluorenes	25.52	209928	17.5058	22.5687
30)	C3-Fluorenes	26.49	287227	23.9517	30.8789
33)	Carbazole	25.52	33871	2.1677	2.7947
42)	Anthracene	24.96	65973	4.1359	5.3320
41)	Phenanthrene	24.79	334878	18.6266	24.0137
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.69	411738	22.9018	29.5253
50)	C2-Phenanthrenes/Anthracenes	28.36	900014	50.0607	64.5389
51)	C3-Phenanthrenes/Anthracenes	29.92	783717	43.5920	56.1994
52)	C4-Phenanthrenes/Anthracenes	31.75	642622	35.7440	46.0816
34)	Dibenzothiophene	24.34	106247	5.4649	7.0455
35)+36)+37)	C1-Dibenzothiophenes	26.16	203189	10.4513	13.4739
38)	C2-Dibenzothiophenes	27.60	427738	22.0012	28.3643
39)	C3-Dibenzothiophenes	28.77	736823	37.8994	48.8604
40)	C4-Dibenzothiophenes	30.85	739221	38.0227	49.0194
58)	Fluoranthene	28.91	321748	14.4245	18.5963
59)	Pyrene	29.68	338162	16.3452	21.0725
62)	C1-Fluoranthenes/Pyrenes	30.82	377470	16.9226	21.8169
63)	C2-Fluoranthenes/Pyrenes	32.56	812144	36.4099	46.9402
64)	C3-Fluoranthenes/Pyrenes	34.11	645950	28.9591	37.3345
65)	C4-Fluoranthenes/Pyrenes	35.78	665581	29.8392	38.4691
53)	Naphthobenzothiophene	32.95	252325	15.1022	19.4700
54)	C1-Naphthobenzothiophenes	34.11	728031	43.5743	56.1766
55)	C2-Naphthobenzothiophenes	35.39	1557730	93.2336	120.1981
56)	C3-Naphthobenzothiophenes	36.91	1526960	91.3925	117.8245
57)	C4-Naphthobenzothiophenes	38.07	624660	37.3873	48.2003
67)	Benz(a)anthracene	33.76	139999	9.0196	11.6282
68)	Chrysene/Triphenylene	33.88	366129	17.2524	22.2421
69)	C1-Chrysenes	35.66	918481	43.2799	55.7970
70)	C2-Chrysenes	36.60	697053	32.8459	42.3454
71)	C3-Chrysenes	37.53	517923	24.4052	31.4635
72)	C4-Chrysenes	39.35	286841	13.5163	17.4254
77)	Benzo(b)fluoranthene	37.33	435254	18.6121	23.9951
78)	Benzo(k,j)fluoranthene	37.41	103153	4.2117	5.4298
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.30	243746	9.5680	12.3352
81)	Benzo(a)pyrene	38.50	99772	4.5561	5.8737
89)	Perylene	38.85	33991000	1477.6804	1905.0471
82)	Indeno(1,2,3-c,d)pyrene	43.21	191714	8.8409	11.3978
83)	Dibenzo(a,h)anthracene	43.29	46754	2.7375	3.5292
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	44.65	174623	9.4831	12.2258

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	75487	6.8744	8.8626
10)	1-Methylnaphthalene	16.38	35546	3.4721	4.4763
11)	2,6-Dimethylnaphthalene	18.14	83685	8.9819	11.5796
12)	1,6,7-Trimethylnaphthalene	20.98	30549	3.4179	4.4063
27)	1-Methylfluorene	23.47	24283	3.6854	4.7513
35)	4-Methyldibenzothiophene	25.86	92288	8.0689	10.4025
36)	2/3-Methyldibenzothiophene	26.14	74310	6.4971	8.3761
37)	1-Methyldibenzothiophene	26.49	36591	3.1992	4.1245
43)	3-Methylphenanthrene	26.45	94400	7.0500	9.0890
44)	2-Methylphenanthrene	26.52	100947	7.5390	9.7193
45)	2-Methylanthracene	26.73	79654	5.9488	7.6692
46)	4/9-Methylphenanthrene	26.83	69150	5.1643	6.6579
47)	1-Methylphenanthrene	26.90	67587	5.0476	6.5074
48)	3,6-Dimethylphenanthrene	27.87	197421	14.5412	18.7467
49)	Retene	30.68	18334	3.6410	4.6940
60)	2-Methylfluoranthene	30.44	31875	2.6264	3.3860
61)	Benzo(b)fluorene	31.06	59089	4.7251	6.0916
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	13.73	201551	12.60	75.77
21)	Acenaphthene-d10	19.59	118727	13.95	83.87
32)	Phenanthrene-d10	24.69	222003	12.90	77.57
66)	Chrysene-d12	33.80	326146	18.94	113.90
88)	Perylene-d12	38.73	223163	11.20	67.38
90)	5(b)H-Cholane	34.23	73562	17.72	106.57
	Internal Standards				
1)	Fluorene-d10	21.37	145788	16.69	
31)	Pyrene-d10	29.61	290743	16.66	
73)	Benzo(a)pyrene-d12	38.42	266254	16.64	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1566.D
Acq On : 14 Aug 2013 12:42 pm
Operator : YM
Sample : SED-DA-029 (0-0.5)
Misc :
ALS Vial : 24 Sample Multiplier: 0.06649

Quant Time: Aug 18 16:09:37 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.369	176	145788m	251.05		0.03
31) Pyrene-d10	29.606	212	290743m	250.63		0.00
73) Benzo(a)pyrene-d12	38.420	264	266254m	250.32		0.08
System Monitoring Compounds						
2) Naphthalene-d8	13.734	136	201551m	12.60		0.02
21) Acenaphthene-d10	19.586	164	118727m	13.95		0.02
32) Phenanthrene-d10	24.687	188	222003m	12.90		0.00
66) Chrysene-d12	33.802	240	326146m	18.94		0.00
88) Perylene-d12	38.730	264	223163m	11.20		0.08
90) 5(b)H-Cholane	34.229	217	73562m	17.72		0.04
Target Compounds						Qvalue
3) cis/trans Decalin	10.947	138	43379m	15.64		
4) C1-Decalins	12.675	152	105377m	37.99		
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.790	128	70224m	4.04		
9) 2-Methylnaphthalene	16.047	142	75487m	6.87		
10) 1-Methylnaphthalene	16.381	142	35546m	3.47		
11) 2,6-Dimethylnaphthalene	18.137	156	83685m	8.98		
12) 1,6,7-Trimethylnaphtha...	20.979	170	30549m	3.42		
13) C2-Naphthalenes	18.499	156	286736m	16.50		
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	22.734	184	307121m	17.67		
16) Benzothiophene	13.957	134	9122m	0.66		
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	17.607	154	55372m	3.97		
23) Acenaphthylene	19.084	152	34841m	2.34		
24) Acenaphthene	19.669	154	19757m	2.07		
25) Dibenzofuran	20.282	168	54069m	3.60		
26) Fluorene	21.453	166	80626m	6.72		
27) 1-Methylfluorene	23.475	180	24283m	3.69		
28) C1-Fluorenes	23.475	180	79869m	6.66		
29) C2-Fluorenes	25.518	194	209928m	17.51		
30) C3-Fluorenes	26.488	208	287227m	23.95		
33) Carbazole	25.518	167	33871m	2.17		
34) Dibenzothiophene	24.341	184	106247m	5.46		
35) 4-Methyldibenzothiophene	25.865	198	92288m	8.07		
36) 2/3-Methyldibenzothiop...	26.142	198	74310m	6.50		
37) 1-Methyldibenzothiophene	26.488	198	36591m	3.20		
38) C2-Dibenzothiophenes	27.597	212	427738m	22.00		
39) C3-Dibenzothiophenes	28.774	226	736823m	37.90		
40) C4-Dibenzothiophenes	30.853	240	739221m	38.02		
41) Phenanthrene	24.791	178	334878m	18.63		
42) Anthracene	24.964	178	65973m	4.14		
43) 3-Methylphenanthrene	26.454	192	94400m	7.05		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1566.D
Acq On : 14 Aug 2013 12:42 pm
Operator : YM
Sample : SED-DA-029 (0-0.5)
Misc :
ALS Vial : 24 Sample Multiplier: 0.06649

Quant Time: Aug 18 16:09:37 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.523	192	100947m	7.54		
45) 2-Methylanthracene	26.731	192	79654m	5.95		
46) 4/9-Methylphenanthrene	26.835	192	69150m	5.16		
47) 1-Methylphenanthrene	26.904	192	67587m	5.05		
48) 3,6-Dimethylphenanthrene	27.874	206	197421m	14.54		
49) Retene	30.680	234	18334m	3.64		
50) C2-Phenanthrenes/Anthr...	28.359	206	900014m	50.06		
51) C3-Phenanthrenes/Anthr...	29.918	220	783717m	43.59		
52) C4-Phenanthrenes/Anthr...	31.753	234	642622m	35.74		
53) Naphthobenzothiophene	32.948	234	252325m	15.10		
54) C1-Naphthobenzothiophenes	34.112	248	728031m	43.57		
55) C2-Naphthobenzothiophenes	35.393	262	1557734m	93.23		
56) C3-Naphthobenzothiophenes	36.906	276	1526963m	91.39		
57) C4-Naphthobenzothiophenes	38.071	290	624660m	37.39		
58) Fluoranthene	28.913	202	321748m	14.42		
59) Pyrene	29.675	202	338162m	16.35		
60) 2-Methylfluoranthene	30.437	216	31875m	2.63		
61) Benzo(b)fluorene	31.061	216	59089m	4.73		
62) C1-Fluoranthenes/Pyrenes	30.818	216	377470m	16.92		
63) C2-Fluoranthenes/Pyrenes	32.560	230	812144m	36.41		
64) C3-Fluoranthenes/Pyrenes	34.112	244	645950m	28.96		
65) C4-Fluoranthenes/Pyrenes	35.781	258	665581m	29.84		
67) Benz(a)anthracene	33.763	228	139999m	9.02		
68) Chrysene/Triphenylene	33.880	228	366129m	17.25		
69) C1-Chrysenes	35.665	242	918481m	43.28		
70) C2-Chrysenes	36.596	256	697053m	32.85		
71) C3-Chrysenes	37.527	270	517923m	24.41		
72) C4-Chrysenes	39.351	284	286841m	13.52		
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	37.333	252	435254m	18.61		
78) Benzo(k,j)fluoranthene	37.411	252	103153m	4.21		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.304	252	243746m	9.57		
81) Benzo(a)pyrene	38.498	252	99772m	4.56		
82) Indeno(1,2,3-c,d)pyrene	43.215	276	191714m	8.84		
83) Dibenzo(a,h)anthracene	43.289	278	46754m	2.74		
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	44.653	276	174623m	9.48		
89) Perylene	38.847	252	33991045m	1477.68		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1566.D
Acq On : 14 Aug 2013 12:42 pm
Operator : YM
Sample : SED-DA-029 (0-0.5)
Misc :
ALS Vial : 24 Sample Multiplier: 0.06649

Quant Time: Aug 18 16:09:37 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

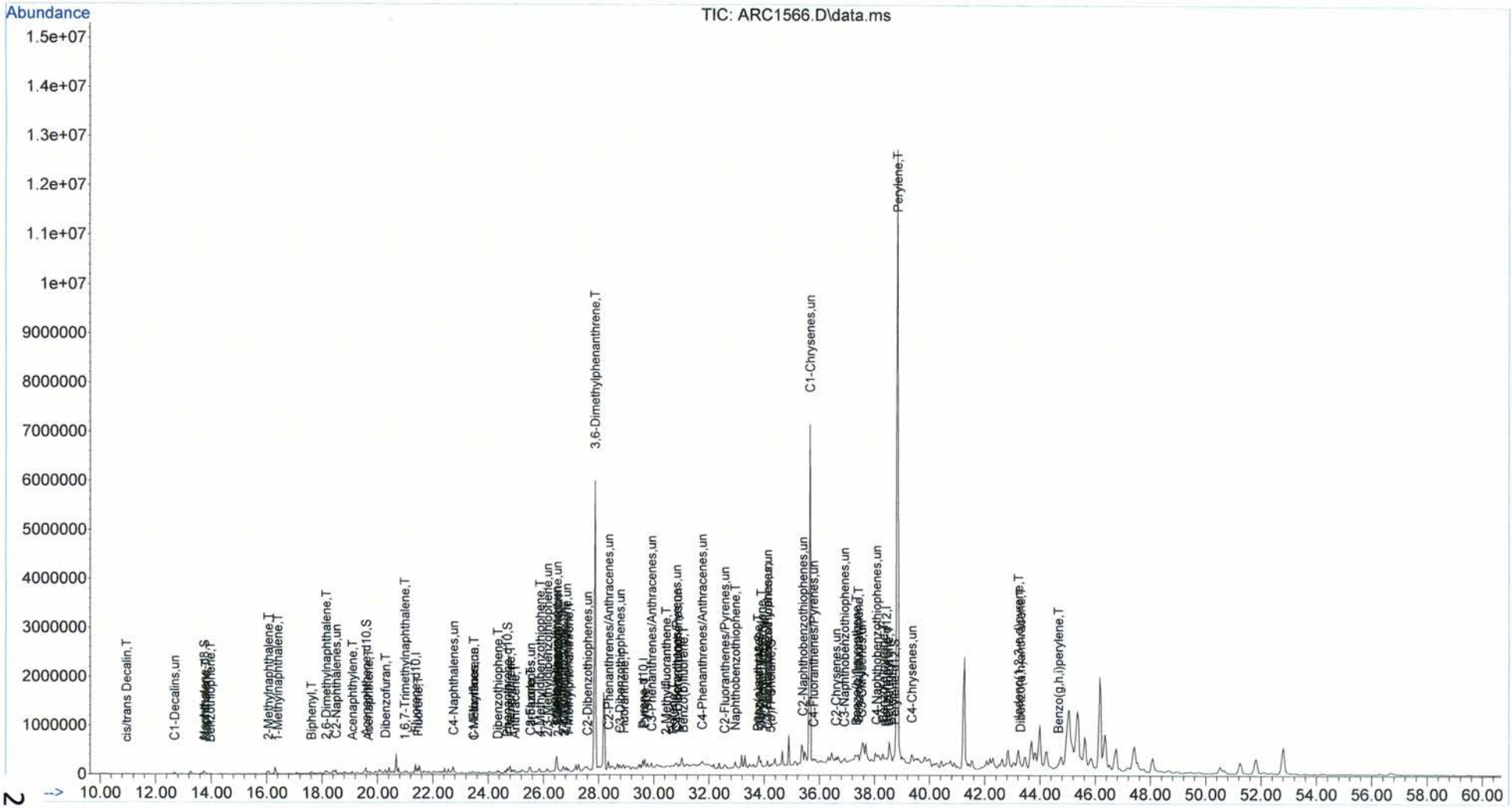
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1566.D
Acq On : 14 Aug 2013 12:42 pm
Operator : YM
Sample : SED-DA-029 (0-0.5)
Misc :
ALS Vial : 24 Sample Multiplier: 0.06649

Quant Time: Aug 18 16:09:37 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



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

Data File Name ARC1567.D
Data File Path C:\msdchem\2\data\MS60140\
Operator YM
Date Acquired 8/14/2013 13:51
Acq. Method File PAH-2012.M
Sample Name SED-DA-029 (0.5-1.0)
Misc Info 0
Instrument Name GCMS6
Vial Number 25
Sample Multiplier 0.06579
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

ARC1567.D
SED-DA-029 (0.5-1.0)
8/14/2013
PAH-2012.M
15.1998784

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	39399	2.3859	3.1983
9)+10)	C1-Naphthalenes	16.20	37812	2.2898	3.0695
13)	C2-Naphthalenes	18.50	95174	5.7634	7.7260
14)	C3-Naphthalenes	20.06	163812	9.9199	13.2978
15)	C4-Naphthalenes	22.73	81044	4.9078	6.5789
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	19.08	8408	0.5942	0.7966
24)	Acenaphthene	19.64	4623	0.5106	0.6845
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.45	31565	2.7704	3.7138
28)	C1-Fluorenes	23.37	17457	1.5322	2.0539
29)	C2-Fluorenes	24.62	91299	8.0133	10.7419
30)	C3-Fluorenes	26.73	92085	8.0823	10.8344
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.96	15608	0.9576	1.2836
41)	Phenanthrene	24.79	122842	6.6868	8.9638
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.68	125222	6.8164	9.1374
50)	C2-Phenanthrenes/Anthracenes	28.19	222848	12.1306	16.2612
51)	C3-Phenanthrenes/Anthracenes	29.92	226214	12.3138	16.5068
52)	C4-Phenanthrenes/Anthracenes	31.75	191874	10.4446	14.0010
34)	Dibenzothiophene	24.34	25124	1.2647	1.6953
35)+36)+37)	C1-Dibenzothiophenes	26.17	44111	2.2205	2.9765
38)	C2-Dibenzothiophenes	27.60	102911	5.1803	6.9443
39)	C3-Dibenzothiophenes	28.77	239800	12.0710	16.1813
40)	C4-Dibenzothiophenes	30.19	250534	12.6114	16.9056
58)	Fluoranthene	28.88	85891	3.7684	5.0516
59)	Pyrene	29.68	78490	3.7128	4.9771
62)	C1-Fluoranthenes/Pyrenes	31.16	102912	4.5152	6.0527
63)	C2-Fluoranthenes/Pyrenes	32.56	231798	10.1700	13.6330
64)	C3-Fluoranthenes/Pyrenes	34.11	223982	9.8271	13.1733
65)	C4-Fluoranthenes/Pyrenes	35.66	223498	9.8059	13.1449
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.76	28519	1.7981	2.4104
68)	Chrysene/Triphenylene	33.88	108233	4.9912	6.6907
69)	C1-Chrysenes	35.66	328016	15.1264	20.2771
70)	C2-Chrysenes	36.29	286873	13.2291	17.7338
71)	C3-Chrysenes	37.49	254144	11.7198	15.7105
72)	C4-Chrysenes	39.35	116072	5.3527	7.1753
77)	Benzo(b)fluoranthene	37.29	119953	4.5955	6.1604
78)	Benzo(k,j)fluoranthene	37.33	32315	1.1821	1.5846
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.30	78823	2.7721	3.7160
81)	Benzo(a)pyrene	38.46	26742	1.0941	1.4666
89)	Perylene	38.77	2925550	113.9450	152.7443
82)	Indeno(1,2,3-c,d)pyrene	43.18	47836	1.9764	2.6494
83)	Dibenzo(a,h)anthracene	43.21	14201	0.7449	0.9986
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	52191	2.5393	3.4040

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	27004	2.5884	3.4697
10)	1-Methylnaphthalene	16.35	10808	1.1112	1.4895
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	25.86	18678	1.5982	2.1424
36)	2/3-Methyldibenzothiophene	26.14	19398	1.6598	2.2250
37)	1-Methyldibenzothiophene	26.49	6035	0.5164	0.6922
43)	3-Methylphenanthrene	26.45	22957	1.6779	2.2492
44)	2-Methylphenanthrene	26.52	28633	2.0927	2.8053
45)	2-Methylanthracene	26.70	43080	3.1486	4.2208
46)	4/9-Methylphenanthrene	26.83	14873	1.0870	1.4572
47)	1-Methylphenanthrene	26.90	15679	1.1459	1.5361
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	13.73	186475	12.27	74.57
21)	Acenaphthene-d10	19.59	111730	13.82	83.96
32)	Phenanthrene-d10	24.69	215870	12.28	74.60
66)	Chrysene-d12	33.80	309147	17.57	106.78
88)	Perylene-d12	38.69	155646	7.00	42.55
90)	5(b)H-Cholane	34.23	63950	13.80	83.89
	Internal Standards				
1)	Fluorene-d10	21.37	137054	16.52	
31)	Pyrene-d10	29.61	293959	16.49	
73)	Benzo(a)pyrene-d12	38.38	294055	16.47	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1567.D
Acq On : 14 Aug 2013 1:51 pm
Operator : YM
Sample : SED-DA-029 (0.5-1.0)
Misc :
ALS Vial : 25 Sample Multiplier: 0.06579

Quant Time: Aug 18 16:18:41 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.369	176	137054m	251.05		0.03
31) Pyrene-d10	29.606	212	293959m	250.63		0.00
73) Benzo(a)pyrene-d12	38.381	264	294055m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.734	136	186475m	12.27		0.02
21) Acenaphthene-d10	19.586	164	111730m	13.82		0.02
32) Phenanthrene-d10	24.687	188	215870m	12.28		0.00
66) Chrysene-d12	33.802	240	309147m	17.57		0.00
88) Perylene-d12	38.692	264	155646m	7.00		0.04
90) 5(b)H-Cholane	34.229	217	63950m	13.80		0.04
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.790	128	39399m	2.39		
9) 2-Methylnaphthalene	16.047	142	27004m	2.59		
10) 1-Methylnaphthalene	16.353	142	10808m	1.11		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.499	156	95174m	5.76		
14) C3-Naphthalenes	20.059	170	163812m	9.92		
15) C4-Naphthalenes	22.735	184	81044m	4.91		
16) Benzothiophene	0.000		0	N.D.	d	
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	0.000		0	N.D.	d	
23) Acenaphthylene	19.084	152	8408m	0.59		
24) Acenaphthene	19.641	154	4623m	0.51		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.453	166	31565m	2.77		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.371	180	17457m	1.53		
29) C2-Fluorenes	24.618	194	91299m	8.01		
30) C3-Fluorenes	26.731	208	92085m	8.08		
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.341	184	25124m	1.26		
35) 4-Methyldibenzothiophene	25.865	198	18678m	1.60		
36) 2/3-Methyldibenzothiop...	26.142	198	19398m	1.66		
37) 1-Methyldibenzothiophene	26.488	198	6035m	0.52		
38) C2-Dibenzothiophenes	27.597	212	102911m	5.18		
39) C3-Dibenzothiophenes	28.775	226	239800m	12.07		
40) C4-Dibenzothiophenes	30.195	240	250534m	12.61		
41) Phenanthrene	24.791	178	122842m	6.69		
42) Anthracene	24.964	178	15608m	0.96		
43) 3-Methylphenanthrene	26.454	192	22957m	1.68		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1567.D
Acq On : 14 Aug 2013 1:51 pm
Operator : YM
Sample : SED-DA-029 (0.5-1.0)
Misc :
ALS Vial : 25 Sample Multiplier: 0.06579

Quant Time: Aug 18 16:18:41 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.523	192	28633m	2.09		
45) 2-Methylanthracene	26.696	192	43080m	3.15		
46) 4/9-Methylphenanthrene	26.835	192	14873m	1.09		
47) 1-Methylphenanthrene	26.904	192	15679m	1.15		
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	222848m	12.13		
51) C3-Phenanthrenes/Anthr...	29.918	220	226214m	12.31		
52) C4-Phenanthrenes/Anthr...	31.753	234	191874m	10.44		
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.878	202	85891m	3.77		
59) Pyrene	29.675	202	78490m	3.71		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	31.165	216	102912m	4.52		
63) C2-Fluoranthenes/Pyrenes	32.560	230	231798m	10.17		
64) C3-Fluoranthenes/Pyrenes	34.113	244	223982m	9.83		
65) C4-Fluoranthenes/Pyrenes	35.665	258	223498m	9.81		
67) Benz(a)anthracene	33.763	228	28519m	1.80		
68) Chrysene/Triphenylene	33.880	228	108233m	4.99		
69) C1-Chrysenes	35.665	242	328016m	15.13		
70) C2-Chrysenes	36.286	256	286873m	13.23		
71) C3-Chrysenes	37.489	270	254144m	11.72		
72) C4-Chrysenes	39.351	284	116072m	5.35		
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	37.295	252	119953m	4.60		
78) Benzo(k,j)fluoranthene	37.333	252	32315m	1.18		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.304	252	78823m	2.77		
81) Benzo(a)pyrene	38.459	252	26742m	1.09		
82) Indeno(1,2,3-c,d)pyrene	43.177	276	47836m	1.98		
83) Dibenzo(a,h)anthracene	43.214	278	14201m	0.74		
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	52191m	2.54		
89) Perylene	38.769	252	2925553m	113.95		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1567.D
Acq On : 14 Aug 2013 1:51 pm
Operator : YM
Sample : SED-DA-029 (0.5-1.0)
Misc :
ALS Vial : 25 Sample Multiplier: 0.06579

Quant Time: Aug 18 16:18:41 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

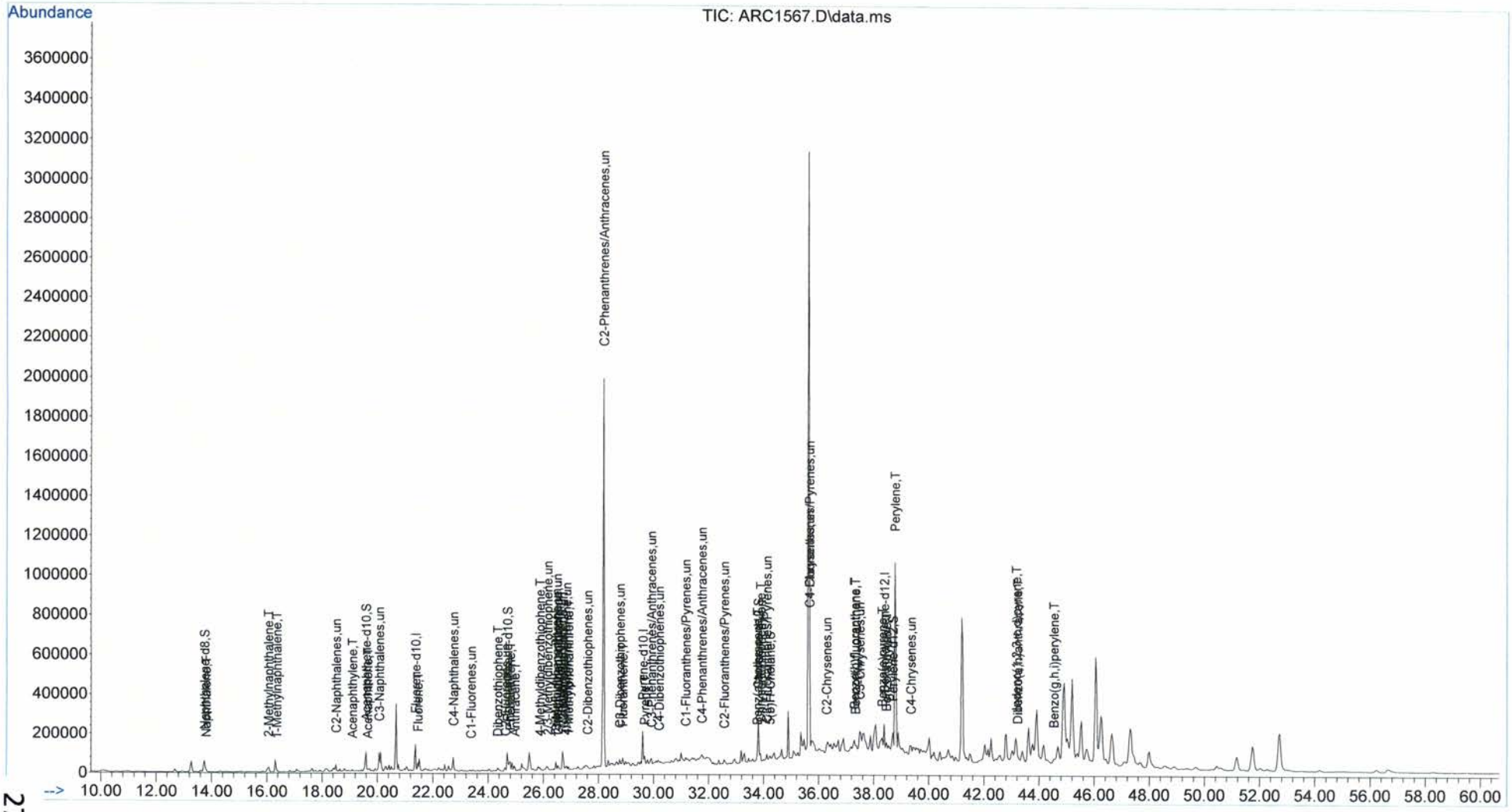
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1567.D
Acq On : 14 Aug 2013 1:51 pm
Operator : YM
Sample : SED-DA-029 (0.5-1.0)
Misc :
ALS Vial : 25 Sample Multiplier: 0.06579

Quant Time: Aug 18 16:18:41 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



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

Data File Name ARC1568.D
Data File Path C:\msdchem\2\data\MS60140\
Operator YM
Date Acquired 8/14/2013 15:01
Acq. Method File PAH-2012.M
Sample Name SED-DA-029 (1.0-1.5)
Misc Info 0
Instrument Name GCMS6
Vial Number 26
Sample Multiplier 0.06583
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ARC1568.D
SED-DA-029 (1.0-1.5)
8/14/2013
PAH-2012.M
15.19064256

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	33068	2.0875	2.7401
9)+10)	C1-Naphthalenes	16.19	22261	1.4053	1.8446
13)	C2-Naphthalenes	18.50	53239	3.3609	4.4115
14)	C3-Naphthalenes	21.34	68556	4.3279	5.6808
15)	C4-Naphthalenes	22.74	83970	5.3009	6.9580
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	19.09	4646	0.3423	0.4493
24)	Acenaphthene	19.67	3837	0.4418	0.5799
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.46	35563	3.2539	4.2711
28)	C1-Fluorenes	23.37	16188	1.4812	1.9442
29)	C2-Fluorenes	25.35	29859	2.7320	3.5860
30)	C3-Fluorenes	26.73	50153	4.5889	6.0233
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.97	9910	0.6311	0.8283
41)	Phenanthrene	24.76	160562	9.0717	11.9075
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.68	100312	5.6676	7.4393
50)	C2-Phenanthrenes/Anthracenes	28.19	105772	5.9761	7.8442
51)	C3-Phenanthrenes/Anthracenes	29.92	50200	2.8363	3.7229
52)	C4-Phenanthrenes/Anthracenes	30.68	45826	2.5892	3.3985
34)	Dibenzothiophene	24.34	17242	0.9009	1.1825
35)+36)+37)	C1-Dibenzothiophenes	26.17	15925	0.8320	1.0921
38)	C2-Dibenzothiophenes	27.25	22619	1.1818	1.5512
39)	C3-Dibenzothiophenes	28.78	31818	1.6624	2.1821
40)	C4-Dibenzothiophenes	29.61	24654	1.2881	1.6908
58)	Fluoranthene	28.88	81665	3.7190	4.8815
59)	Pyrene	29.68	62429	3.0652	4.0233
62)	C1-Fluoranthenes/Pyrenes	30.82	46955	2.1383	2.8067
63)	C2-Fluoranthenes/Pyrenes	32.56	51115	2.3277	3.0554
64)	C3-Fluoranthenes/Pyrenes	34.11	37668	1.7154	2.2516
65)	C4-Fluoranthenes/Pyrenes	35.66	62519	2.8471	3.7371
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.76	25074	1.6409	2.1539
68)	Chrysene/Triphenylene	33.88	62849	3.0083	3.9486
69)	C1-Chrysenes	35.66	206653	9.8914	12.9834
70)	C2-Chrysenes	36.83	48723	2.3321	3.0611
71)	C3-Chrysenes	37.99	27888	1.3349	1.7521
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.29	62635	2.5870	3.3957
78)	Benzo(k,j)fluoranthene	37.33	18227	0.7188	0.9435
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	38.81	10287700	431.9844	567.0211
82)	Indeno(1,2,3-c,d)pyrene	43.14	26852	1.1961	1.5699
83)	Dibenzo(a,h)anthracene	43.21	10687	0.6044	0.7933
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.51	23803	1.2486	1.6389

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	15279	1.5267	2.0039
10)	1-Methylnaphthalene	16.36	6982	0.7483	0.9822
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	25.87	7630	0.6776	0.8895
36)	2/3-Methyldibenzothiophene	26.14	6082	0.5402	0.7090
37)	1-Methyldibenzothiophene	26.49	2213	0.1965	0.2580
43)	3-Methylphenanthrene	26.45	16816	1.2757	1.6745
44)	2-Methylphenanthrene	26.52	23966	1.8181	2.3864
45)	2-Methylanthracene	26.70	35637	2.7035	3.5486
46)	4/9-Methylphenanthrene	26.80	12449	0.9444	1.2396
47)	1-Methylphenanthrene	26.90	11444	0.8682	1.1395
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.74	182415	12.51	76.00
21)	Acenaphthene-d10	19.59	104499	13.47	81.81
32)	Phenanthrene-d10	24.69	212530	12.55	76.18
66)	Chrysene-d12	33.80	286275	16.88	102.57
88)	Perylene-d12	38.69	157152	7.62	46.29
90)	5(b)H-Cholane	34.23	56163	13.06	79.38
	Internal Standards				
1)	Fluorene-d10	21.37	131550	16.53	
31)	Pyrene-d10	29.61	283385	16.50	
73)	Benzo(a)pyrene-d12	38.38	272917	16.48	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1568.D
Acq On : 14 Aug 2013 3:01 pm
Operator : YM
Sample : SED-DA-029 (1.0-1.5)
Misc :
ALS Vial : 26 Sample Multiplier: 0.06583

Quant Time: Aug 18 17:36:34 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.372	176	131550m	251.05		0.03
31) Pyrene-d10	29.607	212	283385m	250.63		0.00
73) Benzo(a)pyrene-d12	38.380	264	272917m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.736	136	182415m	12.51		0.03
21) Acenaphthene-d10	19.588	164	104499m	13.47		0.03
32) Phenanthrene-d10	24.688	188	212530m	12.55		0.00
66) Chrysene-d12	33.801	240	286275m	16.88		0.00
88) Perylene-d12	38.690	264	157152m	7.62		0.04
90) 5(b)H-Cholane	34.228	217	56163m	13.06		0.04
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.792	128	33068m	2.09		
9) 2-Methylnaphthalene	16.021	142	15279m	1.53		
10) 1-Methylnaphthalene	16.356	142	6982m	0.75		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.501	156	53239m	3.36		
14) C3-Naphthalenes	21.344	170	68556m	4.33		
15) C4-Naphthalenes	22.737	184	83970m	5.30		
16) Benzothiophene	0.000		0	N.D.	d	
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	0.000		0	N.D.	d	
23) Acenaphthylene	19.087	152	4646m	0.34		
24) Acenaphthene	19.672	154	3837m	0.44		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.455	166	35563m	3.25		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.372	180	16188m	1.48		
29) C2-Fluorenes	25.346	194	29859m	2.73		
30) C3-Fluorenes	26.732	208	50153m	4.59		
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.341	184	17242m	0.90		
35) 4-Methyldibenzothiophene	25.866	198	7630m	0.68		
36) 2/3-Methyldibenzothiop...	26.143	198	6082m	0.54		
37) 1-Methyldibenzothiophene	26.489	198	2213m	0.20		
38) C2-Dibenzothiophenes	27.251	212	22619m	1.18		
39) C3-Dibenzothiophenes	28.775	226	31818m	1.66		
40) C4-Dibenzothiophenes	29.607	240	24654m	1.29		
41) Phenanthrene	24.757	178	160562m	9.07		
42) Anthracene	24.965	178	9910m	0.63		
43) 3-Methylphenanthrene	26.454	192	16816m	1.28		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1568.D
Acq On : 14 Aug 2013 3:01 pm
Operator : YM
Sample : SED-DA-029 (1.0-1.5)
Misc :
ALS Vial : 26 Sample Multiplier: 0.06583

Quant Time: Aug 18 17:36:34 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.524	192	23966m	1.82		
45) 2-Methylanthracene	26.697	192	35637m	2.70		
46) 4/9-Methylphenanthrene	26.801	192	12449m	0.94		
47) 1-Methylphenanthrene	26.905	192	11444m	0.87		
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	105772m	5.98		
51) C3-Phenanthrenes/Anthr...	29.918	220	50200m	2.84		
52) C4-Phenanthrenes/Anthr...	30.680	234	45826m	2.59		
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.879	202	81665m	3.72		
59) Pyrene	29.676	202	62429m	3.07		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	30.819	216	46955m	2.14		
63) C2-Fluoranthenes/Pyrenes	32.559	230	51115m	2.33		
64) C3-Fluoranthenes/Pyrenes	34.111	244	37668m	1.72		
65) C4-Fluoranthenes/Pyrenes	35.664	258	62519m	2.85		
67) Benz(a)anthracene	33.762	228	25074m	1.64		
68) Chrysene/Triphenylene	33.878	228	62849m	3.01		
69) C1-Chrysenes	35.664	242	206653m	9.89		
70) C2-Chrysenes	36.828	256	48723m	2.33		
71) C3-Chrysenes	37.992	270	27888m	1.33		
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	37.293	252	62635m	2.59		
78) Benzo(k,j)fluoranthene	37.332	252	18227m	0.72		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	0.000		0	N.D.	d	
81) Benzo(a)pyrene	0.000		0	N.D.	d	
82) Indeno(1,2,3-c,d)pyrene	43.141	276	26852m	1.20		
83) Dibenzo(a,h)anthracene	43.214	278	10687m	0.60		
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	44.505	276	23803m	1.25		
89) Perylene	38.807	252	10287702m	431.98		
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 : C:\msdchem\2\data\MS60140\
Data File : ARC1568.D
Acq On : 14 Aug 2013 3:01 pm
Operator : YM
Sample : SED-DA-029 (1.0-1.5)
Misc :
ALS Vial : 26 Sample Multiplier: 0.06583

Quant Time: Aug 18 17:36:34 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

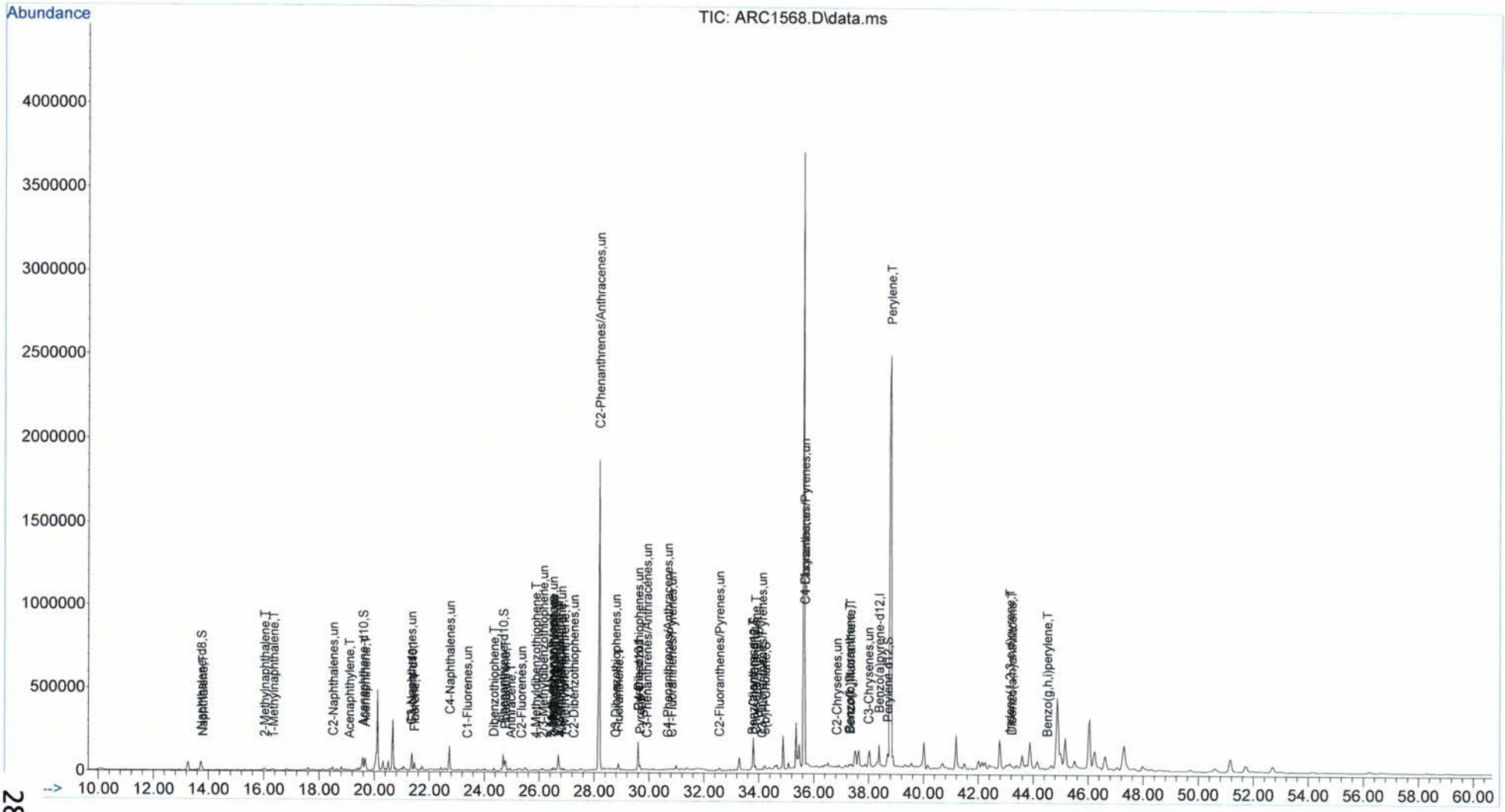
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1568.D
Acq On : 14 Aug 2013 3:01 pm
Operator : YM
Sample : SED-DA-029 (1.0-1.5)
Misc :
ALS Vial : 26 Sample Multiplier: 0.06583

Quant Time: Aug 18 17:36:34 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



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

Data File Name ARC1571.D
Data File Path C:\msdchem\2\data\MS60140\
Operator YM
Date Acquired 8/14/2013 19:38
Acq. Method File PAH-2012.M
Sample Name SED-DA-030 (0-0.5)
Misc Info 0
Instrument Name GCMS6
Vial Number 30
Sample Multiplier 0.0664
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ARC1571.D
SED-DA-030 (0-0.5)
8/14/2013
PAH-2012.M
15.06024096

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	10.95	88178	33.3820	39.8337
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	127099	7.6791	9.1632
9)+10)	C1-Naphthalenes	16.21	123409	7.4562	8.8972
13)	C2-Naphthalenes	18.50	287487	17.3695	20.7265
14)	C3-Naphthalenes	20.06	377418	22.8030	27.2101
15)	C4-Naphthalenes	22.74	222755	13.4585	16.0596
16)	Benzothiophene	13.96	14625	1.1160	1.3317
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.61	63785	4.8043	5.7328
23)	Acenaphthylene	19.09	104191	7.3468	8.7667
24)	Acenaphthene	19.67	26385	2.9075	3.4694
25)	Dibenzofuran	20.28	119429	8.3457	9.9586
26)	Fluorene	21.45	178448	15.6265	18.6466
28)	C1-Fluorenes	23.37	82599	7.2331	8.6310
29)	C2-Fluorenes	24.62	347740	30.4512	36.3365
30)	C3-Fluorenes	27.56	297183	26.0240	31.0536
33)	Carbazole	25.52	61053	4.2757	5.1021
42)	Anthracene	24.97	238963	16.3928	19.5611
41)	Phenanthrene	24.79	771334	46.9476	56.0211
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.70	577856	35.1715	41.9690
50)	C2-Phenanthrenes/Anthracenes	28.36	705173	42.9206	51.2159
51)	C3-Phenanthrenes/Anthracenes	29.92	1033760	62.9204	75.0810
52)	C4-Phenanthrenes/Anthracenes	30.68	990420	60.2823	71.9330
34)	Dibenzothiophene	24.34	130455	7.3426	8.7618
35)+36)+37)	C1-Dibenzothiophenes	26.17	166684	9.3818	11.1950
38)	C2-Dibenzothiophenes	27.60	350563	19.7314	23.5449
39)	C3-Dibenzothiophenes	29.09	621029	34.9546	41.7102
40)	C4-Dibenzothiophenes	30.85	650685	36.6238	43.7020
58)	Fluoranthene	28.91	974761	47.8198	57.0619
59)	Pyrene	29.68	893841	47.2770	56.4142
62)	C1-Fluoranthenes/Pyrenes	30.82	712348	34.9463	41.7004
63)	C2-Fluoranthenes/Pyrenes	32.13	1659600	81.4164	97.1517
64)	C3-Fluoranthenes/Pyrenes	34.15	953171	46.7606	55.7980
65)	C4-Fluoranthenes/Pyrenes	35.70	773057	37.9246	45.2543
53)	Naphthobenzothiophene	32.95	448139	29.3506	35.0232
54)	C1-Naphthobenzothiophenes	34.38	1139510	74.6309	89.0548
55)	C2-Naphthobenzothiophenes	35.39	1829400	119.8155	142.9722
56)	C3-Naphthobenzothiophenes	37.22	1828380	119.7491	142.8929
57)	C4-Naphthobenzothiophenes	38.22	717276	46.9775	56.0569
67)	Benz(a)anthracene	33.76	288171	20.3158	24.2422
68)	Chrysene/Triphenylene	33.88	558621	28.8043	34.3712
69)	C1-Chrysenes	35.70	2370060	122.2072	145.8261
70)	C2-Chrysenes	36.32	921316	47.5059	56.6874
71)	C3-Chrysenes	37.53	727320	37.5029	44.7511
72)	C4-Chrysenes	39.39	578645	29.8368	35.6033
77)	Benzo(b)fluoranthene	37.33	1016560	54.4568	64.9817
78)	Benzo(k,j)fluoranthene	37.37	299494	15.3189	18.2795
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.34	451119	22.1840	26.4715
81)	Benzo(a)pyrene	38.50	238901	13.6666	16.3080
89)	Perylene	38.85	12593200	685.8323	818.3828
82)	Indeno(1,2,3-c,d)pyrene	43.25	294754	17.0281	20.3192
83)	Dibenzo(a,h)anthracene	43.36	62649	4.5953	5.4834
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	44.76	451714	30.7310	36.6704

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	89936	8.6007	10.2630
10)	1-Methylnaphthalene	16.38	33473	3.4335	4.0971
11)	2,6-Dimethylnaphthalene	18.14	77867	8.7764	10.4726
12)	1,6,7-Trimethylnaphthalene	20.95	20790	2.4426	2.9147
27)	1-Methylfluorene	23.48	26311	4.1933	5.0038
35)	4-Methyldibenzothiophene	25.87	73824	7.0630	8.4281
36)	2/3-Methyldibenzothiophene	26.14	72118	6.8998	8.2333
37)	1-Methyldibenzothiophene	26.49	20742	1.9845	2.3680
43)	3-Methylphenanthrene	26.45	123127	10.0623	12.0070
44)	2-Methylphenanthrene	26.56	131953	10.7836	12.8677
45)	2-Methylanthracene	26.73	139184	11.3745	13.5728
46)	4/9-Methylphenanthrene	26.84	93781	7.6640	9.1452
47)	1-Methylphenanthrene	26.90	89811	7.3396	8.7581
48)	3,6-Dimethylphenanthrene	28.01	33728	2.7184	3.2438
49)	Retene	30.68	123833	26.9107	32.1117
60)	2-Methylfluoranthene	30.44	70418	6.3492	7.5763
61)	Benzo(b)fluorene	31.06	117234	10.2583	12.2410
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	13.73	235809	15.48	93.22
21)	Acenaphthene-d10	19.59	115104	14.20	85.50
32)	Phenanthrene-d10	24.69	218894	13.92	83.80
66)	Chrysene-d12	33.80	229918	14.61	87.98
88)	Perylene-d12	38.73	163302	10.27	61.85
90)	5(b)H-Cholane	34.23	112453	33.93	204.37
	Internal Standards				
1)	Fluorene-d10	21.37	138642	16.67	
31)	Pyrene-d10	29.61	265337	16.64	
73)	Benzo(a)pyrene-d12	38.42	212248	16.62	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1571.D
Acq On : 14 Aug 2013 7:38 pm
Operator : YM
Sample : SED-DA-030 (0-0.5)
Misc :
ALS Vial : 30 Sample Multiplier: 0.0664

Quant Time: Aug 18 17:46:52 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.370	176	138642m	251.05		0.03
31) Pyrene-d10	29.607	212	265337m	250.63		0.00
73) Benzo(a)pyrene-d12	38.419	264	212248m	250.32		0.08
System Monitoring Compounds						
2) Naphthalene-d8	13.735	136	235809m	15.48		0.03
21) Acenaphthene-d10	19.587	164	115104m	14.20		0.03
32) Phenanthrene-d10	24.688	188	218894m	13.92		0.00
66) Chrysene-d12	33.801	240	229918m	14.61		0.00
88) Perylene-d12	38.729	264	163302m	10.27		0.08
90) 5(b)H-Cholane	34.228	217	112453m	33.93		0.04
Target Compounds						Qvalue
3) cis/trans Decalin	10.948	138	88178m	33.38		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.790	128	127099m	7.68		
9) 2-Methylnaphthalene	16.048	142	89936m	8.60		
10) 1-Methylnaphthalene	16.382	142	33473m	3.43		
11) 2,6-Dimethylnaphthalene	18.138	156	77867m	8.78		
12) 1,6,7-Trimethylnaphtha...	20.952	170	20790m	2.44		
13) C2-Naphthalenes	18.500	156	287487m	17.37		
14) C3-Naphthalenes	20.060	170	377418m	22.80		
15) C4-Naphthalenes	22.735	184	222755m	13.46		
16) Benzothiophene	13.958	134	14625m	1.12		
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	17.608	154	63785m	4.80		
23) Acenaphthylene	19.085	152	104191m	7.35		
24) Acenaphthene	19.670	154	26385m	2.91		
25) Dibenzofuran	20.283	168	119429m	8.35		
26) Fluorene	21.454	166	178448m	15.63		
27) 1-Methylfluorene	23.476	180	26311m	4.19		
28) C1-Fluorenes	23.372	180	82599m	7.23		
29) C2-Fluorenes	24.619	194	347740m	30.45		
30) C3-Fluorenes	27.563	208	297183m	26.02		
33) Carbazole	25.519	167	61053m	4.28		
34) Dibenzothiophene	24.342	184	130455m	7.34		
35) 4-Methyldibenzothiophene	25.866	198	73824m	7.06		
36) 2/3-Methyldibenzothiop...	26.143	198	72118m	6.90		
37) 1-Methyldibenzothiophene	26.489	198	20742m	1.98		
38) C2-Dibenzothiophenes	27.598	212	350563m	19.73		
39) C3-Dibenzothiophenes	29.087	226	621029m	34.95		
40) C4-Dibenzothiophenes	30.854	240	650685m	36.62		
41) Phenanthrene	24.792	178	771334m	46.95		
42) Anthracene	24.965	178	238963m	16.39		
43) 3-Methylphenanthrene	26.455	192	123127m	10.06		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1571.D
Acq On : 14 Aug 2013 7:38 pm
Operator : YM
Sample : SED-DA-030 (0-0.5)
Misc :
ALS Vial : 30 Sample Multiplier: 0.0664

Quant Time: Aug 18 17:46:52 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.558	192	131953m	10.78		
45) 2-Methylanthracene	26.732	192	139184m	11.37		
46) 4/9-Methylphenanthrene	26.836	192	93781m	7.66		
47) 1-Methylphenanthrene	26.905	192	89811m	7.34		
48) 3,6-Dimethylphenanthrene	28.013	206	33728m	2.72		
49) Retene	30.681	234	123833m	26.91		
50) C2-Phenanthrenes/Anthr...	28.360	206	705173m	42.92		
51) C3-Phenanthrenes/Anthr...	29.918	220	1033763m	62.92		
52) C4-Phenanthrenes/Anthr...	30.681	234	990420m	60.28		
53) Naphthobenzothiophene	32.947	234	448139m	29.35		
54) C1-Naphthobenzothiophenes	34.383	248	1139506m	74.63		
55) C2-Naphthobenzothiophenes	35.392	262	1829402m	119.82		
56) C3-Naphthobenzothiophenes	37.216	276	1828384m	119.75		
57) C4-Naphthobenzothiophenes	38.225	290	717276m	46.98		
58) Fluoranthene	28.914	202	974761m	47.82		
59) Pyrene	29.676	202	893841m	47.28		
60) 2-Methylfluoranthene	30.438	216	70418m	6.35		
61) Benzo(b)fluorene	31.062	216	117234m	10.26		
62) C1-Fluoranthenes/Pyrenes	30.819	216	712348m	34.95		
63) C2-Fluoranthenes/Pyrenes	32.132	230	1659598m	81.42		
64) C3-Fluoranthenes/Pyrenes	34.150	244	953171m	46.76		
65) C4-Fluoranthenes/Pyrenes	35.702	258	773057m	37.92		
67) Benz(a)anthracene	33.762	228	288171m	20.32		
68) Chrysene/Triphenylene	33.879	228	558621m	28.80		
69) C1-Chrysenes	35.702	242	2370056m	122.21		
70) C2-Chrysenes	36.323	256	921316m	47.51		
71) C3-Chrysenes	37.526	270	727320m	37.50		
72) C4-Chrysenes	39.389	284	578645m	29.84		
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	37.332	252	1016563m	54.46		
78) Benzo(k,j)fluoranthene	37.371	252	299494m	15.32		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.341	252	451119m	22.18		
81) Benzo(a)pyrene	38.497	252	238901m	13.67		
82) Indeno(1,2,3-c,d)pyrene	43.251	276	294754m	17.03		
83) Dibenzo(a,h)anthracene	43.362	278	62649m	4.60		
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	44.763	276	451714m	30.73		
89) Perylene	38.846	252	12593188m	685.83		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1571.D
Acq On : 14 Aug 2013 7:38 pm
Operator : YM
Sample : SED-DA-030 (0-0.5)
Misc :
ALS Vial : 30 Sample Multiplier: 0.0664

Quant Time: Aug 18 17:46:52 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

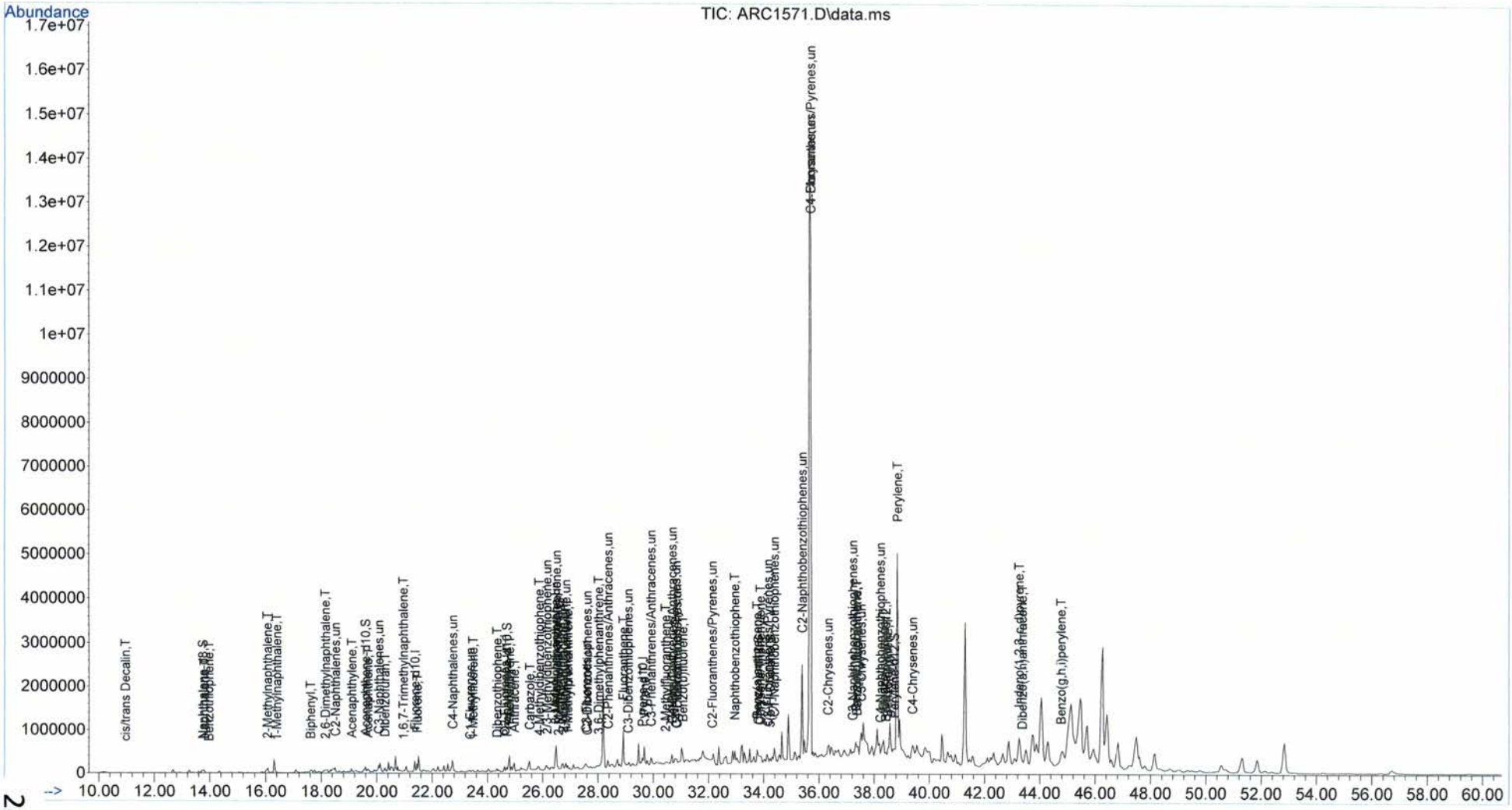
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1571.D
Acq On : 14 Aug 2013 7:38 pm
Operator : YM
Sample : SED-DA-030 (0-0.5)
Misc :
ALS Vial : 30 Sample Multiplier: 0.0664

Quant Time: Aug 18 17:46:52 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



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

Data File Name ARC1572.D
Data File Path C:\msdchem\2\data\MS60140\
Operator YM
Date Acquired 8/14/2013 20:47
Acq. Method File PAH-2012.M
Sample Name SED-DA-030 (0.5-1.0)
Misc Info 0
Instrument Name GCMS6
Vial Number 31
Sample Multiplier 0.06653
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ARC1572.D
SED-DA-030 (0.5-1.0)
8/14/2013
PAH-2012.M
15.03081317

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	15397	1.0090	1.3927
9)+10)	C1-Naphthalenes	16.21	9338	0.6120	0.8447
13)	C2-Naphthalenes	18.50	19080	1.2504	1.7259
14)	C3-Naphthalenes	20.06	62831	4.1177	5.6834
15)	C4-Naphthalenes	22.73	23113	1.5147	2.0907
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	19.08	1587	0.1214	0.1675
24)	Acenaphthene	19.67	1904	0.2276	0.3141
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.45	15013	1.4260	1.9683
28)	C1-Fluorenes	23.37	7792	0.7401	1.0216
29)	C2-Fluorenes	25.35	13366	1.2696	1.7523
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.96	3452	0.2289	0.3159
41)	Phenanthrene	24.79	60573	3.5631	4.9180
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.68	56805	3.3415	4.6121
50)	C2-Phenanthrenes/Anthracenes	28.19	82417	4.8480	6.6916
51)	C3-Phenanthrenes/Anthracenes	29.92	16390	0.9641	1.3307
52)	C4-Phenanthrenes/Anthracenes	31.75	24279	1.4282	1.9712
34)	Dibenzothiophene	24.34	6516	0.3544	0.4892
35)+36)+37)	C1-Dibenzothiophenes	26.17	4981	0.2709	0.3740
38)	C2-Dibenzothiophenes	27.60	8536	0.4643	0.6409
39)	C3-Dibenzothiophenes	28.77	18055	0.9821	1.3556
40)	C4-Dibenzothiophenes	30.19	16459	0.8953	1.2358
58)	Fluoranthene	28.88	31350	1.4864	2.0516
59)	Pyrene	29.68	23464	1.1994	1.6555
62)	C1-Fluoranthenes/Pyrenes	30.82	16993	0.8057	1.1120
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.76	6472	0.4410	0.6086
68)	Chrysene/Triphenylene	33.88	17797	0.8869	1.2241
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.29	20752	0.9030	1.2464
78)	Benzo(k,j)fluoranthene	37.33	6051	0.2514	0.3470
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	0.00	0	0.0000	0.0000
81)	Benzo(a)pyrene	0.00	0	0.0000	0.0000
89)	Perylene	38.77	4978020	220.2143	303.9527
82)	Indeno(1,2,3-c,d)pyrene	0.00	0	0.0000	0.0000
83)	Dibenzo(a,h)anthracene	0.00	0	0.0000	0.0000
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	0.00	0	0.0000	0.0000

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	6439	0.6679	0.9219
10)	1-Methylnaphthalene	16.38	2899	0.3226	0.4452
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	25.86	2311	0.2137	0.2949
36)	2/3-Methyldibenzothiophene	26.14	2003	0.1852	0.2556
37)	1-Methyldibenzothiophene	26.49	667	0.0617	0.0851
43)	3-Methylphenanthrene	26.45	5348	0.4224	0.5830
44)	2-Methylphenanthrene	26.52	8719	0.6886	0.9505
45)	2-Methylanthracene	26.70	34342	2.7124	3.7438
46)	4/9-Methylphenanthrene	26.80	4163	0.3288	0.4538
47)	1-Methylphenanthrene	26.90	4233	0.3343	0.4615
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	13.73	173202	12.34	74.13
21)	Acenaphthene-d10	19.59	102601	13.73	82.51
32)	Phenanthrene-d10	24.69	196192	12.06	72.45
66)	Chrysene-d12	33.80	290935	17.86	107.39
88)	Perylene-d12	38.69	143313	7.32	44.01
90)	5(b)H-Cholane	34.23	55489	13.60	81.75
	Internal Standards				
1)	Fluorene-d10	21.37	128067	16.70	
31)	Pyrene-d10	29.61	275086	16.67	
73)	Benzo(a)pyrene-d12	38.38	261809	16.65	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1572.D
Acq On : 14 Aug 2013 8:47 pm
Operator : YM
Sample : SED-DA-030 (0.5-1.0)
Misc :
ALS Vial : 31 Sample Multiplier: 0.06653

Quant Time: Aug 18 17:53:20 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.369	176	128067m	251.05		0.03
31) Pyrene-d10	29.606	212	275086m	250.63		0.00
73) Benzo(a)pyrene-d12	38.380	264	261809m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.734	136	173202m	12.34		0.03
21) Acenaphthene-d10	19.586	164	102601m	13.73		0.03
32) Phenanthrene-d10	24.687	188	196192m	12.06		0.00
66) Chrysene-d12	33.800	240	290935m	17.86		0.00
88) Perylene-d12	38.690	264	143313m	7.32		0.04
90) 5(b)H-Cholane	34.227	217	55489m	13.60		0.04
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.790	128	15397m	1.01		
9) 2-Methylnaphthalene	16.047	142	6439m	0.67		
10) 1-Methylnaphthalene	16.381	142	2899m	0.32		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.499	156	19080m	1.25		
14) C3-Naphthalenes	20.060	170	62831m	4.12		
15) C4-Naphthalenes	22.735	184	23113m	1.51		
16) Benzothiophene	0.000		0	N.D.	d	
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	0.000		0	N.D.	d	
23) Acenaphthylene	19.084	152	1587m	0.12		
24) Acenaphthene	19.670	154	1904m	0.23		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.453	166	15013m	1.43		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.371	180	7792m	0.74		
29) C2-Fluorenes	25.345	194	13366m	1.27		
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.341	184	6516m	0.35		
35) 4-Methyldibenzothiophene	25.865	198	2311m	0.21		
36) 2/3-Methyldibenzothiop...	26.142	198	2003m	0.19		
37) 1-Methyldibenzothiophene	26.488	198	667m	0.06		
38) C2-Dibenzothiophenes	27.597	212	8536m	0.46		
39) C3-Dibenzothiophenes	28.775	226	18055m	0.98		
40) C4-Dibenzothiophenes	30.195	240	16459m	0.90		
41) Phenanthrene	24.791	178	60573m	3.56		
42) Anthracene	24.964	178	3452m	0.23		
43) 3-Methylphenanthrene	26.454	192	5348m	0.42		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1572.D
Acq On : 14 Aug 2013 8:47 pm
Operator : YM
Sample : SED-DA-030 (0.5-1.0)
Misc :
ALS Vial : 31 Sample Multiplier: 0.06653

Quant Time: Aug 18 17:53:20 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.523	192	8719m	0.69		
45) 2-Methylanthracene	26.696	192	34342m	2.71		
46) 4/9-Methylphenanthrene	26.800	192	4163m	0.33		
47) 1-Methylphenanthrene	26.904	192	4233m	0.33		
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	82417m	4.85		
51) C3-Phenanthrenes/Anthr...	29.918	220	16390m	0.96		
52) C4-Phenanthrenes/Anthr...	31.753	234	24279m	1.43		
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.878	202	31350m	1.49		
59) Pyrene	29.675	202	23464m	1.20		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	30.818	216	16993m	0.81		
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.762	228	6472m	0.44		
68) Chrysene/Triphenylene	33.878	228	17797m	0.89		
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	37.293	252	20752m	0.90		
78) Benzo(k,j)fluoranthene	37.332	252	6051m	0.25		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	0.000		0	N.D.	d	
81) Benzo(a)pyrene	0.000		0	N.D.	d	
82) Indeno(1,2,3-c,d)pyrene	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	38.768	252	4978017m	220.21		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1572.D
Acq On : 14 Aug 2013 8:47 pm
Operator : YM
Sample : SED-DA-030 (0.5-1.0)
Misc :
ALS Vial : 31 Sample Multiplier: 0.06653

Quant Time: Aug 18 17:53:20 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

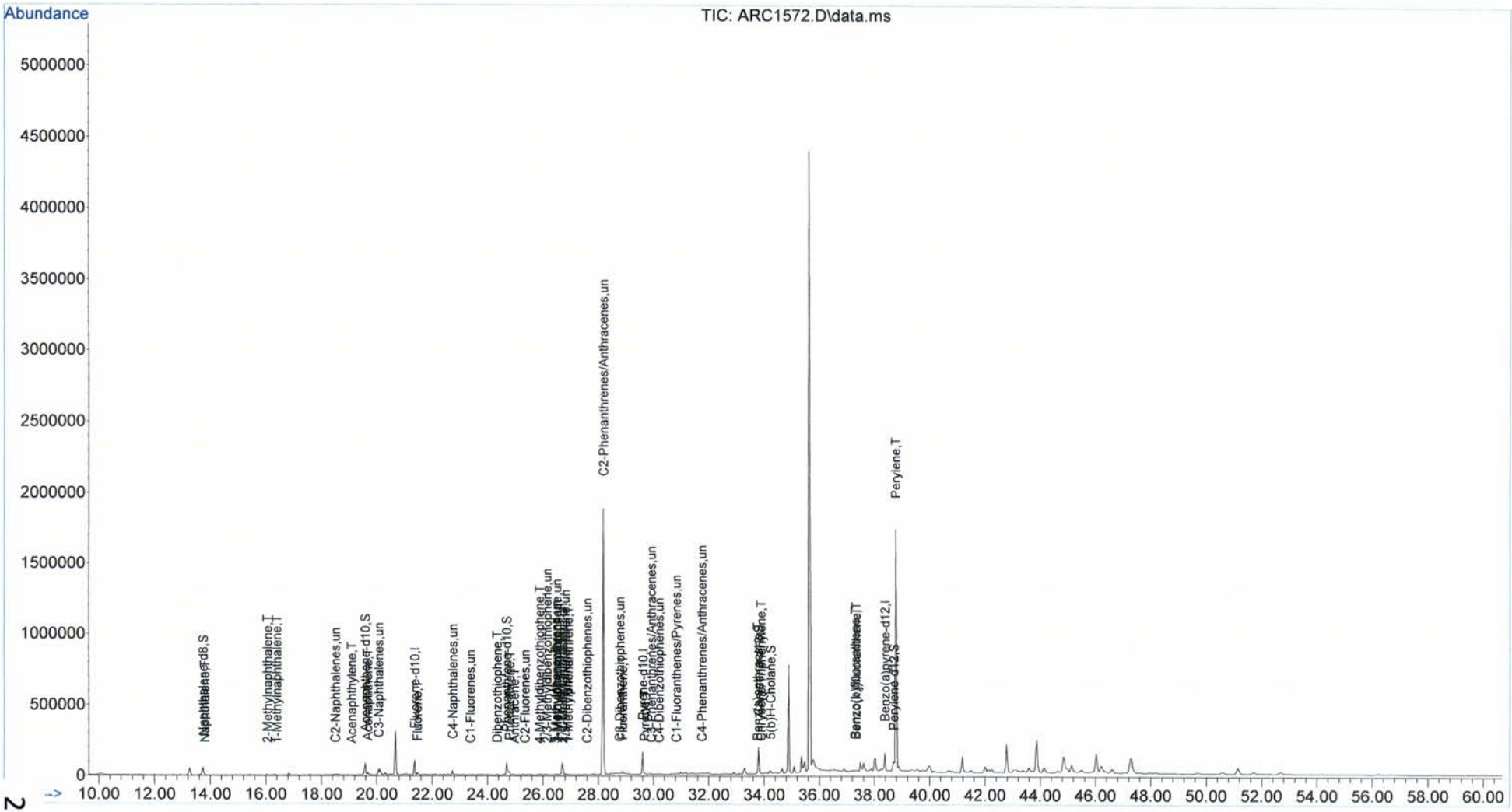
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1572.D
Acq On : 14 Aug 2013 8:47 pm
Operator : YM
Sample : SED-DA-030 (0.5-1.0)
Misc :
ALS Vial : 31 Sample Multiplier: 0.06653

Quant Time: Aug 18 17:53:20 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



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

Data File Name ARC1573.D
Data File Path C:\msdchem\2\data\MS60140\
Operator YM
Date Acquired 8/14/2013 21:56
Acq. Method File PAH-2012.M
Sample Name SED-DA-030 (1.0-1.5)
Misc Info 0
Instrument Name GCMS6
Vial Number 32
Sample Multiplier 0.06658
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ARC1573.D
SED-DA-030 (1.0-1.5)
8/14/2013
PAH-2012.M
15.01952538

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	11107	0.6666	0.9093
9)+10)	C1-Naphthalenes	16.21	5756	0.3455	0.4712
13)	C2-Naphthalenes	18.50	11580	0.6950	0.9480
14)	C3-Naphthalenes	20.42	18196	1.0921	1.4897
15)	C4-Naphthalenes	0.00	0	0.0000	0.0000
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	19.08	774	0.0542	0.0740
24)	Acenaphthene	19.70	764	0.0836	0.1141
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.45	12799	1.1134	1.5187
28)	C1-Fluorenes	23.37	6715	0.5841	0.7968
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	24.79	49816	2.6781	3.6532
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	2433	0.1210	0.1650
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	28.88	11913	0.5162	0.7041
59)	Pyrene	29.68	8788	0.4106	0.5600
62)	C1-Fluoranthenes/Pyrenes	30.82	5127	0.2222	0.3030
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	0.00	0	0.0000	0.0000
68)	Chrysene/Triphenylene	0.00	0	0.0000	0.0000
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	0.00	0	0.0000	0.0000
78)	Benzo(k,j)fluoranthene	0.00	0	0.0000	0.0000
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	0.00	0	0.0000	0.0000
81)	Benzo(a)pyrene	0.00	0	0.0000	0.0000
89)	Perylene	38.77	1125690	48.1592	65.6930
82)	Indeno(1,2,3-c,d)pyrene	0.00	0	0.0000	0.0000
83)	Dibenzo(a,h)anthracene	0.00	0	0.0000	0.0000
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	0.00	0	0.0000	0.0000

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	3877	0.3683	0.5024
10)	1-Methylnaphthalene	16.38	1879	0.1915	0.2612
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	13.73	191042	12.46	74.82
21)	Acenaphthene-d10	19.59	109203	13.39	80.36
32)	Phenanthrene-d10	24.69	217377	12.21	73.31
66)	Chrysene-d12	33.80	290462	16.30	97.91
88)	Perylene-d12	38.69	169014	8.35	50.15
90)	5(b)H-Cholane	34.19	55955	13.26	79.67
	Internal Standards				
1)	Fluorene-d10	21.37	139946	16.71	
31)	Pyrene-d10	29.61	301217	16.69	
73)	Benzo(a)pyrene-d12	38.38	270919	16.67	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1573.D
Acq On : 14 Aug 2013 9:56 pm
Operator : YM
Sample : SED-DA-030 (1.0-1.5)
Misc :
ALS Vial : 32 Sample Multiplier: 0.06658

Quant Time: Aug 18 18:03:47 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.369	176	139946m	251.05		0.03
31) Pyrene-d10	29.606	212	301217m	250.63		0.00
73) Benzo(a)pyrene-d12	38.381	264	270919m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.734	136	191042m	12.46		0.02
21) Acenaphthene-d10	19.586	164	109203m	13.39		0.02
32) Phenanthrene-d10	24.687	188	217377m	12.21		0.00
66) Chrysene-d12	33.802	240	290462m	16.30		0.00
88) Perylene-d12	38.692	264	169014m	8.35		0.04
90) 5(b)H-Cholane	34.190	217	55955m	13.26		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.790	128	11107m	0.67		
9) 2-Methylnaphthalene	16.047	142	3877m	0.37		
10) 1-Methylnaphthalene	16.381	142	1879m	0.19		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.499	156	11580m	0.70		
14) C3-Naphthalenes	20.422	170	18196m	1.09		
15) C4-Naphthalenes	0.000		0	N.D.	d	
16) Benzothiophene	0.000		0	N.D.	d	
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	0.000		0	N.D.	d	
23) Acenaphthylene	19.084	152	774m	0.05		
24) Acenaphthene	19.697	154	764m	0.08		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.453	166	12799m	1.11		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.371	180	6715m	0.58		
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.341	184	2433m	0.12		
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	24.791	178	49816m	2.68		
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1573.D
Acq On : 14 Aug 2013 9:56 pm
Operator : YM
Sample : SED-DA-030 (1.0-1.5)
Misc :
ALS Vial : 32 Sample Multiplier: 0.06658

Quant Time: Aug 18 18:03:47 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 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	28.879	202	11913m	0.52		
59) Pyrene	29.675	202	8788m	0.41		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	30.819	216	5127m	0.22		
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.		
83) Dibenzo(a,h)anthracene	0.000		0	N.D.	d	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	0.000		0	N.D.	d	
89) Perylene	38.769	252	1125690m	48.16		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1573.D
Acq On : 14 Aug 2013 9:56 pm
Operator : YM
Sample : SED-DA-030 (1.0-1.5)
Misc :
ALS Vial : 32 Sample Multiplier: 0.06658

Quant Time: Aug 18 18:03:47 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

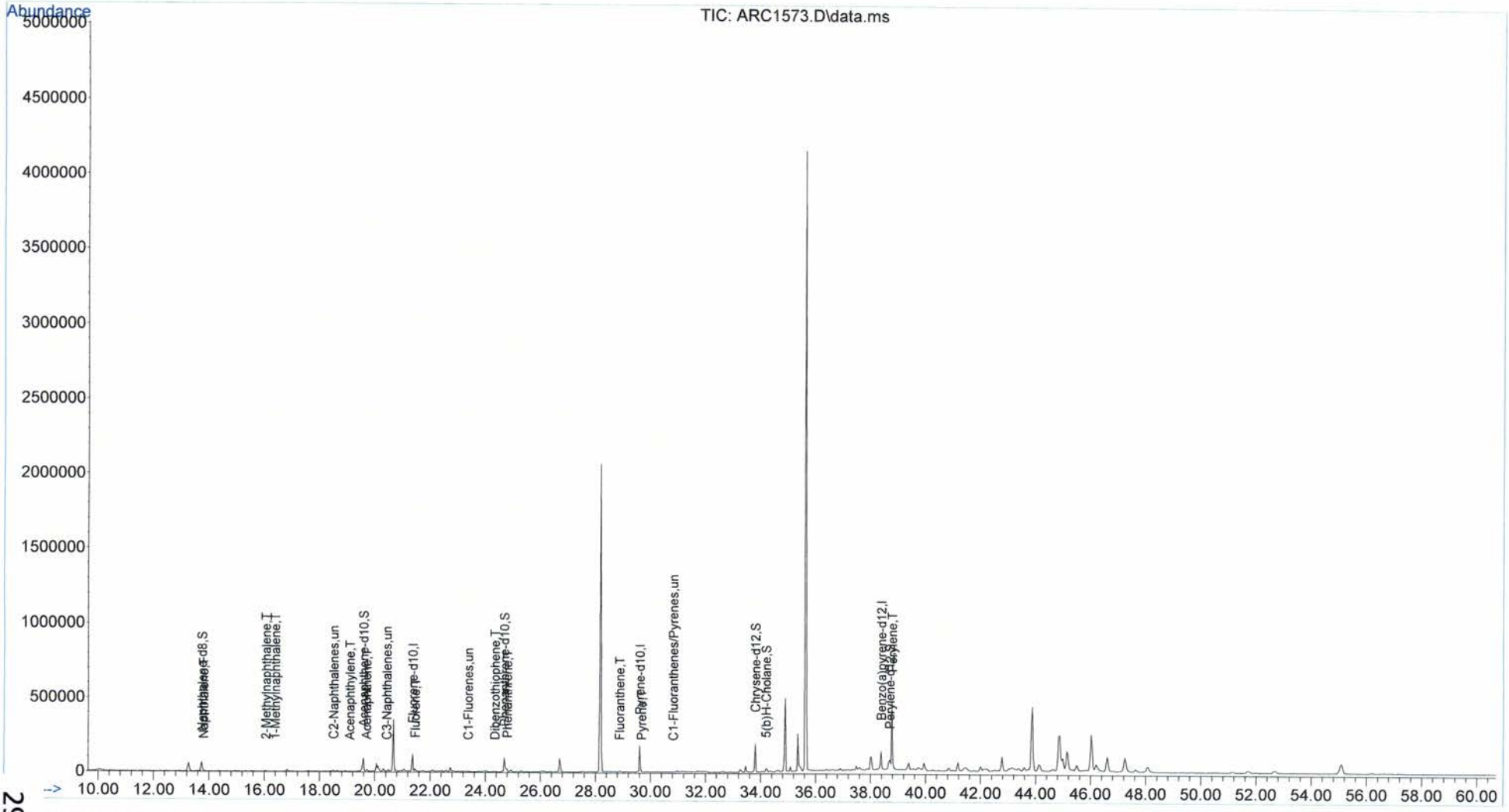
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1573.D
Acq On : 14 Aug 2013 9:56 pm
Operator : YM
Sample : SED-DA-030 (1.0-1.5)
Misc :
ALS Vial : 32 Sample Multiplier: 0.06658

Quant Time: Aug 18 18:03:47 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



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

Data File Name ARC1574.D
Data File Path C:\msdchem\2\data\MS60140\
Operator YM
Date Acquired 8/14/2013 23:06
Acq. Method File PAH-2012.M
Sample Name SED-DA-028 (0-0.5)
Misc Info 0
Instrument Name GCMS6
Vial Number 33
Sample Multiplier 0.06658
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ARC1574.D
SED-DA-028 (0-0.5)
8/14/2013
PAH-2012.M
15.01952538

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	10.95	134530	39.7758	46.6101
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	201173	9.4926	11.1237
9)+10)	C1-Naphthalenes	16.21	202379	9.5496	11.1903
13)	C2-Naphthalenes	18.50	532053	25.1057	29.4194
14)	C3-Naphthalenes	0.00	0	0.0000	0.0000
15)	C4-Naphthalenes	0.00	0	0.0000	0.0000
16)	Benzothiophene	13.96	17670	1.0531	1.2340
17)	C1-Benzothiophenes	16.05	28609	1.7050	1.9979
18)	C2-Benzothiophenes	17.66	313114	18.6604	21.8666
19)	C3-Benzothiophenes	20.70	249195	14.8511	17.4028
20)	C4-Benzothiophenes	21.56	108341	6.4567	7.5661
22)	Biphenyl	17.61	90069	5.2983	6.2087
23)	Acenaphthylene	19.08	1010650	55.6566	65.2195
24)	Acenaphthene	19.70	75176	6.4698	7.5814
25)	Dibenzofuran	20.28	230947	12.6041	14.7698
26)	Fluorene	21.45	260346	17.8053	20.8646
28)	C1-Fluorenes	23.47	133433	9.1256	10.6935
29)	C2-Fluorenes	24.62	601386	41.1293	48.1961
30)	C3-Fluorenes	27.56	330479	22.6017	26.4851
33)	Carbazole	25.55	200575	12.0997	14.1787
42)	Anthracene	24.96	1674640	98.9565	115.9592
41)	Phenanthrene	24.79	1692310	88.7258	103.9707
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.69	1305998	68.4720	80.2368
50)	C2-Phenanthrenes/Anthracenes	28.36	1378840	72.2912	84.7123
51)	C3-Phenanthrenes/Anthracenes	29.92	1356760	71.1334	83.3555
52)	C4-Phenanthrenes/Anthracenes	30.68	933079	48.9202	57.3256
34)	Dibenzothiophene	24.34	230343	11.1678	13.0866
35)+36)+37)	C1-Dibenzothiophenes	26.18	345678	16.7596	19.6393
38)	C2-Dibenzothiophenes	27.28	607607	29.4587	34.5203
39)	C3-Dibenzothiophenes	28.81	759732	36.8343	43.1631
40)	C4-Dibenzothiophenes	31.06	671878	32.5748	38.1718
58)	Fluoranthene	28.91	5102410	215.6173	252.6646
59)	Pyrene	29.67	3730910	169.9821	199.1883
62)	C1-Fluoranthenes/Pyrenes	31.51	2939400	124.2130	145.5552
63)	C2-Fluoranthenes/Pyrenes	32.56	2403700	101.5751	119.0277
64)	C3-Fluoranthenes/Pyrenes	34.00	1596190	67.4515	79.0410
65)	C4-Fluoranthenes/Pyrenes	35.78	1160280	49.0312	57.4557
53)	Naphthobenzothiophene	32.95	974987	55.0049	64.4559
54)	C1-Naphthobenzothiophenes	34.38	876620	49.4555	57.9529
55)	C2-Naphthobenzothiophenes	35.86	954662	53.8583	63.1122
56)	C3-Naphthobenzothiophenes	37.22	695494	39.2371	45.9787
57)	C4-Naphthobenzothiophenes	38.07	454955	25.6668	30.0768
67)	Benz(a)anthracene	33.76	2416380	146.7403	171.9532
68)	Chrysene/Triphenylene	33.92	3670720	163.0384	191.0516
69)	C1-Chrysenes	35.70	3159770	140.3440	164.4578
70)	C2-Chrysenes	35.78	1690970	75.1062	88.0109
71)	C3-Chrysenes	38.85	666160	29.5881	34.6719
72)	C4-Chrysenes	39.39	465094	20.6576	24.2070
77)	Benzo(b)fluoranthene	37.33	4827570	329.3766	385.9699
78)	Benzo(k,j)fluoranthene	37.37	1862870	121.3574	142.2089
79)	Benzo(a)fluoranthene	37.68	618526	40.2941	47.2175
80)	Benzo(e)pyrene	38.34	2065050	129.3370	151.5596
81)	Benzo(a)pyrene	38.50	1447700	105.4800	123.6036
89)	Perylene	38.85	5408320	375.1364	439.5921
82)	Indeno(1,2,3-c,d)pyrene	43.32	1087030	79.9826	93.7251
83)	Dibenzo(a,h)anthracene	43.36	265100	24.7659	29.0212
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	44.84	863918	74.8572	87.7192

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	139244	10.3998	12.1867
10)	1-Methylnaphthalene	16.38	63135	5.0578	5.9268
11)	2,6-Dimethylnaphthalene	18.14	147026	12.9421	15.1658
12)	1,6,7-Trimethylnaphthalene	20.95	35973	3.3008	3.8679
27)	1-Methylfluorene	23.47	45537	5.6681	6.6420
35)	4-Methyldibenzothiophene	25.86	152710	12.5852	14.7475
36)	2/3-Methyldibenzothiophene	26.18	128143	10.5605	12.3750
37)	1-Methyldibenzothiophene	26.49	64825	5.3424	6.2603
43)	3-Methylphenanthrene	26.45	217018	15.2770	17.9019
44)	2-Methylphenanthrene	26.56	270986	19.0760	22.3537
45)	2-Methylanthracene	26.70	313103	22.0408	25.8279
46)	4/9-Methylphenanthrene	26.83	318721	22.4363	26.2913
47)	1-Methylphenanthrene	26.90	186170	13.1054	15.3572
48)	3,6-Dimethylphenanthrene	28.01	74286	5.1575	6.0436
49)	Retene	30.68	161193	30.1741	35.3585
60)	2-Methylfluoranthene	30.47	396948	30.8296	36.1267
61)	Benzo(b)fluorene	31.06	406757	30.6590	35.9268
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	13.73	279685	14.34	86.12
21)	Acenaphthene-d10	19.59	136449	13.15	78.95
32)	Phenanthrene-d10	24.72	259470	14.22	85.34
66)	Chrysene-d12	33.84	230197	12.60	75.68
88)	Perylene-d12	38.73	165042	13.22	79.40
90)	5(b)H-Cholane	34.23	98048	37.67	226.34
	Internal Standards				
1)	Fluorene-d10	21.37	178001	16.71	
31)	Pyrene-d10	29.64	308869	16.69	
73)	Benzo(a)pyrene-d12	38.42	167099	16.67	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1574.D
Acq On : 14 Aug 2013 11:06 pm
Operator : YM
Sample : SED-DA-028 (0-0.5)
Misc :
ALS Vial : 33 Sample Multiplier: 0.06658

Quant Time: Aug 18 09:53:26 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.369	176	178001m	251.05		0.02
31) Pyrene-d10	29.640	212	308869m	250.63		0.03
73) Benzo(a)pyrene-d12	38.420	264	167099m	250.32		0.08
System Monitoring Compounds						
2) Naphthalene-d8	13.733	136	279685m	14.34		0.02
21) Acenaphthene-d10	19.585	164	136449m	13.15		0.02
32) Phenanthrene-d10	24.721	188	259470m	14.22		0.03
66) Chrysene-d12	33.840	240	230197m	12.60		0.04
88) Perylene-d12	38.730	264	165042m	13.22		0.08
90) 5(b)H-Cholane	34.228	217	98048m	37.67		0.04
Target Compounds						Qvalue
3) cis/trans Decalin	10.947	138	134530m	39.78		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.789	128	201173m	9.49		
9) 2-Methylnaphthalene	16.046	142	139244m	10.40		
10) 1-Methylnaphthalene	16.381	142	63135m	5.06		
11) 2,6-Dimethylnaphthalene	18.136	156	147026m	12.94		
12) 1,6,7-Trimethylnaphtha...	20.951	170	35973m	3.30		
13) C2-Naphthalenes	18.498	156	532053m	25.11		
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.	d	
16) Benzothiophene	13.956	134	17670m	1.05		
17) C1-Benzothiophenes	16.046	148	28609m	1.70		
18) C2-Benzothiophenes	17.662	162	313114m	18.66		
19) C3-Benzothiophenes	20.700	176	249195m	14.85		
20) C4-Benzothiophenes	21.564	190	108341m	6.46		
22) Biphenyl	17.607	154	90069m	5.30		
23) Acenaphthylene	19.084	152	1010654m	55.66		
24) Acenaphthene	19.697	154	75176m	6.47		
25) Dibenzofuran	20.282	168	230947m	12.60		
26) Fluorene	21.452	166	260346m	17.81		
27) 1-Methylfluorene	23.474	180	45537m	5.67		
28) C1-Fluorenes	23.474	180	133433m	9.13		
29) C2-Fluorenes	24.617	194	601386m	41.13		
30) C3-Fluorenes	27.562	208	330479m	22.60		
33) Carbazole	25.553	167	200575m	12.10		
34) Dibenzothiophene	24.340	184	230343m	11.17		
35) 4-Methyldibenzothiophene	25.864	198	152710m	12.59		
36) 2/3-Methyldibenzothiop...	26.176	198	128143m	10.56		
37) 1-Methyldibenzothiophene	26.488	198	64825m	5.34		
38) C2-Dibenzothiophenes	27.285	212	607607m	29.46		
39) C3-Dibenzothiophenes	28.809	226	759732m	36.83		
40) C4-Dibenzothiophenes	31.060	240	671878m	32.57		
41) Phenanthrene	24.791	178	1692306m	88.73		
42) Anthracene	24.964	178	1674641m	98.96		
43) 3-Methylphenanthrene	26.453	192	217018m	15.28		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1574.D
Acq On : 14 Aug 2013 11:06 pm
Operator : YM
Sample : SED-DA-028 (0-0.5)
Misc :
ALS Vial : 33 Sample Multiplier: 0.06658

Quant Time: Aug 18 09:53:26 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.557	192	270986m	19.08		
45) 2-Methylanthracene	26.696	192	313103m	22.04		
46) 4/9-Methylphenanthrene	26.834	192	318721m	22.44		
47) 1-Methylphenanthrene	26.904	192	186170m	13.11		
48) 3,6-Dimethylphenanthrene	28.012	206	74286m	5.16		
49) Retene	30.679	234	161193m	30.17		
50) C2-Phenanthrenes/Anthr...	28.358	206	1378841m	72.29		
51) C3-Phenanthrenes/Anthr...	29.917	220	1356764m	71.13		
52) C4-Phenanthrenes/Anthr...	30.679	234	933079m	48.92		
53) Naphthobenzothiophene	32.948	234	974987m	55.00		
54) C1-Naphthobenzothiophenes	34.384	248	876620m	49.46		
55) C2-Naphthobenzothiophenes	35.858	262	954662m	53.86		
56) C3-Naphthobenzothiophenes	37.217	276	695494m	39.24		
57) C4-Naphthobenzothiophenes	38.070	290	454955m	25.67		
58) Fluoranthene	28.913	202	5102410m	215.62		
59) Pyrene	29.675	202	3730910m	169.98		
60) 2-Methylfluoranthene	30.471	216	396948m	30.83		
61) Benzo(b)fluorene	31.060	216	406757m	30.66		
62) C1-Fluoranthenes/Pyrenes	31.511	216	2939395m	124.21		
63) C2-Fluoranthenes/Pyrenes	32.560	230	2403695m	101.58		
64) C3-Fluoranthenes/Pyrenes	33.996	244	1596187m	67.45		
65) C4-Fluoranthenes/Pyrenes	35.781	258	1160282m	49.03		
67) Benz(a)anthracene	33.763	228	2416382m	146.74		
68) Chrysene/Triphenylene	33.918	228	3670720m	163.04		
69) C1-Chrysenes	35.703	242	3159769m	140.34		
70) C2-Chrysenes	35.781	256	1690971m	75.11		
71) C3-Chrysenes	38.846	270	666160m	29.59		
72) C4-Chrysenes	39.390	284	465094m	20.66		
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	37.333	252	4827572m	329.38		
78) Benzo(k,j)fluoranthene	37.372	252	1862872m	121.36		
79) Benzo(a)fluoranthene	37.682	252	618526m	40.29		
80) Benzo(e)pyrene	38.342	252	2065046m	129.34		
81) Benzo(a)pyrene	38.497	252	1447704m	105.48		
82) Indeno(1,2,3-c,d)pyrene	43.325	276	1087034m	79.98		
83) Dibenzo(a,h)anthracene	43.362	278	265100m	24.77		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.837	276	863918m	74.86		
89) Perylene	38.846	252	5408320m	375.14		
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 : C:\msdchem\2\data\MS60140\
Data File : ARC1574.D
Acq On : 14 Aug 2013 11:06 pm
Operator : YM
Sample : SED-DA-028 (0-0.5)
Misc :
ALS Vial : 33 Sample Multiplier: 0.06658

Quant Time: Aug 18 09:53:26 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

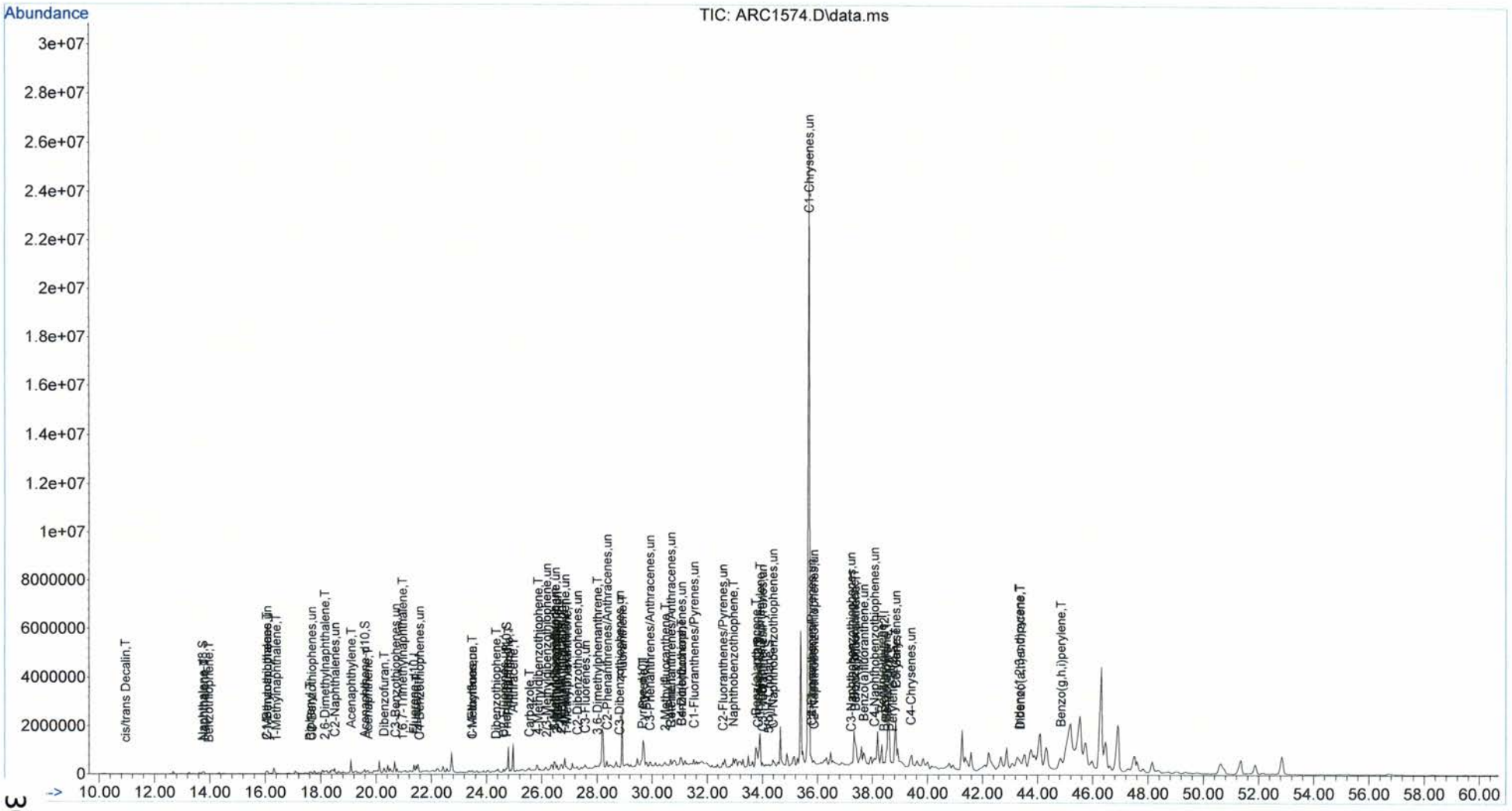
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1574.D
Acq On : 14 Aug 2013 11:06 pm
Operator : YM
Sample : SED-DA-028 (0-0.5)
Misc :
ALS Vial : 33 Sample Multiplier: 0.06658

Quant Time: Aug 18 09:53:26 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



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

Data File Name ARC1577.D
Data File Path C:\msdchem\2\data\MS60140\
Operator YM
Date Acquired 8/15/2013 0:15
Acq. Method File PAH-2012.M
Sample Name SED-DA-028 (0.5-1.0)
Misc Info 0
Instrument Name GCMS6
Vial Number 34
Sample Multiplier 0.06566
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ARC1577.D
SED-DA-028 (0.5-1.0)
8/15/2013
PAH-2012.M
15.22997259

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	81928	4.5528	5.9367
9)+10)	C1-Naphthalenes	16.21	65150	3.6205	4.7210
13)	C2-Naphthalenes	18.50	148864	8.2726	10.7871
14)	C3-Naphthalenes	20.06	215710	11.9873	15.6310
15)	C4-Naphthalenes	22.73	282290	15.6872	20.4556
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	19.08	108635	7.0456	9.1872
24)	Acenaphthene	19.70	18991	1.9248	2.5099
25)	Dibenzofuran	20.28	73632	4.7326	6.1711
26)	Fluorene	21.45	87832	7.0743	9.2246
28)	C1-Fluorenes	23.37	45239	3.6437	4.7513
29)	C2-Fluorenes	25.21	107102	8.6263	11.2484
30)	C3-Fluorenes	27.56	136510	10.9950	14.3371
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.96	153290	9.4124	12.2735
41)	Phenanthrene	24.79	407876	22.2210	28.9753
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.68	372196	20.2771	26.4407
50)	C2-Phenanthrenes/Anthracenes	28.19	399398	21.7591	28.3731
51)	C3-Phenanthrenes/Anthracenes	29.92	262639	14.3085	18.6578
52)	C4-Phenanthrenes/Anthracenes	30.68	256747	13.9875	18.2392
34)	Dibenzothiophene	24.34	54872	2.7644	3.6047
35)+36)+37)	C1-Dibenzothiophenes	26.16	78889	3.9744	5.1825
38)	C2-Dibenzothiophenes	27.60	121188	6.1054	7.9613
39)	C3-Dibenzothiophenes	28.77	178438	8.9897	11.7222
40)	C4-Dibenzothiophenes	30.19	154025	7.7598	10.1184
58)	Fluoranthene	28.88	887609	38.9758	50.8231
59)	Pyrene	29.68	866011	40.9994	53.4617
62)	C1-Fluoranthenes/Pyrenes	30.82	661936	29.0663	37.9014
63)	C2-Fluoranthenes/Pyrenes	32.56	537358	23.5960	30.7683
64)	C3-Fluoranthenes/Pyrenes	34.11	321174	14.1031	18.3899
65)	C4-Fluoranthenes/Pyrenes	35.66	321085	14.0992	18.3848
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.76	546643	34.4947	44.9799
68)	Chrysene/Triphenylene	33.88	688550	31.7789	41.4385
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.29	873285	48.1428	62.7764
78)	Benzo(k,j)fluoranthene	37.41	179929	9.4710	12.3498
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.30	367824	18.6142	24.2723
81)	Benzo(a)pyrene	38.46	217636	12.8124	16.7069
89)	Perylene	38.81	7517540	421.3218	549.3881
82)	Indeno(1,2,3-c,d)pyrene	43.18	188958	11.2339	14.6486
83)	Dibenzo(a,h)anthracene	43.25	69188	5.2226	6.8101
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	44.58	153820	10.7692	14.0427

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	46151	4.0594	5.2933
10)	1-Methylnaphthalene	16.38	18999	1.7925	2.3373
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	25.86	34020	2.9133	3.7989
36)	2/3-Methyldibenzothiophene	26.14	34454	2.9505	3.8473
37)	1-Methyldibenzothiophene	26.49	10415	0.8919	1.1630
43)	3-Methylphenanthrene	26.45	85828	6.2782	8.1865
44)	2-Methylphenanthrene	26.52	98810	7.2279	9.4249
45)	2-Methylanthracene	26.70	73224	5.3562	6.9843
46)	4/9-Methylphenanthrene	26.83	57603	4.2136	5.4944
47)	1-Methylphenanthrene	26.90	56731	4.1498	5.4112
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	13.73	211460	12.77	77.76
21)	Acenaphthene-d10	19.59	117936	13.38	81.48
32)	Phenanthrene-d10	24.69	221297	12.60	76.69
66)	Chrysene-d12	33.80	303601	17.27	105.16
88)	Perylene-d12	38.69	168025	10.87	66.23
90)	5(b)H-Cholane	34.23	47515	14.75	89.87
	Internal Standards				
1)	Fluorene-d10	21.37	149055	16.48	
31)	Pyrene-d10	29.61	293134	16.46	
73)	Benzo(a)pyrene-d12	38.38	203948	16.44	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1577.D
Acq On : 15 Aug 2013 12:15 am
Operator : YM
Sample : SED-DA-028 (0.5-1.0)
Misc :
ALS Vial : 34 Sample Multiplier: 0.06566

Quant Time: Aug 18 18:12:40 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.369	176	149055m	251.05		0.02
31) Pyrene-d10	29.606	212	293134m	250.63		0.00
73) Benzo(a)pyrene-d12	38.381	264	203948m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.733	136	211460m	12.77		0.02
21) Acenaphthene-d10	19.585	164	117936m	13.38		0.02
32) Phenanthrene-d10	24.687	188	221297m	12.60		0.00
66) Chrysene-d12	33.802	240	303601m	17.27		0.00
88) Perylene-d12	38.692	264	168025m	10.87		0.04
90) 5(b)H-Cholane	34.229	217	47515m	14.75		0.04
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.789	128	81928m	4.55		
9) 2-Methylnaphthalene	16.046	142	46151m	4.06		
10) 1-Methylnaphthalene	16.381	142	18999m	1.79		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.499	156	148864m	8.27		
14) C3-Naphthalenes	20.059	170	215710m	11.99		
15) C4-Naphthalenes	22.734	184	282290m	15.69		
16) Benzothiophene	0.000		0	N.D.	d	
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	0.000		0	N.D.	d	
23) Acenaphthylene	19.084	152	108635m	7.05		
24) Acenaphthene	19.697	154	18991m	1.92		
25) Dibenzofuran	20.282	168	73632m	4.73		
26) Fluorene	21.452	166	87832m	7.07		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.371	180	45239m	3.64		
29) C2-Fluorenes	25.207	194	107102m	8.63		
30) C3-Fluorenes	27.562	208	136510m	10.99		
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.341	184	54872m	2.76		
35) 4-Methyldibenzothiophene	25.865	198	34020m	2.91		
36) 2/3-Methyldibenzothiop...	26.142	198	34454m	2.95		
37) 1-Methyldibenzothiophene	26.488	198	10415m	0.89		
38) C2-Dibenzothiophenes	27.597	212	121188m	6.11		
39) C3-Dibenzothiophenes	28.774	226	178438m	8.99		
40) C4-Dibenzothiophenes	30.195	240	154025m	7.76		
41) Phenanthrene	24.791	178	407876m	22.22		
42) Anthracene	24.964	178	153290m	9.41		
43) 3-Methylphenanthrene	26.454	192	85828m	6.28		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1577.D
Acq On : 15 Aug 2013 12:15 am
Operator : YM
Sample : SED-DA-028 (0.5-1.0)
Misc :
ALS Vial : 34 Sample Multiplier: 0.06566

Quant Time: Aug 18 18:12:40 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.523	192	98810m	7.23		
45) 2-Methylanthracene	26.696	192	73224m	5.36		
46) 4/9-Methylphenanthrene	26.835	192	57603m	4.21		
47) 1-Methylphenanthrene	26.904	192	56731m	4.15		
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	399398m	21.76		
51) C3-Phenanthrenes/Anthr...	29.917	220	262639m	14.31		
52) C4-Phenanthrenes/Anthr...	30.680	234	256747m	13.99		
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.878	202	887609m	38.98		
59) Pyrene	29.675	202	866011m	41.00		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	30.818	216	661936m	29.07		
63) C2-Fluoranthenes/Pyrenes	32.560	230	537358m	23.60		
64) C3-Fluoranthenes/Pyrenes	34.112	244	321174m	14.10		
65) C4-Fluoranthenes/Pyrenes	35.665	258	321085m	14.10		
67) Benz(a)anthracene	33.763	228	546643m	34.49		
68) Chrysene/Triphenylene	33.880	228	688550m	31.78		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	37.295	252	873285m	48.14		
78) Benzo(k,j)fluoranthene	37.411	252	179929m	9.47		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.303	252	367824m	18.61		
81) Benzo(a)pyrene	38.459	252	217636m	12.81		
82) Indeno(1,2,3-c,d)pyrene	43.178	276	188958m	11.23		
83) Dibenzo(a,h)anthracene	43.252	278	69188m	5.22		
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	44.579	276	153820m	10.77		
89) Perylene	38.808	252	7517544m	421.32		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1577.D
Acq On : 15 Aug 2013 12:15 am
Operator : YM
Sample : SED-DA-028 (0.5-1.0)
Misc :
ALS Vial : 34 Sample Multiplier: 0.06566

Quant Time: Aug 18 18:12:40 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

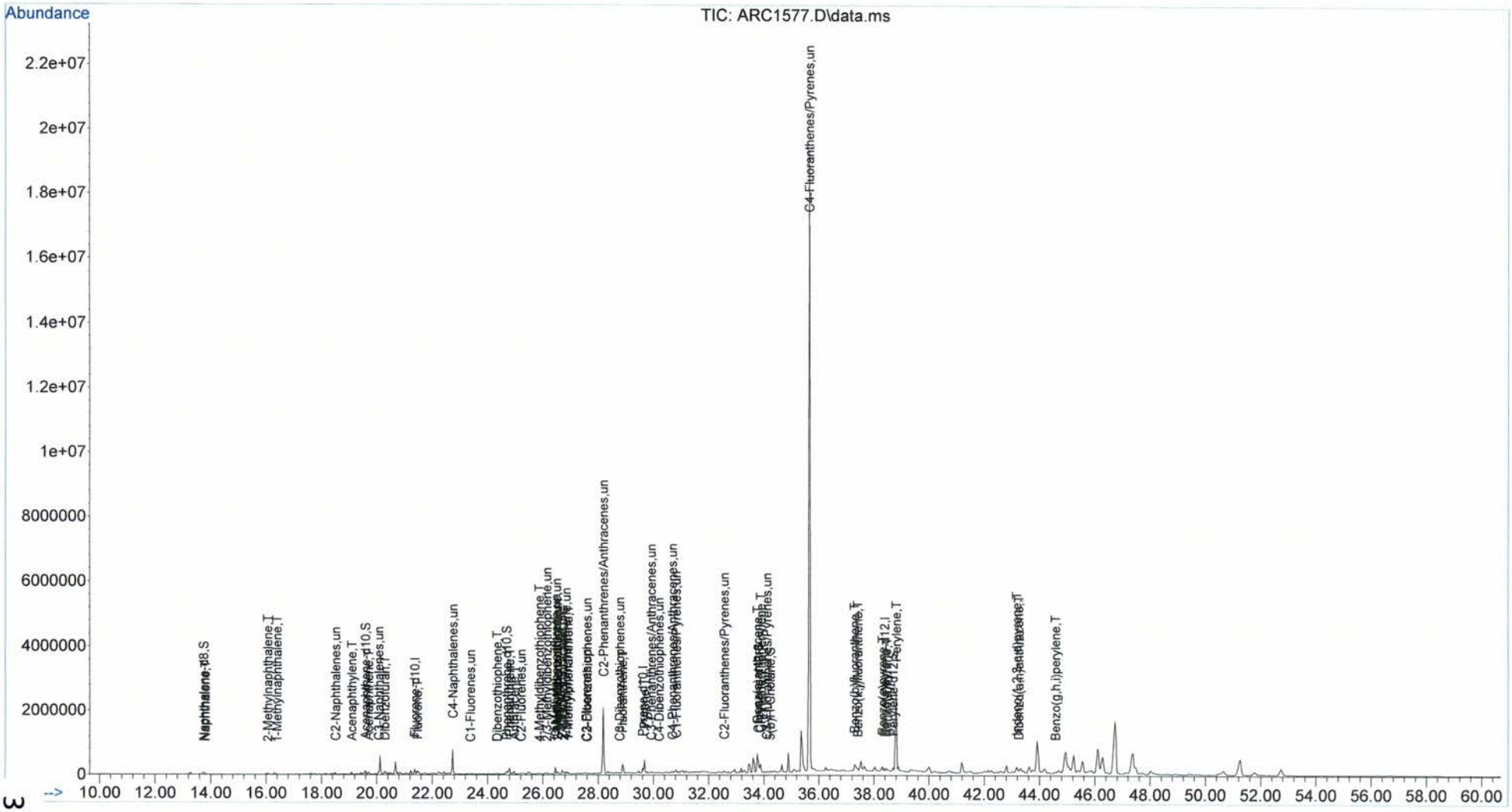
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1577.D
Acq On : 15 Aug 2013 12:15 am
Operator : YM
Sample : SED-DA-028 (0.5-1.0)
Misc :
ALS Vial : 34 Sample Multiplier: 0.06566

Quant Time: Aug 18 18:12:40 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



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

Data File Name ARC1578.D
Data File Path C:\msdchem\2\data\MS60140\
Operator YM
Date Acquired 8/15/2013 1:24
Acq. Method File PAH-2012.M
Sample Name SED-DA-028 (1.0-1.5)
Misc Info 0
Instrument Name GCMS6
Vial Number 35
Sample Multiplier 0.06596
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ARC1578.D
SED-DA-028 (1.0-1.5)
8/15/2013
PAH-2012.M
15.16070346

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	31031	1.7966	2.4250
9)+10)	C1-Naphthalenes	16.21	20844	1.2068	1.6289
13)	C2-Naphthalenes	18.50	44877	2.5982	3.5070
14)	C3-Naphthalenes	20.06	91424	5.2931	7.1445
15)	C4-Naphthalenes	0.00	0	0.0000	0.0000
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	19.08	8628	0.5830	0.7869
24)	Acenaphthene	19.70	4428	0.4676	0.6311
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.45	27010	2.2665	3.0593
28)	C1-Fluorenes	23.37	12341	1.0356	1.3978
29)	C2-Fluorenes	25.35	17996	1.5101	2.0383
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.96	15148	0.9112	1.2299
41)	Phenanthrene	24.79	105338	5.6220	7.5884
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.68	82538	4.4051	5.9459
50)	C2-Phenanthrenes/Anthracenes	28.19	88880	4.7436	6.4028
51)	C3-Phenanthrenes/Anthracenes	29.92	27891	1.4886	2.0092
52)	C4-Phenanthrenes/Anthracenes	30.68	38404	2.0497	2.7666
34)	Dibenzothiophene	24.34	14523	0.7168	0.9675
35)+36)+37)	C1-Dibenzothiophenes	26.17	11763	0.5806	0.7836
38)	C2-Dibenzothiophenes	27.60	11674	0.5762	0.7777
39)	C3-Dibenzothiophenes	28.77	18192	0.8979	1.2119
40)	C4-Dibenzothiophenes	29.61	21909	1.0813	1.4595
58)	Fluoranthene	28.88	66197	2.8476	3.8436
59)	Pyrene	29.68	59579	2.7632	3.7297
62)	C1-Fluoranthenes/Pyrenes	30.82	46214	1.9880	2.6834
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.76	31747	1.9626	2.6490
68)	Chrysene/Triphenylene	33.88	59910	2.7088	3.6562
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.29	69564	3.2282	4.3573
78)	Benzo(k,j)fluoranthene	37.33	21421	0.9492	1.2811
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	0.00	0	0.0000	0.0000
81)	Benzo(a)pyrene	0.00	0	0.0000	0.0000
89)	Perylene	38.77	5415070	255.4710	344.8280
82)	Indeno(1,2,3-c,d)pyrene	0.00	0	0.0000	0.0000
83)	Dibenzo(a,h)anthracene	0.00	0	0.0000	0.0000
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	0.00	0	0.0000	0.0000

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	14529	1.3314	1.7971
10)	1-Methylnaphthalene	16.38	6315	0.6207	0.8378
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	25.87	5210	0.4371	0.5900
36)	2/3-Methyldibenzothiophene	26.14	5227	0.4385	0.5919
37)	1-Methyldibenzothiophene	26.49	1326	0.1112	0.1502
43)	3-Methylphenanthrene	26.45	12985	0.9305	1.2560
44)	2-Methylphenanthrene	26.52	16768	1.2016	1.6219
45)	2-Methylanthracene	26.70	38324	2.7463	3.7069
46)	4/9-Methylphenanthrene	26.80	6507	0.4663	0.6294
47)	1-Methylphenanthrene	26.90	7954	0.5700	0.7693
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	13.73	197687	12.44	75.39
21)	Acenaphthene-d10	19.59	113957	13.47	81.66
32)	Phenanthrene-d10	24.69	219225	12.23	74.09
66)	Chrysene-d12	33.80	336761	18.76	113.76
88)	Perylene-d12	38.69	163908	8.93	54.14
90)	5(b)H-Cholane	34.23	60586	15.83	96.02
	Internal Standards				
1)	Fluorene-d10	21.37	143722	16.56	
31)	Pyrene-d10	29.61	300591	16.53	
73)	Benzo(a)pyrene-d12	38.38	243388	16.51	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1578.D
Acq On : 15 Aug 2013 1:24 am
Operator : YM
Sample : SED-DA-028 (1.0-1.5)
Misc :
ALS Vial : 35 Sample Multiplier: 0.06596

Quant Time: Aug 18 18:21:24 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.369	176	143722m	251.05		0.02
31) Pyrene-d10	29.606	212	300591m	250.63		0.00
73) Benzo(a)pyrene-d12	38.381	264	243388m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.734	136	197687m	12.44		0.02
21) Acenaphthene-d10	19.586	164	113957m	13.47		0.02
32) Phenanthrene-d10	24.687	188	219225m	12.23		0.00
66) Chrysene-d12	33.802	240	336761m	18.76		0.00
88) Perylene-d12	38.692	264	163908m	8.93		0.04
90) 5(b)H-Cholane	34.229	217	60586m	15.83		0.04
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.789	128	31031m	1.80		
9) 2-Methylnaphthalene	16.047	142	14529m	1.33		
10) 1-Methylnaphthalene	16.381	142	6315m	0.62		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.499	156	44877m	2.60		
14) C3-Naphthalenes	20.059	170	91424m	5.29		
15) C4-Naphthalenes	0.000		0	N.D.	d	
16) Benzothiophene	0.000		0	N.D.	d	
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	0.000		0	N.D.	d	
23) Acenaphthylene	19.084	152	8628m	0.58		
24) Acenaphthene	19.697	154	4428m	0.47		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.453	166	27010m	2.27		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.371	180	12341m	1.04		
29) C2-Fluorenes	25.345	194	17996m	1.51		
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.341	184	14523m	0.72		
35) 4-Methyldibenzothiophene	25.865	198	5210m	0.44		
36) 2/3-Methyldibenzothiop...	26.142	198	5227m	0.44		
37) 1-Methyldibenzothiophene	26.489	198	1326m	0.11		
38) C2-Dibenzothiophenes	27.597	212	11674m	0.58		
39) C3-Dibenzothiophenes	28.775	226	18192m	0.90		
40) C4-Dibenzothiophenes	29.606	240	21909m	1.08		
41) Phenanthrene	24.791	178	105338m	5.62		
42) Anthracene	24.964	178	15148m	0.91		
43) 3-Methylphenanthrene	26.454	192	12985m	0.93		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1578.D
Acq On : 15 Aug 2013 1:24 am
Operator : YM
Sample : SED-DA-028 (1.0-1.5)
Misc :
ALS Vial : 35 Sample Multiplier: 0.06596

Quant Time: Aug 18 18:21:24 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.523	192	16768m	1.20		
45) 2-Methylanthracene	26.696	192	38324m	2.75		
46) 4/9-Methylphenanthrene	26.800	192	6507m	0.47		
47) 1-Methylphenanthrene	26.904	192	7954m	0.57		
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	88880m	4.74		
51) C3-Phenanthrenes/Anthr...	29.918	220	27891m	1.49		
52) C4-Phenanthrenes/Anthr...	30.680	234	38404m	2.05		
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.879	202	66197m	2.85		
59) Pyrene	29.675	202	59579m	2.76		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	30.818	216	46214m	1.99		
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.763	228	31747m	1.96		
68) Chrysene/Triphenylene	33.880	228	59910m	2.71		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	37.295	252	69564m	3.23		
78) Benzo(k,j)fluoranthene	37.334	252	21421m	0.95		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	0.000		0	N.D.	d	
81) Benzo(a)pyrene	0.000		0	N.D.	d	
82) Indeno(1,2,3-c,d)pyrene	0.000		0	N.D.	d	
83) Dibenzo(a,h)anthracene	0.000		0	N.D.	d	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	0.000		0	N.D.	d	
89) Perylene	38.769	252	5415065m	255.47		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1578.D
Acq On : 15 Aug 2013 1:24 am
Operator : YM
Sample : SED-DA-028 (1.0-1.5)
Misc :
ALS Vial : 35 Sample Multiplier: 0.06596

Quant Time: Aug 18 18:21:24 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

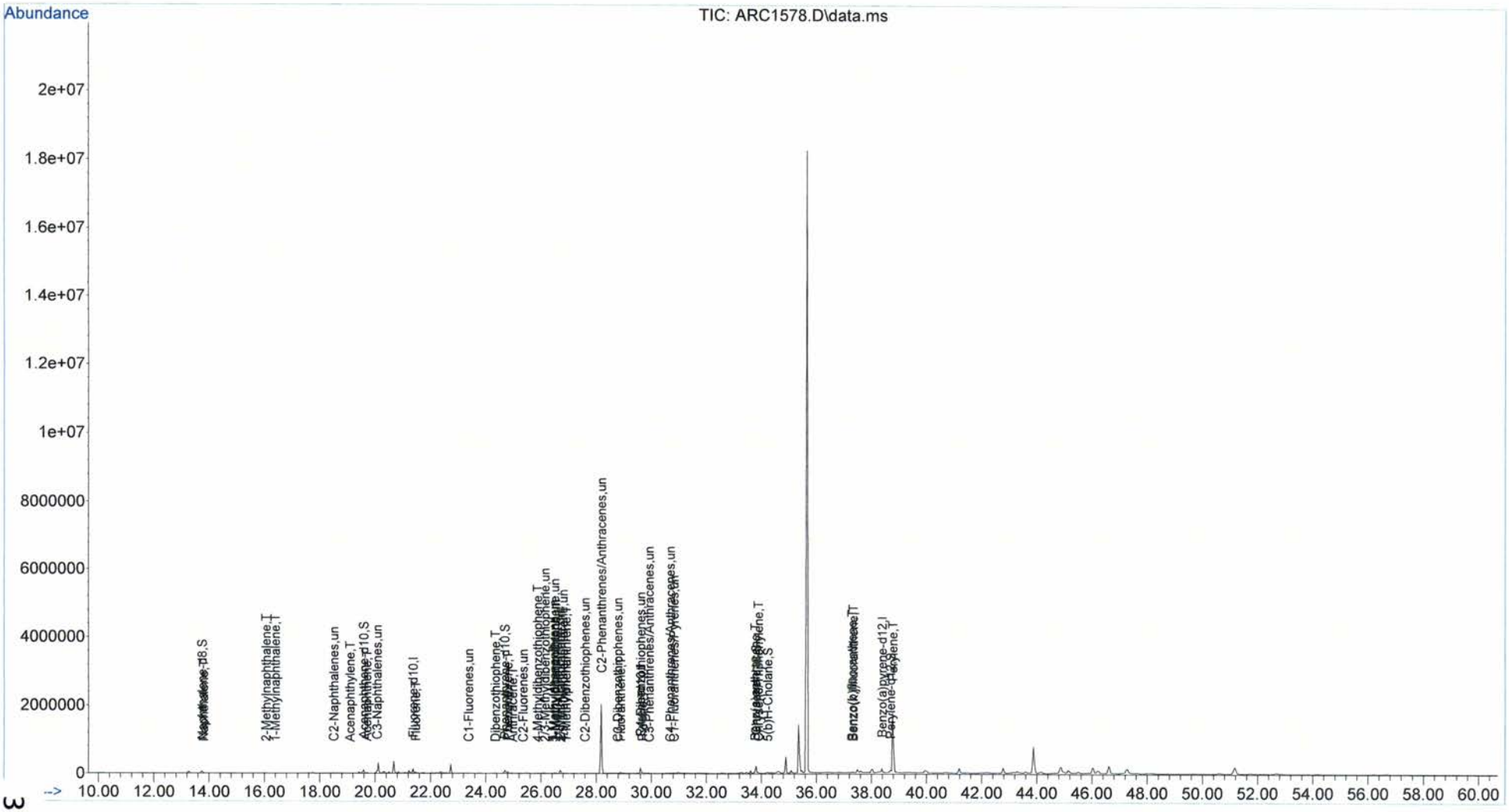
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1578.D
Acq On : 15 Aug 2013 1:24 am
Operator : YM
Sample : SED-DA-028 (1.0-1.5)
Misc :
ALS Vial : 35 Sample Multiplier: 0.06596

Quant Time: Aug 18 18:21:24 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



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

Data File Name ARC1579.D
Data File Path C:\msdchem\2\data\MS60140\
Operator YM
Date Acquired 8/15/2013 2:34
Acq. Method File PAH-2012.M
Sample Name SED-DA-027 (0-0.5)
Misc Info 0
Instrument Name GCMS6
Vial Number 36
Sample Multiplier 0.06658
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ARC1579.D
SED-DA-027 (0-0.5)
8/15/2013
PAH-2012.M
15.01952538

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	10.95	55643	19.0055	23.5617
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	60888	3.3191	4.1148
9)+10)	C1-Naphthalenes	16.20	51016	2.7809	3.4476
13)	C2-Naphthalenes	18.50	134740	7.3448	9.1056
14)	C3-Naphthalenes	20.06	242036	13.1936	16.3566
15)	C4-Naphthalenes	22.74	159619	8.7010	10.7869
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	17.61	26595	1.8073	2.2406
23)	Acenaphthylene	19.09	44074	2.8039	3.4761
24)	Acenaphthene	19.67	12704	1.2630	1.5658
25)	Dibenzofuran	20.28	45122	2.8448	3.5268
26)	Fluorene	21.46	58120	4.5919	5.6927
28)	C1-Fluorenes	23.37	51572	4.0745	5.0513
29)	C2-Fluorenes	25.52	148779	11.7546	14.5725
30)	C3-Fluorenes	26.49	151194	11.9454	14.8091
33)	Carbazole	25.52	31761	1.9965	2.4751
42)	Anthracene	24.96	87095	5.3628	6.6485
41)	Phenanthrene	24.79	305394	16.6843	20.6841
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.70	296144	16.1790	20.0576
50)	C2-Phenanthrenes/Anthracenes	28.36	362678	19.8139	24.5639
51)	C3-Phenanthrenes/Anthracenes	30.68	462115	25.2463	31.2987
52)	C4-Phenanthrenes/Anthracenes	30.68	499793	27.3048	33.8506
34)	Dibenzothiophene	24.34	56925	2.8759	3.5653
35)+36)+37)	C1-Dibenzothiophenes	26.16	91816	4.6386	5.7506
38)	C2-Dibenzothiophenes	27.60	175789	8.8810	11.0100
39)	C3-Dibenzothiophenes	28.77	230270	11.6334	14.4223
40)	C4-Dibenzothiophenes	30.64	310094	15.6662	19.4219
58)	Fluoranthene	28.91	379621	16.7162	20.7236
59)	Pyrene	29.67	368472	17.4933	21.6870
62)	C1-Fluoranthenes/Pyrenes	30.82	284700	12.5365	15.5419
63)	C2-Fluoranthenes/Pyrenes	32.17	519759	22.8870	28.3738
64)	C3-Fluoranthenes/Pyrenes	34.15	286871	12.6320	15.6603
65)	C4-Fluoranthenes/Pyrenes	36.25	318183	14.0108	17.3697
53)	Naphthobenzothiophene	32.95	159308	9.3652	11.6103
54)	C1-Naphthobenzothiophenes	34.11	333817	19.6241	24.3286
55)	C2-Naphthobenzothiophenes	35.39	528205	31.0516	38.4956
56)	C3-Naphthobenzothiophenes	36.91	508419	29.8884	37.0536
57)	C4-Naphthobenzothiophenes	38.07	291400	17.1306	21.2373
67)	Benz(a)anthracene	33.76	164438	10.4055	12.9001
68)	Chrysene/Triphenylene	33.88	258373	11.9582	14.8249
69)	C1-Chrysenes	35.66	734957	34.0157	42.1703
70)	C2-Chrysenes	36.25	434485	20.1091	24.9299
71)	C3-Chrysenes	38.81	262793	12.1627	15.0785
72)	C4-Chrysenes	39.35	224475	10.3893	12.8799
77)	Benzo(b)fluoranthene	37.33	362517	20.2834	25.1460
78)	Benzo(k,j)fluoranthene	37.41	91645	4.8960	6.0697
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.30	146217	7.5100	9.3104
81)	Benzo(a)pyrene	38.50	96083	5.7410	7.1173
89)	Perylene	38.81	4139070	235.4389	291.8811
82)	Indeno(1,2,3-c,d)pyrene	43.21	138031	8.3287	10.3253
83)	Dibenzo(a,h)anthracene	43.36	298920	22.9007	28.3907
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	44.73	191418	13.6016	16.8624

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	36350	3.1363	3.8882
10)	1-Methylnaphthalene	16.36	14666	1.3573	1.6827
11)	2,6-Dimethylnaphthalene	18.14	33957	3.4531	4.2809
12)	1,6,7-Trimethylnaphthalene	21.04	16952	1.7969	2.2277
27)	1-Methylfluorene	23.47	12798	1.8403	2.2814
35)	4-Methyldibenzothiophene	25.86	41768	3.5869	4.4467
36)	2/3-Methyldibenzothiophene	26.14	38534	3.3091	4.1024
37)	1-Methyldibenzothiophene	26.49	11514	0.9888	1.2258
43)	3-Methylphenanthrene	26.45	68940	5.0570	6.2693
44)	2-Methylphenanthrene	26.56	58397	4.2836	5.3105
45)	2-Methylanthracene	26.73	85113	6.2433	7.7401
46)	4/9-Methylphenanthrene	26.83	42462	3.1147	3.8614
47)	1-Methylphenanthrene	26.90	41232	3.0245	3.7496
48)	3,6-Dimethylphenanthrene	28.01	17975	1.3004	1.6121
49)	Retene	30.68	252004	49.1557	60.9399
60)	2-Methylfluoranthene	30.44	27721	2.2435	2.7813
61)	Benzo(b)fluorene	31.06	50514	3.9675	4.9186
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.74	246820	14.62	87.80
21)	Acenaphthene-d10	19.59	124368	13.85	83.13
32)	Phenanthrene-d10	24.69	235365	13.44	80.66
66)	Chrysene-d12	33.80	321864	18.36	110.26
88)	Perylene-d12	38.69	164943	10.83	65.08
90)	5(b)H-Cholane	34.23	65456	20.63	123.91
	Internal Standards				
1)	Fluorene-d10	21.37	154083	16.71	
31)	Pyrene-d10	29.61	296412	16.69	
73)	Benzo(a)pyrene-d12	38.38	203763	16.67	

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1579.D
Acq On : 15 Aug 2013 2:34 am
Operator : YM
Sample : SED-DA-027 (0-0.5)
Misc :
ALS Vial : 36 Sample Multiplier: 0.06658

Quant Time: Aug 18 19:17:06 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.371	176	154083m	251.05		0.03
31) Pyrene-d10	29.606	212	296412m	250.63		0.00
73) Benzo(a)pyrene-d12	38.381	264	203763m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.736	136	246820m	14.62		0.03
21) Acenaphthene-d10	19.588	164	124368m	13.85		0.03
32) Phenanthrene-d10	24.687	188	235365m	13.44		0.00
66) Chrysene-d12	33.802	240	321864m	18.36		0.00
88) Perylene-d12	38.691	264	164943m	10.83		0.04
90) 5(b)H-Cholane	34.229	217	65456m	20.63		0.04
Target Compounds						Qvalue
3) cis/trans Decalin	10.950	138	55643m	19.01		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.792	128	60888m	3.32		
9) 2-Methylnaphthalene	16.049	142	36350m	3.14		
10) 1-Methylnaphthalene	16.356	142	14666m	1.36		
11) 2,6-Dimethylnaphthalene	18.139	156	33957m	3.45		
12) 1,6,7-Trimethylnaphtha...	21.037	170	16952m	1.80		
13) C2-Naphthalenes	18.501	156	134740m	7.34		
14) C3-Naphthalenes	20.062	170	242036m	13.19		
15) C4-Naphthalenes	22.737	184	159619m	8.70		
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	17.610	154	26595m	1.81		
23) Acenaphthylene	19.086	152	44074m	2.80		
24) Acenaphthene	19.672	154	12704m	1.26		
25) Dibenzofuran	20.285	168	45122m	2.84		
26) Fluorene	21.455	166	58120m	4.59		
27) 1-Methylfluorene	23.474	180	12798m	1.84		
28) C1-Fluorenes	23.370	180	51572m	4.07		
29) C2-Fluorenes	25.518	194	148779m	11.75		
30) C3-Fluorenes	26.488	208	151194m	11.95		
33) Carbazole	25.518	167	31761m	2.00		
34) Dibenzothiophene	24.340	184	56925m	2.88		
35) 4-Methyldibenzothiophene	25.865	198	41768m	3.59		
36) 2/3-Methyldibenzothiop...	26.142	198	38534m	3.31		
37) 1-Methyldibenzothiophene	26.488	198	11514m	0.99		
38) C2-Dibenzothiophenes	27.596	212	175789m	8.88		
39) C3-Dibenzothiophenes	28.774	226	230270m	11.63		
40) C4-Dibenzothiophenes	30.645	240	310094m	15.67		
41) Phenanthrene	24.791	178	305394m	16.68		
42) Anthracene	24.964	178	87095m	5.36		
43) 3-Methylphenanthrene	26.453	192	68940m	5.06		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1579.D
Acq On : 15 Aug 2013 2:34 am
Operator : YM
Sample : SED-DA-027 (0-0.5)
Misc :
ALS Vial : 36 Sample Multiplier: 0.06658

Quant Time: Aug 18 19:17:06 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.557	192	58397m	4.28		
45) 2-Methylanthracene	26.730	192	85113m	6.24		
46) 4/9-Methylphenanthrene	26.834	192	42462m	3.11		
47) 1-Methylphenanthrene	26.904	192	41232m	3.02		
48) 3,6-Dimethylphenanthrene	28.012	206	17975m	1.30		
49) Retene	30.679	234	252004m	49.16		
50) C2-Phenanthrenes/Anthr...	28.359	206	362678m	19.81		
51) C3-Phenanthrenes/Anthr...	30.679	220	462115m	25.25		
52) C4-Phenanthrenes/Anthr...	30.679	234	499793m	27.30		
53) Naphthobenzothiophene	32.948	234	159308m	9.37		
54) C1-Naphthobenzothiophenes	34.112	248	333817m	19.62		
55) C2-Naphthobenzothiophenes	35.393	262	528205m	31.05		
56) C3-Naphthobenzothiophenes	36.906	276	508419m	29.89		
57) C4-Naphthobenzothiophenes	38.070	290	291400m	17.13		
58) Fluoranthene	28.913	202	379621m	16.72		
59) Pyrene	29.675	202	368472m	17.49		
60) 2-Methylfluoranthene	30.437	216	27721m	2.24		
61) Benzo(b)fluorene	31.060	216	50514m	3.97		
62) C1-Fluoranthenes/Pyrenes	30.818	216	284700m	12.54		
63) C2-Fluoranthenes/Pyrenes	32.172	230	519759m	22.89		
64) C3-Fluoranthenes/Pyrenes	34.151	244	286871m	12.63		
65) C4-Fluoranthenes/Pyrenes	36.247	258	318183m	14.01		
67) Benz(a)anthracene	33.763	228	164438m	10.41		
68) Chrysene/Triphenylene	33.879	228	258373m	11.96		
69) C1-Chrysenes	35.664	242	734957m	34.02		
70) C2-Chrysenes	36.247	256	434485m	20.11		
71) C3-Chrysenes	38.808	270	262793m	12.16		
72) C4-Chrysenes	39.351	284	224475m	10.39		
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	37.333	252	362517m	20.28		
78) Benzo(k,j)fluoranthene	37.411	252	91645m	4.90		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.303	252	146217m	7.51		
81) Benzo(a)pyrene	38.497	252	96083m	5.74		
82) Indeno(1,2,3-c,d)pyrene	43.214	276	138031m	8.33		
83) Dibenzo(a,h)anthracene	43.362	278	298920m	22.90		
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	44.726	276	191418m	13.60		
89) Perylene	38.808	252	4139074m	235.44		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1579.D
Acq On : 15 Aug 2013 2:34 am
Operator : YM
Sample : SED-DA-027 (0-0.5)
Misc :
ALS Vial : 36 Sample Multiplier: 0.06658

Quant Time: Aug 18 19:17:06 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

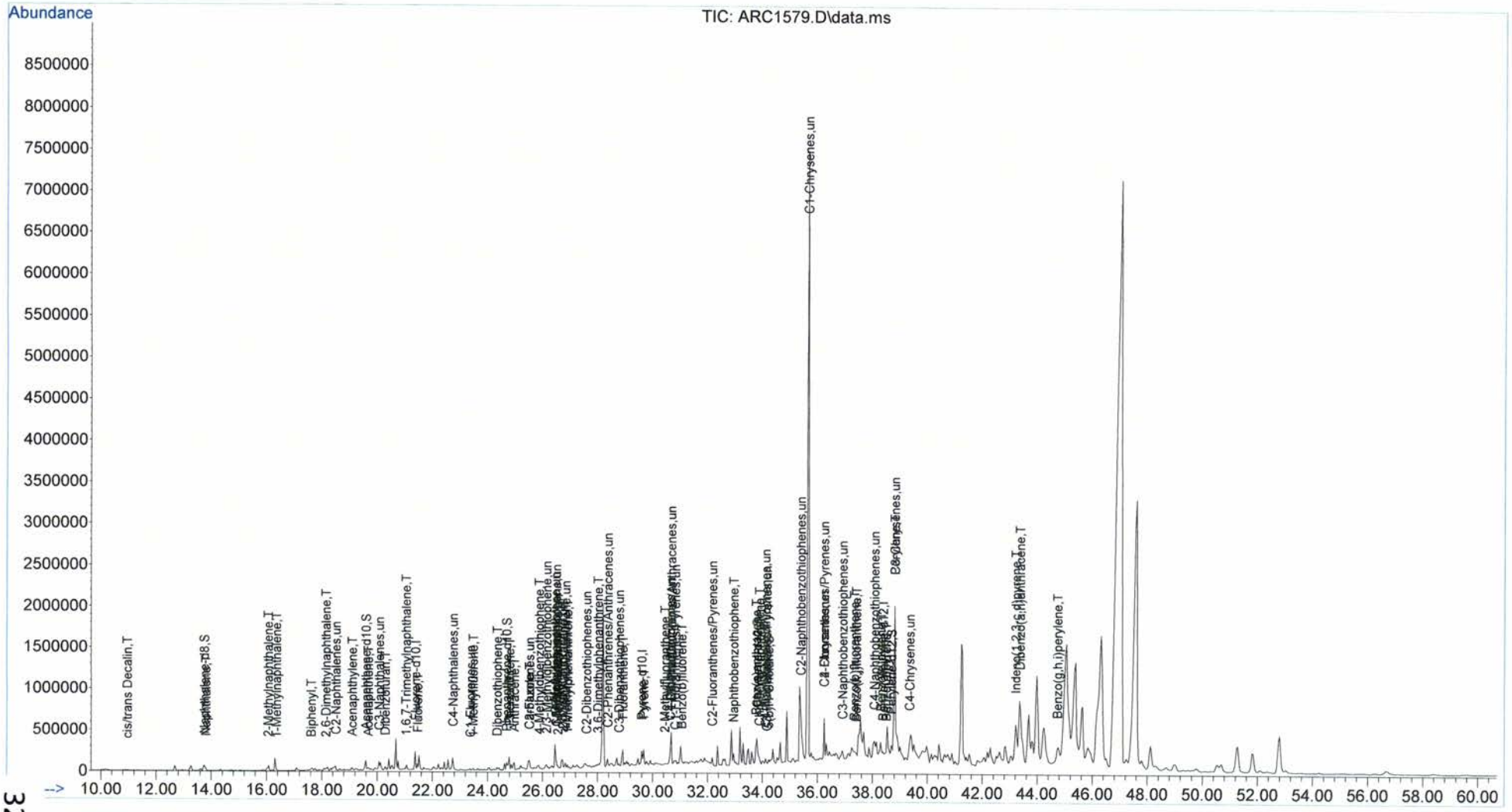
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1579.D
Acq On : 15 Aug 2013 2:34 am
Operator : YM
Sample : SED-DA-027 (0-0.5)
Misc :
ALS Vial : 36 Sample Multiplier: 0.06658

Quant Time: Aug 18 19:17:06 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



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

Data File Name ARC1580.D
Data File Path C:\msdchem\2\data\MS60140\
Operator YM
Date Acquired 8/15/2013 3:43
Acq. Method File PAH-2012.M
Sample Name SED-DA-027 (0.5-1.0)
Misc Info 0
Instrument Name GCMS6
Vial Number 37
Sample Multiplier 0.06658
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ARC1580.D
SED-DA-027 (0.5-1.0)
8/15/2013
PAH-2012.M
15.01952538

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	120163	6.7129	8.1584
9)+10)	C1-Naphthalenes	16.21	120164	6.7129	8.1585
13)	C2-Naphthalenes	18.50	305803	17.0836	20.7623
14)	C3-Naphthalenes	20.42	377666	21.0981	25.6413
15)	C4-Naphthalenes	22.73	335501	18.7426	22.7786
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	19.08	63395	4.1332	5.0233
24)	Acenaphthene	19.70	14926	1.5208	1.8483
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.45	172049	13.9306	16.9304
28)	C1-Fluorenes	23.37	106583	8.6299	10.4882
29)	C2-Fluorenes	24.96	283686	22.9696	27.9158
30)	C3-Fluorenes	27.56	409330	33.1429	40.2797
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.96	150091	10.1913	12.3858
41)	Phenanthrene	24.79	644472	38.8261	47.1868
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.70	636955	38.3733	46.6364
50)	C2-Phenanthrenes/Anthracenes	28.36	959522	57.8062	70.2540
51)	C3-Phenanthrenes/Anthracenes	29.92	1269140	76.4591	92.9236
52)	C4-Phenanthrenes/Anthracenes	30.68	984138	59.2892	72.0563
34)	Dibenzothiophene	24.34	118246	6.5876	8.0062
35)+36)+37)	C1-Dibenzothiophenes	26.17	248263	13.8310	16.8093
38)	C2-Dibenzothiophenes	27.60	577759	32.1876	39.1187
39)	C3-Dibenzothiophenes	29.09	978422	54.5089	66.2467
40)	C4-Dibenzothiophenes	30.85	1128900	62.8921	76.4350
58)	Fluoranthene	28.91	719092	34.9175	42.4365
59)	Pyrene	29.68	578564	30.2894	36.8118
62)	C1-Fluoranthenes/Pyrenes	31.51	663107	32.1990	39.1326
63)	C2-Fluoranthenes/Pyrenes	32.21	1660100	80.6104	97.9688
64)	C3-Fluoranthenes/Pyrenes	34.15	772653	37.5183	45.5973
65)	C4-Fluoranthenes/Pyrenes	35.78	977154	47.4484	57.6658
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.76	232358	16.2140	19.7055
68)	Chrysene/Triphenylene	33.92	452151	23.0766	28.0459
69)	C1-Chrysenes	35.59	1630840	83.2337	101.1569
70)	C2-Chrysenes	36.32	1248390	63.7145	77.4346
71)	C3-Chrysenes	37.53	859392	43.8611	53.3060
72)	C4-Chrysenes	39.39	464626	23.7133	28.8196
77)	Benzo(b)fluoranthene	37.33	658318	54.6124	66.3725
78)	Benzo(k,j)fluoranthene	37.37	191072	15.1347	18.3938
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.34	301410	22.9532	27.8958
81)	Benzo(a)pyrene	38.50	124815	11.0573	13.4383
89)	Perylene	38.81	3644370	307.3553	373.5400
82)	Indeno(1,2,3-c,d)pyrene	43.25	124248	11.1157	13.5093
83)	Dibenzo(a,h)anthracene	43.40	353808	40.1888	48.8429
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	44.76	284292	29.9513	36.4010

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	85682	7.5763	9.2077
10)	1-Methylnaphthalene	16.38	34482	3.2704	3.9746
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	25.86	109819	10.3997	12.6391
36)	2/3-Methyldibenzothiophene	26.14	105076	9.9505	12.0932
37)	1-Methyldibenzothiophene	26.49	33368	3.1599	3.8403
43)	3-Methylphenanthrene	26.45	155833	12.6053	15.3196
44)	2-Methylphenanthrene	26.56	149156	12.0652	14.6632
45)	2-Methylanthracene	26.73	138496	11.2029	13.6153
46)	4/9-Methylphenanthrene	26.83	105739	8.5531	10.3949
47)	1-Methylphenanthrene	26.90	87731	7.0965	8.6246
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	13.73	246760	14.98	89.96
21)	Acenaphthene-d10	19.59	120011	13.69	82.20
32)	Phenanthrene-d10	24.72	217722	13.71	82.28
66)	Chrysene-d12	33.84	220870	13.89	83.43
88)	Perylene-d12	38.73	131709	12.83	77.04
90)	5(b)H-Cholane	34.23	105341	49.21	295.67
	Internal Standards				
1)	Fluorene-d10	21.37	150350	16.71	
31)	Pyrene-d10	29.64	268797	16.69	
73)	Benzo(a)pyrene-d12	38.42	137430	16.67	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1580.D
Acq On : 15 Aug 2013 3:43 am
Operator : YM
Sample : SED-DA-027 (0.5-1.0)
Misc :
ALS Vial : 37 Sample Multiplier: 0.06658

Quant Time: Aug 18 19:28:02 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.368	176	150350m	251.05		0.02
31) Pyrene-d10	29.640	212	268797m	250.63		0.03
73) Benzo(a)pyrene-d12	38.420	264	137430m	250.32		0.08
System Monitoring Compounds						
2) Naphthalene-d8	13.733	136	246760m	14.98		0.02
21) Acenaphthene-d10	19.585	164	120011m	13.69		0.02
32) Phenanthrene-d10	24.722	188	217722m	13.71		0.03
66) Chrysene-d12	33.840	240	220870m	13.89		0.04
88) Perylene-d12	38.730	264	131709m	12.83		0.08
90) 5(b)H-Cholane	34.229	217	105341m	49.21		0.04
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.789	128	120163m	6.71		
9) 2-Methylnaphthalene	16.046	142	85682m	7.58		
10) 1-Methylnaphthalene	16.380	142	34482m	3.27		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.498	156	305803m	17.08		
14) C3-Naphthalenes	20.421	170	377666m	21.10		
15) C4-Naphthalenes	22.734	184	335501m	18.74		
16) Benzothiophene	0.000		0	N.D.	d	
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	0.000		0	N.D.	d	
23) Acenaphthylene	19.083	152	63395m	4.13		
24) Acenaphthene	19.696	154	14926m	1.52		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.452	166	172049m	13.93		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.371	180	106583m	8.63		
29) C2-Fluorenes	24.964	194	283686m	22.97		
30) C3-Fluorenes	27.562	208	409330m	33.14		
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.341	184	118246m	6.59		
35) 4-Methyldibenzothiophene	25.865	198	109819m	10.40		
36) 2/3-Methyldibenzothiop...	26.142	198	105076m	9.95		
37) 1-Methyldibenzothiophene	26.488	198	33368m	3.16		
38) C2-Dibenzothiophenes	27.597	212	577759m	32.19		
39) C3-Dibenzothiophenes	29.086	226	978422m	54.51		
40) C4-Dibenzothiophenes	30.853	240	1128898m	62.89		
41) Phenanthrene	24.791	178	644472m	38.83		
42) Anthracene	24.964	178	150091m	10.19		
43) 3-Methylphenanthrene	26.454	192	155833m	12.61		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1580.D
Acq On : 15 Aug 2013 3:43 am
Operator : YM
Sample : SED-DA-027 (0.5-1.0)
Misc :
ALS Vial : 37 Sample Multiplier: 0.06658

Quant Time: Aug 18 19:28:02 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.558	192	149156m	12.07		
45) 2-Methylanthracene	26.731	192	138496m	11.20		
46) 4/9-Methylphenanthrene	26.835	192	105739m	8.55		
47) 1-Methylphenanthrene	26.904	192	87731m	7.10		
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	959522m	57.81		
51) C3-Phenanthrenes/Anthr...	29.918	220	1269142m	76.46		
52) C4-Phenanthrenes/Anthr...	30.680	234	984138m	59.29		
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.913	202	719092m	34.92		
59) Pyrene	29.675	202	578564m	30.29		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	31.511	216	663107m	32.20		
63) C2-Fluoranthenes/Pyrenes	32.211	230	1660095m	80.61		
64) C3-Fluoranthenes/Pyrenes	34.151	244	772653m	37.52		
65) C4-Fluoranthenes/Pyrenes	35.781	258	977154m	47.45		
67) Benz(a)anthracene	33.763	228	232358m	16.21		
68) Chrysene/Triphenylene	33.918	228	452151m	23.08		
69) C1-Chrysenes	35.587	242	1630836m	83.23		
70) C2-Chrysenes	36.324	256	1248389m	63.71		
71) C3-Chrysenes	37.527	270	859392m	43.86		
72) C4-Chrysenes	39.390	284	464626m	23.71		
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	37.333	252	658318m	54.61		
78) Benzo(k,j)fluoranthene	37.372	252	191072m	15.13		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.342	252	301410m	22.95		
81) Benzo(a)pyrene	38.497	252	124815m	11.06		
82) Indeno(1,2,3-c,d)pyrene	43.251	276	124248m	11.12		
83) Dibenzo(a,h)anthracene	43.399	278	353808m	40.19		
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	44.763	276	284292m	29.95		
89) Perylene	38.808	252	3644368m	307.36		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1580.D
Acq On : 15 Aug 2013 3:43 am
Operator : YM
Sample : SED-DA-027 (0.5-1.0)
Misc :
ALS Vial : 37 Sample Multiplier: 0.06658

Quant Time: Aug 18 19:28:02 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

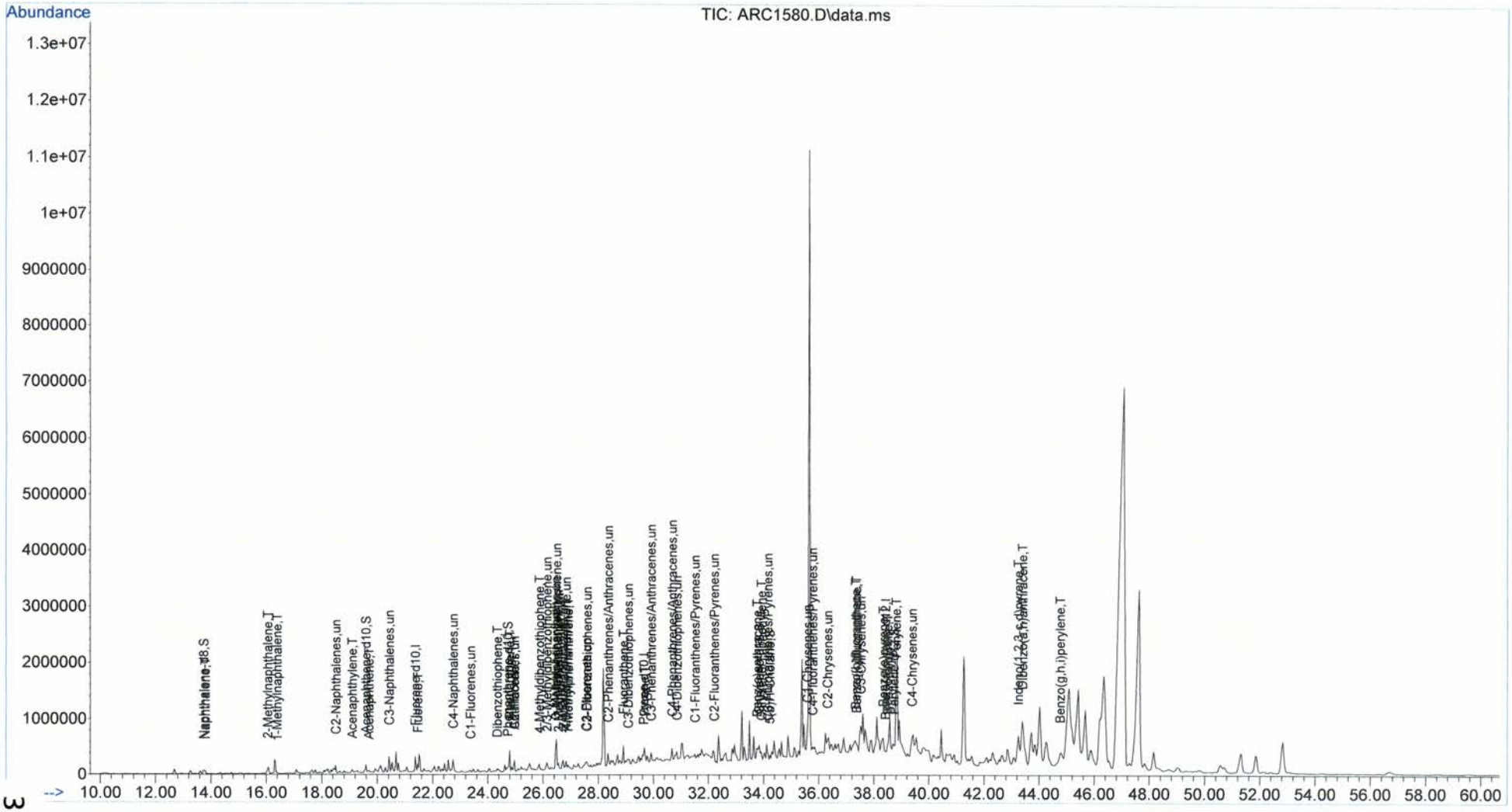
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS60140\
Data File : ARC1580.D
Acq On : 15 Aug 2013 3:43 am
Operator : YM
Sample : SED-DA-027 (0.5-1.0)
Misc :
ALS Vial : 37 Sample Multiplier: 0.06658

Quant Time: Aug 18 19:28:02 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



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

TPH/Aliphatic
ICAL
FID1C08BACK081213.M

GC/FID-1 BACK

Calibration Status Report HP5890

Method Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Method File : FID1C08BACK081213.M
Title : C8 - C40 aliphatic
Last Update : Mon Aug 12 14:55:52 2013
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	1	1	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID10073C.D
2	2	10	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID10073D.D
3	3	25	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID10073E.D
4	4	40	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID10073F.D
5	5	50	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID10073G.D
6	6	100	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID10073H.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1	Aug 12 14:22 2013	Aug 12 14:22 2013	09-Aug-2013, 22:41:20
2	2	Aug 12 14:27 2013	Aug 12 14:27 2013	09-Aug-2013, 23:51:52
3	3	Aug 12 14:31 2013	Aug 12 14:31 2013	10-Aug-2013, 01:02:24
4	4	Aug 12 14:35 2013	Aug 12 14:35 2013	10-Aug-2013, 02:13:04
5	5	Aug 12 14:39 2013	Aug 12 14:39 2013	10-Aug-2013, 03:23:38
6	6	Aug 12 14:44 2013	Aug 12 14:44 2013	10-Aug-2013, 04:34:12

FID1C08BACK081213.M Mon Aug 12 14:56:11 2013

Response Factor Report HP5890

Method Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Method File : FID1C08BACK081213.M
Title : C8 - C40 aliphatic
Last Update : Mon Aug 12 14:55:52 2013
Response Via : Initial Calibration

Calibration Files
1 =FID10073C.D 2 =FID10073D.D 3 =FID10073E.D
4 =FID10073F.D 5 =FID10073G.D 6 =FID10073H.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	n-hexadecane-d34	ISTD							
2)		n-C8	0.956	1.014	0.983	0.969	0.986	0.862	0.962	5.46
3)		n-C9	1.005	1.064	1.032	1.028	1.029	0.908	1.011	5.35
4)		n-C10	1.066	1.103	1.083	1.086	1.085	0.960	1.064	4.91
5)		n-C11	1.074	1.101	1.086	1.095	1.092	0.965	1.069	4.85
6)	S	n-dodecane-d26	1.000	1.009	1.002	1.038	1.003	0.902	0.992	4.70
7)		n-C12	1.127	1.150	1.137	1.128	1.145	1.009	1.116	4.76
8)		i-13	1.125	1.152	1.141	1.154	1.149	1.009	1.122	4.99
9)		i-14	1.170	1.198	1.187	1.190	1.192	1.046	1.164	5.04
10)		n-C13	1.125	1.152	1.141	1.154	1.149	1.009	1.122	4.99
11)		i-15	1.214	1.225	1.209	1.211	1.212	1.060	1.189	5.30
12)		n-C14	1.170	1.198	1.187	1.190	1.192	1.046	1.164	5.04
13)		i-16	1.249	1.244	1.228	1.223	1.231	1.073	1.208	5.52
14)		n-C15	1.214	1.225	1.209	1.211	1.212	1.060	1.189	5.30
15)		n-C16	1.249	1.244	1.228	1.223	1.231	1.073	1.208	5.52
16)	I	5a-androstane	ISTD							
17)		i-18	0.955	0.968	0.960	0.971	0.965	0.845	0.944	5.17
18)		n-C17	0.969	0.979	0.969	0.967	0.975	0.856	0.952	5.00
19)		Pristane	0.966	0.974	0.966	0.967	0.972	0.851	0.949	5.09
20)		n-C18	0.955	0.968	0.960	0.971	0.965	0.845	0.944	5.17
21)		Phytane	0.974	0.988	0.980	0.984	0.986	0.861	0.962	5.18
22)		n-C19	0.960	0.973	0.965	0.972	0.970	0.847	0.948	5.25
23)	S	n-eicosane-d42	0.775	0.770	0.767	0.793	0.764	0.679	0.758	5.27
24)		n-C20	0.972	0.980	0.973	0.985	0.978	0.853	0.957	5.36
25)		n-C21	0.984	0.996	0.987	0.989	0.994	0.865	0.969	5.29
26)		n-C22	0.992	0.999	0.990	1.001	0.996	0.867	0.974	5.39
27)		n-C23	1.005	1.008	0.998	0.999	1.006	0.873	0.982	5.42
28)		n-C24	1.009	1.011	1.000	0.999	1.008	0.874	0.984	5.46
29)		n-C25	1.002	1.013	1.001	1.009	1.010	0.875	0.985	5.48
30)		n-C26	1.013	1.013	1.004	1.018	1.012	0.872	0.989	5.78
31)		n-C27	0.982	0.991	0.979	0.991	0.987	0.852	0.964	5.69
32)		n-C28	0.997	1.003	0.990	1.004	1.000	0.861	0.976	5.81
33)		n-C29	0.998	1.006	0.993	1.009	1.002	0.858	0.978	6.03
34)	S	n-triacontane...	0.779	0.767	0.759	0.791	0.763	0.664	0.754	6.05
35)		n-C30	0.982	0.996	0.983	0.990	0.989	0.841	0.964	6.24
36)		n-C31	0.952	0.983	0.967	0.976	0.968	0.818	0.944	6.65
37)		n-C32	0.945	0.974	0.956	0.949	0.950	0.800	0.929	6.91
38)		n-C33	0.915	0.942	0.924	0.926	0.913	0.765	0.898	7.34
39)		n-C34	0.938	0.949	0.929	0.924	0.912	0.764	0.903	7.64
40)		n-C35	0.893	0.928	0.895	0.895	0.881	0.741	0.872	7.59
41)		n-C36	0.984	0.990	0.958	0.937	0.941	0.798	0.935	7.53
42)		n-C37	0.876	0.892	0.858	0.858	0.848	0.719	0.842	7.38
43)		n-C38	0.841	0.875	0.844	0.850	0.834	0.714	0.827	6.86
44)		n-C39	0.828	0.830	0.806	0.815	0.803	0.686	0.795	6.84
45)		n-C40	0.672	0.763	0.749	0.760	0.747	0.643	0.722	7.11
46)		TPH	0.918	0.936	0.922	0.930	0.924	0.800	0.905	5.73
47)		TRH1	0.918	0.936	0.922	0.930	0.924	0.800	0.905	5.73
48)		TRH2	0.918	0.936	0.922	0.930	0.924	0.800	0.905	5.73
49)		TRH3	0.918	0.936	0.922	0.930	0.924	0.800	0.905	5.73
50)		TRH4	0.918	0.936	0.922	0.930	0.924	0.800	0.905	5.73
51)		TRH5	0.918	0.936	0.922	0.930	0.924	0.800	0.905	5.73
52)		TRH6	0.918	0.936	0.922	0.930	0.924	0.800	0.905	5.73

53)	GRO	0.918	0.936	0.922	0.930	0.924	0.800	0.905	5.73
54)	DRO	0.918	0.936	0.922	0.930	0.924	0.800	0.905	5.73
55)	RRO	0.918	0.936	0.922	0.930	0.924	0.800	0.905	5.73

(#) = Out of Range

FID1C08BACK081213.M Mon Aug 12 14:56:03 2013

Area for TPH Calculations

Last Calibration Update Mon Aug 12 14:44:48 2013
Quant Method FID1C08BACK081213.M

	Level 1 FID10073C.D	Level 2 FID10073D.D	Level 3 FID10073E.D	Level 4 FID10073F.D	Level 5 FID10073G.D	Level 6 FID10073H.D
n-C8	9117	77857	188499	291362	352928	722182
n-C9	9578	81584	197797	309016	368042	759329
n-C10	10163	84579	207556	326517	388060	803179
n-C11	10255	84486	208394	329031	391233	807832
n-C12	10555	86658	214265	339153	402706	829898
n-C13	10739	88505	219073	346829	411631	846199
n-C14	11088	91324	226227	357826	424031	869751
n-C15	11521	93428	230576	364007	431554	883118
n-C16	11792	94455	232923	367530	435910	889122
n-C17	11948	96726	238635	376430	446735	911137
Pristane	11944	96562	238683	376376	446725	908737
n-C18	11923	96930	239559	378180	448208	911921
Phytane	12125	98535	243595	383107	456112	925459
n-C19	11967	97244	240347	378543	449691	911938
n-C20	12143	98208	243017	383571	454323	920851
n-C21	12167	98724	243725	384963	457017	923803
n-C22	12394	99952	246952	389670	462814	935593
n-C23	12412	99765	246307	388885	462119	931772
n-C24	12449	99865	246380	389086	462171	931521
n-C25	12463	100899	248590	392936	466818	939992
n-C26	12663	101467	250624	396256	470373	942117
n-C27	12261	99138	243994	385742	457968	918311
n-C28	12439	100297	246825	391092	463855	927617
n-C29	12460	100743	247866	392769	465313	925638
n-C30	12206	99218	244132	385624	456903	903030
n-C31	11880	98300	241138	380036	449032	881127
n-C32	11645	96156	235110	369310	434911	850522
n-C33	11419	94217	230336	360673	423685	824270
n-C34	11691	94703	231131	359862	421994	822174
n-C35	11142	92834	223108	348317	408561	798634
n-C36	12037	97002	233923	364710	427630	842927
n-C37	10939	89315	214042	334137	393746	775887
n-C38	10515	87583	210812	330963	387580	770733
n-C39	10331	82965	201077	317436	372412	739442
n-C40	8368	76169	186397	295785	345664	691641
Average Area (use for TPH, TRPH, GRO, DRO, RRO)	11450	93611	229760	361878	428527	862212
Average of n-C38 & n-C40	9442	81876	198605	313374	366622	731187
n-C36/n-C20	0.99	0.99	0.96	0.95	0.94	0.92

For Isoprenoids (other than Pristane and Phytane) use area for normal alkane; i-C13 use n-C13

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073C.D
Signal(s) : FID2B.CH
Acq On : 09-Aug-2013, 22:41:20
Operator : Meghan Dailey
Sample : AL-WKC1-1.25-019
Misc :
ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:22:32 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 16:29:04 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	12.909	381314	50.000	ug/mlm
16) I	5a-androstane	18.142	499832	50.072	ug/mlm
	System Monitoring Compounds				
6) S	n-dodecane-d26	8.631	9529	1.268	ug/mlm
23) S	n-eicosane-d42	17.541	9737	1.276	ug/mlm
34) S	n-triacontane-d62	29.404	9732	1.312	ug/mlm
	Target Compounds				
2)	n-C8	3.499	9117	1.288	ug/mlm
3)	n-C9	4.818	9578	1.279	ug/mlm
4)	n-C10	6.228	10163	1.281	ug/mlm
5)	n-C11	7.579	10255	1.277	ug/mlm
7)	n-C12	8.836	10555	1.249	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	10.006	10739	1.258	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	11.099	11088	1.247	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	12.126	11521	1.268	ug/mlm
15)	n-C16	13.157	11792	1.283	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.255	11948	1.238	ug/mlm
19)	Pristane	14.373	11944	1.242	ug/mlm
20)	n-C18	15.427	11923	1.250	ug/mlm
21)	Phytane	15.591	12125	1.247	ug/mlm
22)	n-C19	16.662	11967	1.251	ug/mlm
24)	n-C20	17.937	12143	1.258	ug/mlm
25)	n-C21	19.232	12167	1.249	ug/mlm
26)	n-C22	20.531	12394	1.269	ug/mlm
27)	n-C23	21.814	12412	1.265	ug/mlm
28)	n-C24	23.075	12449	1.267	ug/mlm
29)	n-C25	24.305	12463	1.271	ug/mlm
30)	n-C26	25.501	12662	1.290	ug/mlm
31)	n-C27	26.662	12261	1.286	ug/mlm
32)	n-C28	27.788	12439	1.285	ug/mlm
33)	n-C29	28.881	12460	1.291	ug/mlm
35)	n-C30	29.938	12206	1.280	ug/mlm
36)	n-C31	30.963	11880	1.269	ug/mlm
37)	n-C32	31.959	11645	1.264	ug/mlm
38)	n-C33	32.925	11419	1.279	ug/mlm
39)	n-C34	33.864	11691	1.302	ug/mlm
40)	n-C35	34.856	11142	1.268	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073C.D
Signal(s) : FID2B.CH
Acq On : 09-Aug-2013, 22:41:20
Operator : Meghan Dailey
Sample : AL-WKC1-1.25-019
Misc :
ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:22:32 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 16:29:04 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.985	12037	1.280	ug/mlm
42)	n-C37	37.292	10938	1.293	ug/mlm
43)	n-C38	38.813	10515	1.233	ug/mlm
44)	n-C39	40.587	10331	1.258	ug/mlm
45)	n-C40	42.695	8368	1.113	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

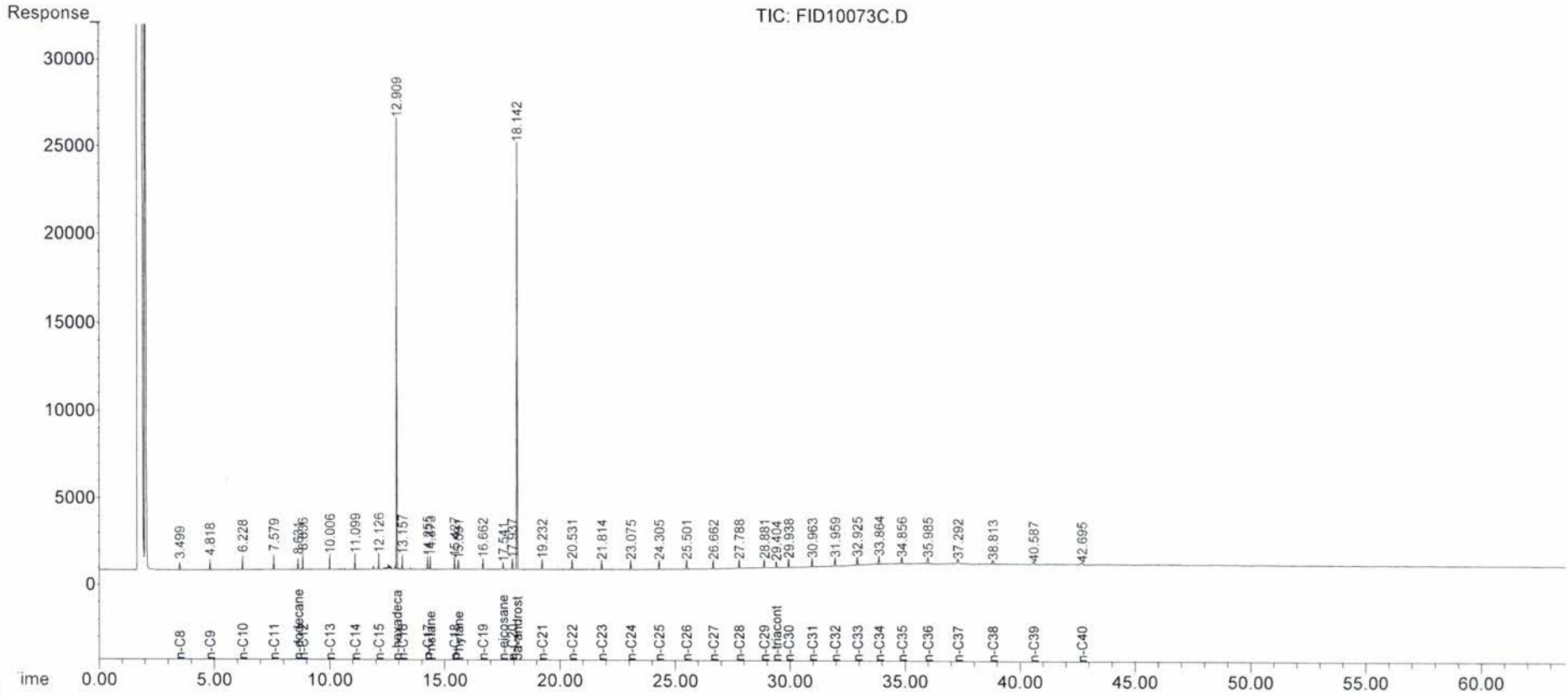
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073C.D
Signal(s) : FID2B.CH
Acq On : 09-Aug-2013, 22:41:20
Operator : Meghan Dailey
Sample : AL-WKC1-1.25-019
Misc :
ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:22:32 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 16:29:04 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073D.D
Signal(s) : FID2B.CH
Acq On : 09-Aug-2013, 23:51:52
Operator : Meghan Dailey
Sample : AL-WKC2-10-019
Misc :
ALS Vial : 54 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:27:09 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:22:42 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	12.909	383354	50.000	ug/mlm
16)	I 5a-androstane	18.141	500714	50.072	ug/mlm
	System Monitoring Compounds				
6)	S n-dodecane-d26	8.631	77356	10.231	ug/mlm
23)	S n-eicosane-d42	17.540	77526	10.128	ug/mlm
34)	S n-triacontane-d62	29.406	76777	10.287	ug/mlm
	Target Compounds				
2)	n-C8	3.498	77857	10.892	ug/mlm
3)	n-C9	4.817	81584	10.815	ug/mlm
4)	n-C10	6.227	84579	10.582	ug/mlm
5)	n-C11	7.579	84486	10.453	ug/mlm
7)	n-C12	8.837	86658	10.200	ug/mlm
8)	i-13	0.000	0	N.D.	ug/ml
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	10.006	88505	10.324	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	11.099	91324	10.247	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	12.126	93428	10.267	ug/mlm
15)	n-C16	13.157	94455	10.230	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.256	96726	10.035	ug/mlm
19)	Pristane	14.373	96562	10.048	ug/mlm
20)	n-C18	15.428	96930	10.154	ug/mlm
21)	Phytane	15.591	98535	10.134	ug/mlm
22)	n-C19	16.663	97244	10.159	ug/mlm
24)	n-C20	17.938	98208	10.170	ug/mlm
25)	n-C21	19.233	98724	10.123	ug/mlm
26)	n-C22	20.532	99952	10.215	ug/mlm
27)	n-C23	21.815	99765	10.143	ug/mlm
28)	n-C24	23.075	99865	10.146	ug/mlm
29)	n-C25	24.305	100899	10.256	ug/mlm
30)	n-C26	25.501	101467	10.295	ug/mlm
31)	n-C27	26.663	99138	10.346	ug/mlm
32)	n-C28	27.790	100297	10.344	ug/mlm
33)	n-C29	28.882	100743	10.394	ug/mlm
35)	n-C30	29.939	99218	10.395	ug/mlm
36)	n-C31	30.967	98300	10.525	ug/mlm
37)	n-C32	31.960	96156	10.465	ug/mlm
38)	n-C33	32.925	94217	10.567	ug/mlm
39)	n-C34	33.865	94703	10.516	ug/mlm
40)	n-C35	34.858	92834	10.609	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073D.D
Signal(s) : FID2B.CH
Acq On : 09-Aug-2013, 23:51:52
Operator : Meghan Dailey
Sample : AL-WKC2-10-019
Misc :
ALS Vial : 54 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:27:09 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:22:42 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.991	97002	10.282	ug/mlm
42)	n-C37	37.292	89315	10.441	ug/mlm
43)	n-C38	38.812	87583	10.374	ug/mlm
44)	n-C39	40.596	82965	10.141	ug/mlm
45)	n-C40	42.703	76169	10.196	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

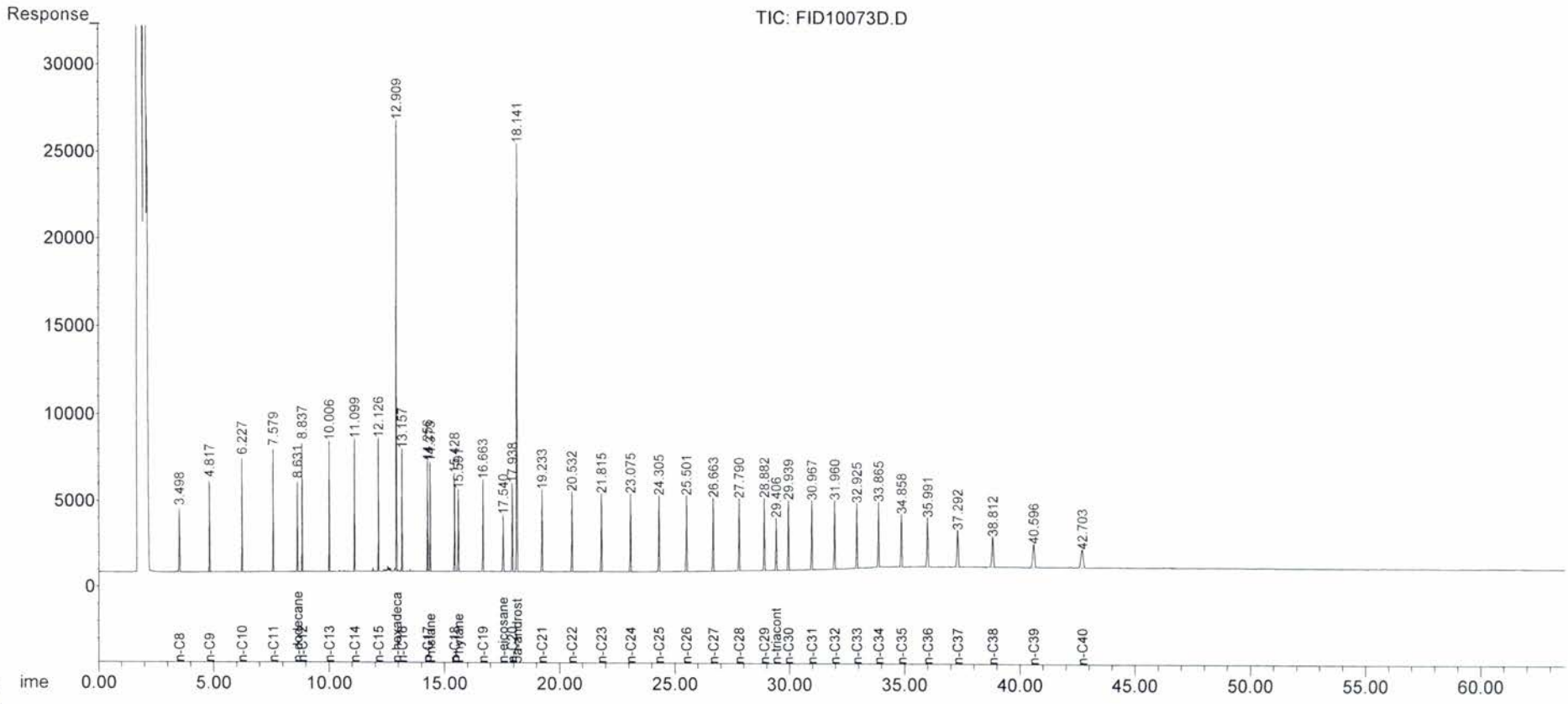
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073D.D
Signal(s) : FID2B.CH
Acq On : 09-Aug-2013, 23:51:52
Operator : Meghan Dailey
Sample : AL-WKC2-10-019
Misc :
ALS Vial : 54 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:27:09 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:22:42 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 1\FID10073\
Data File : FID10073E.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 01:02:24
Operator : Meghan Dailey
Sample : AL-WKC3-25-019
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:31:09 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:27:17 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
	Internal Standards				
1)	I n-hexadecane-d34	12.908	383337	50.000	ug/mlm
16)	I 5a-androstane	18.141	499201	50.072	ug/mlm
	System Monitoring Compounds				
6)	S n-dodecane-d26	8.632	192147	25.357	ug/mlm
23)	S n-eicosane-d42	17.543	192449	25.260	ug/mlm
34)	S n-triacontane-d62	29.408	189467	25.458	ug/mlm
	Target Compounds				
2)	n-C8	3.500	188499	26.082	ug/mlm
3)	n-C9	4.817	197797	25.968	ug/mlm
4)	n-C10	6.228	207556	25.806	ug/mlm
5)	n-C11	7.579	208394	25.673	ug/mlm
7)	n-C12	8.838	214265	25.157	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	10.007	219073	25.524	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	11.100	226227	25.373	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	12.128	230576	25.332	ug/mlm
15)	n-C16	13.159	232923	25.212	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.258	238635	24.904	ug/mlm
19)	Pristane	14.375	238683	24.989	ug/mlm
20)	n-C18	15.430	239559	25.239	ug/mlm
21)	Phytane	15.592	243595	25.194	ug/mlm
22)	n-C19	16.664	240347	25.238	ug/mlm
24)	n-C20	17.940	243017	25.294	ug/mlm
25)	n-C21	19.237	243725	25.107	ug/mlm
26)	n-C22	20.534	246952	25.348	ug/mlm
27)	n-C23	21.818	246307	25.134	ug/mlm
28)	n-C24	23.079	246380	25.127	ug/mlm
29)	n-C25	24.308	248590	25.348	ug/mlm
30)	n-C26	25.506	250624	25.500	ug/mlm
31)	n-C27	26.666	243994	25.522	ug/mlm
32)	n-C28	27.792	246825	25.525	ug/mlm
33)	n-C29	28.884	247866	25.641	ug/mlm
35)	n-C30	29.941	244132	25.667	ug/mlm
36)	n-C31	30.967	241138	25.897	ug/mlm
37)	n-C32	31.963	235110	25.665	ug/mlm
38)	n-C33	32.927	230336	25.955	ug/mlm
39)	n-C34	33.866	231131	25.796	ug/mlm
40)	n-C35	34.861	223108	25.644	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073E.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 01:02:24
Operator : Meghan Dailey
Sample : AL-WKC3-25-019
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:31:09 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:27:17 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.993	233923	24.947	ug/mlm
42)	n-C37	37.297	214042	25.190	ug/mlm
43)	n-C38	38.815	210812	25.157	ug/mlm
44)	n-C39	40.596	201077	24.827	ug/mlm
45)	n-C40	42.700	186397	25.260	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

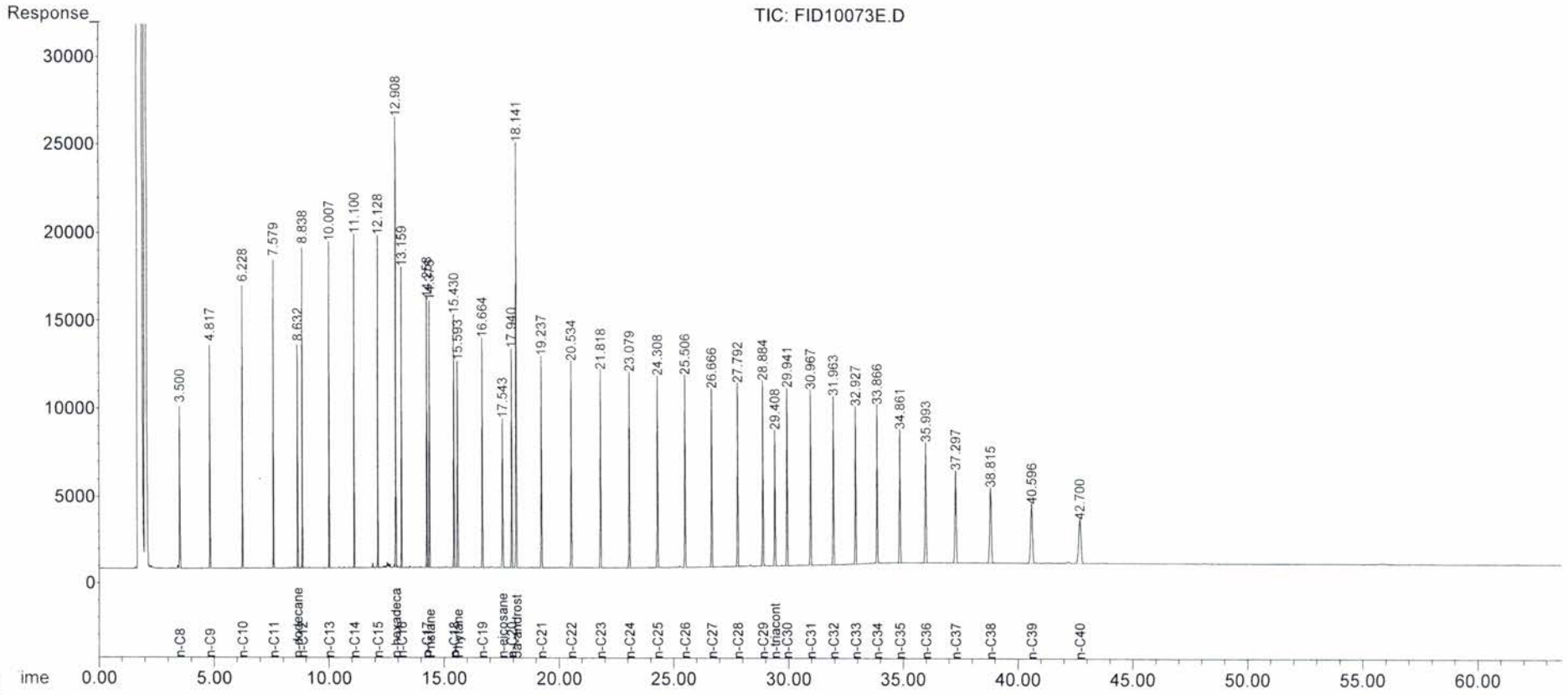
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073E.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 01:02:24
Operator : Meghan Dailey
Sample : AL-WKC3-25-019
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:31:09 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:27:17 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073F.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 02:13:04
Operator : Meghan Dailey
Sample : AL-WKC4-40-019
Misc :
ALS Vial : 56 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:35:43 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:31:22 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	12.908	375489	50.000	ug/mlm
16)	I 5a-androstane	18.140	487025	50.072	ug/mlm
	System Monitoring Compounds				
6)	S n-dodecane-d26	8.633	311896	41.967	ug/mlm
23)	S n-eicosane-d42	17.544	310706	41.899	ug/mlm
34)	S n-triacontane-d62	29.411	308189	42.522	ug/mlm
	Target Compounds				
2)	n-C8	3.502	291362	40.861	ug/mlm
3)	n-C9	4.819	309016	41.145	ug/mlm
4)	n-C10	6.229	326517	41.240	ug/mlm
5)	n-C11	7.581	329031	41.251	ug/mlm
7)	n-C12	8.839	339153	40.589	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	10.009	346829	41.232	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	11.102	357826	40.959	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	12.129	364007	40.821	ug/mlm
15)	n-C16	13.160	367530	40.604	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.260	376430	40.354	ug/mlm
19)	Pristane	14.378	376376	40.477	ug/mlm
20)	n-C18	15.432	378180	40.939	ug/mlm
21)	Phytane	15.596	383107	40.697	ug/mlm
22)	n-C19	16.667	378543	40.853	ug/mlm
24)	n-C20	17.943	383571	41.056	ug/mlm
25)	n-C21	19.240	384963	40.770	ug/mlm
26)	n-C22	20.538	389670	41.108	ug/mlm
27)	n-C23	21.822	388885	40.776	ug/mlm
28)	n-C24	23.081	389086	40.765	ug/mlm
29)	n-C25	24.313	392936	41.167	ug/mlm
30)	n-C26	25.509	396256	41.409	ug/mlm
31)	n-C27	26.669	385742	41.435	ug/mlm
32)	n-C28	27.795	391092	41.544	ug/mlm
33)	n-C29	28.887	392769	41.730	ug/mlm
35)	n-C30	29.946	385624	41.618	ug/mlm
36)	n-C31	30.970	380036	41.882	ug/mlm
37)	n-C32	31.965	369310	41.347	ug/mlm
38)	n-C33	32.933	360673	41.691	ug/mlm
39)	n-C34	33.870	359862	41.185	ug/mlm
40)	n-C35	34.867	348317	41.116	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073F.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 02:13:04
Operator : Meghan Dailey
Sample : AL-WKC4-40-019
Misc :
ALS Vial : 56 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:35:43 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:31:22 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.999	364710	39.988	ug/mlm
42)	n-C37	37.305	334137	40.468	ug/mlm
43)	n-C38	38.823	330963	40.678	ug/mlm
44)	n-C39	40.615	317436	40.438	ug/mlm
45)	n-C40	42.706	295785	41.391	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

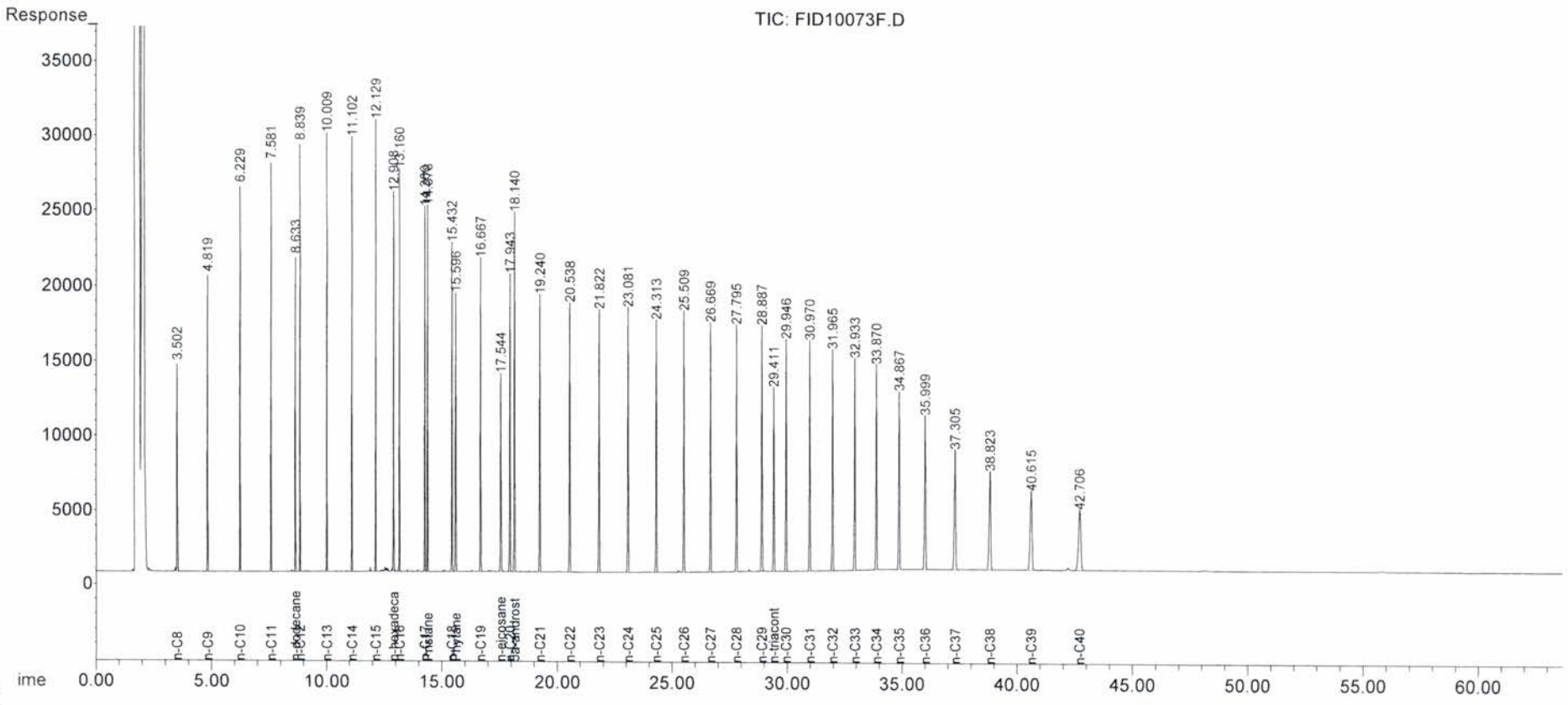
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073F.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 02:13:04
Operator : Meghan Dailey
Sample : AL-WKC4-40-019
Misc :
ALS Vial : 56 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:35:43 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:31:22 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073G.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 03:23:38
Operator : Meghan Dailey
Sample : AL-WKC5-50-019
Misc :
ALS Vial : 57 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:39:27 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:35:51 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	12.906	357816	50.000	ug/mlm
16)	I 5a-androstane	18.139	464561	50.072	ug/mlm
	System Monitoring Compounds				
6)	S n-dodecane-d26	8.633	358855	50.638	ug/mlm
23)	S n-eicosane-d42	17.545	356753	50.580	ug/mlm
34)	S n-triacontane-d62	29.411	354384	51.088	ug/mlm
	Target Compounds				
2)	n-C8	3.501	352928	51.800	ug/mlm
3)	n-C9	4.819	368042	51.249	ug/mlm
4)	n-C10	6.229	388060	51.284	ug/mlm
5)	n-C11	7.581	391233	51.377	ug/mlm
7)	n-C12	8.839	402706	50.536	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	10.009	411631	51.353	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	11.102	424031	50.953	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	12.129	431554	50.807	ug/mlm
15)	n-C16	13.161	435910	50.527	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.260	446735	50.362	ug/mlm
19)	Pristane	14.378	446725	50.515	ug/mlm
20)	n-C18	15.434	448208	51.001	ug/mlm
21)	Phytane	15.597	456112	50.944	ug/mlm
22)	n-C19	16.668	449691	51.012	ug/mlm
24)	n-C20	17.944	454323	51.068	ug/mlm
25)	n-C21	19.240	457017	50.810	ug/mlm
26)	n-C22	20.540	462814	51.227	ug/mlm
27)	n-C23	21.823	462119	50.801	ug/mlm
28)	n-C24	23.084	462171	50.740	ug/mlm
29)	n-C25	24.314	466818	51.222	ug/mlm
30)	n-C26	25.511	470373	51.448	ug/mlm
31)	n-C27	26.672	457968	51.476	ug/mlm
32)	n-C28	27.796	463855	51.542	ug/mlm
33)	n-C29	28.890	465313	51.675	ug/mlm
35)	n-C30	29.947	456903	51.523	ug/mlm
36)	n-C31	30.972	449032	51.687	ug/mlm
37)	n-C32	31.968	434911	50.849	ug/mlm
38)	n-C33	32.933	423685	51.159	ug/mlm
39)	n-C34	33.874	421994	50.519	ug/mlm
40)	n-C35	34.869	408561	50.518	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073G.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 03:23:38
Operator : Meghan Dailey
Sample : AL-WKC5-50-019
Misc :
ALS Vial : 57 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:39:27 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:35:51 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.001	427630	49.200	ug/mlm
42)	n-C37	37.306	393746	50.145	ug/mlm
43)	n-C38	38.829	387580	50.139	ug/mlm
44)	n-C39	40.614	372412	50.024	ug/mlm
45)	n-C40	42.721	345664	51.025	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

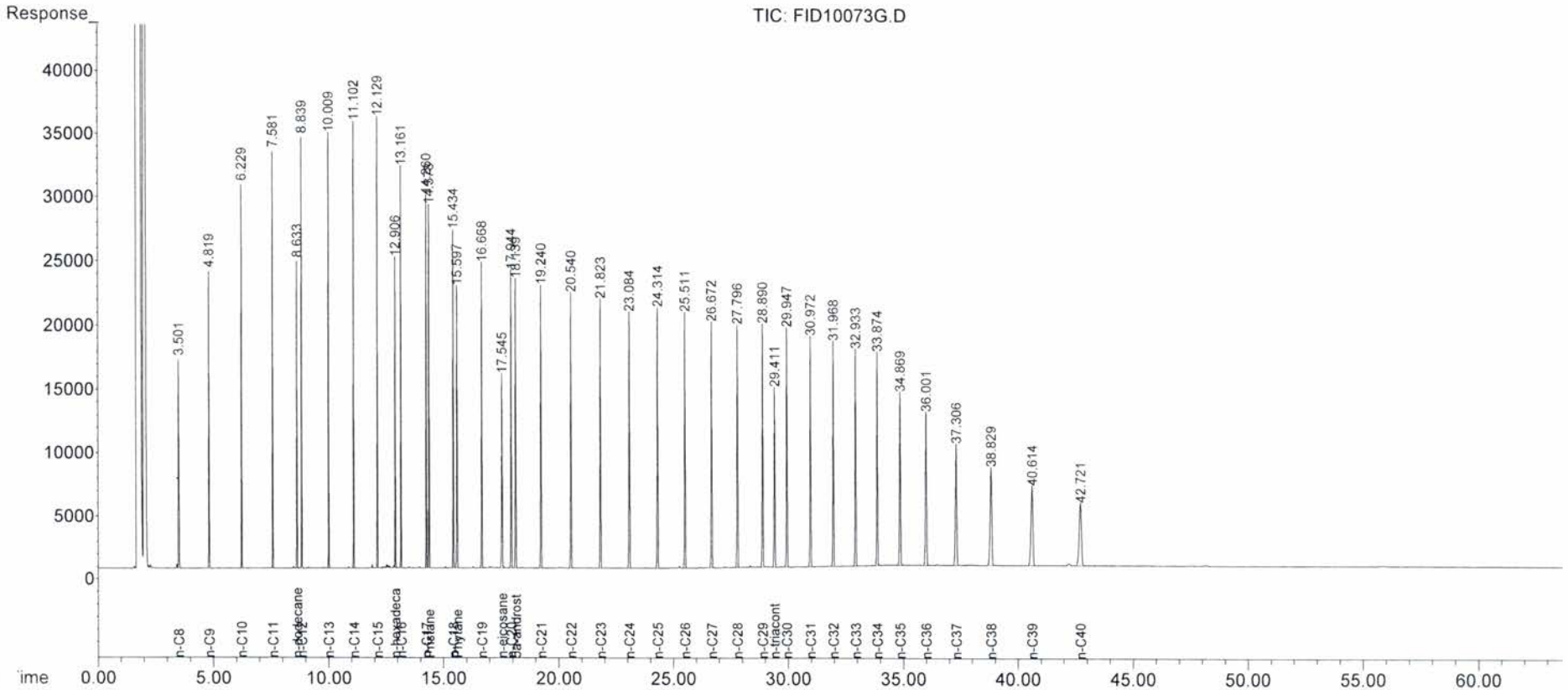
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073G.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 03:23:38
Operator : Meghan Dailey
Sample : AL-WKC5-50-019
Misc :
ALS Vial : 57 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:39:27 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:35:51 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073H.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 04:34:12
Operator : Meghan Dailey
Sample : AL-WKC6-100-019
Misc :
ALS Vial : 58 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:44:35 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:39:35 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
	Internal Standards				
1)	I n-hexadecane-d34	12.908	418348	50.000	ug/mlm
16)	I 5a-androstane	18.144	539676	50.072	ug/mlm
	System Monitoring Compounds				
6)	S n-dodecane-d26	8.638	754320	91.028	ug/mlm
23)	S n-eicosane-d42	17.554	737163	90.109	ug/mlm
34)	S n-triacontane-d62	29.423	716353	88.574	ug/mlm
	Target Compounds				
2)	n-C8	3.507	722182	90.132	ug/mlm
3)	n-C9	4.824	759329	90.124	ug/mlm
4)	n-C10	6.234	803179	90.562	ug/mlm
5)	n-C11	7.586	807832	90.609	ug/mlm
7)	n-C12	8.845	829898	89.043	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	10.015	846199	90.319	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	11.108	869751	89.435	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	12.136	883118	88.949	ug/mlm
15)	n-C16	13.168	889122	88.123	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.269	911137	88.670	ug/mlm
19)	Pristane	14.387	908737	88.705	ug/mlm
20)	n-C18	15.442	911921	89.529	ug/mlm
21)	Phytane	15.607	925459	89.160	ug/mlm
22)	n-C19	16.679	911938	89.200	ug/mlm
24)	n-C20	17.956	920851	89.249	ug/mlm
25)	n-C21	19.253	923803	88.458	ug/mlm
26)	n-C22	20.552	935593	89.158	ug/mlm
27)	n-C23	21.836	931772	88.135	ug/mlm
28)	n-C24	23.096	931521	87.965	ug/mlm
29)	n-C25	24.329	939992	88.677	ug/mlm
30)	n-C26	25.524	942117	88.555	ug/mlm
31)	n-C27	26.685	918311	88.675	ug/mlm
32)	n-C28	27.812	927617	88.513	ug/mlm
33)	n-C29	28.904	925638	88.221	ug/mlm
35)	n-C30	29.963	903030	87.339	ug/mlm
36)	n-C31	30.987	881127	86.994	ug/mlm
37)	n-C32	31.978	850522	85.310	ug/mlm
38)	n-C33	32.947	824270	85.429	ug/mlm
39)	n-C34	33.886	822174	84.619	ug/mlm
40)	n-C35	34.884	798634	84.985	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073H.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 04:34:12
Operator : Meghan Dailey
Sample : AL-WKC6-100-019
Misc :
ALS Vial : 58 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:44:35 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:39:35 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.020	842927	83.625	ug/mlm
42)	n-C37	37.324	775887	85.305	ug/mlm
43)	n-C38	38.855	770733	86.269	ug/mlm
44)	n-C39	40.641	739442	85.992	ug/mlm
45)	n-C40	42.750	691641	88.458	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

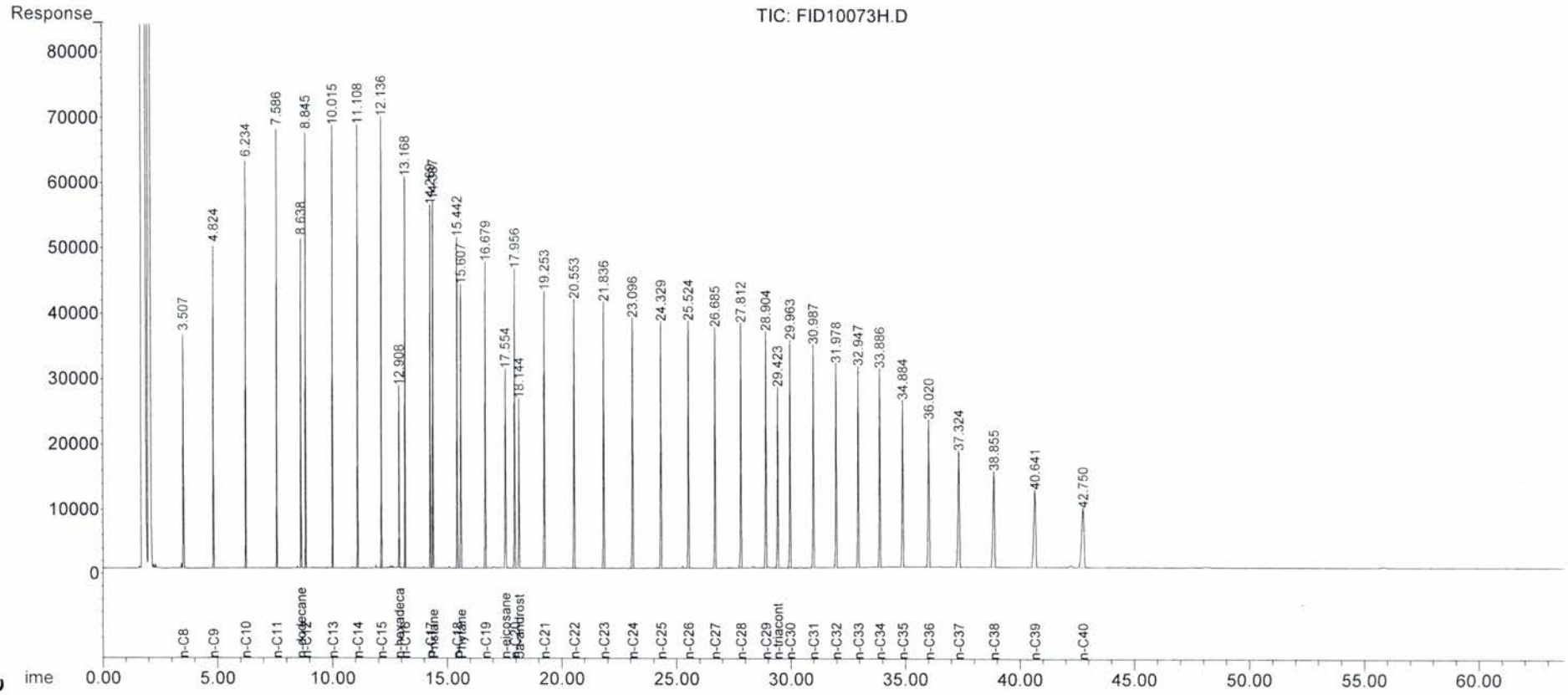
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073H.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 04:34:12
Operator : Meghan Dailey
Sample : AL-WKC6-100-019
Misc :
ALS Vial : 58 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:44:35 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:39:35 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073I.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 05:44:45
Operator : Meghan Dailey
Sample : AL-WKICV-25-002
Misc :
ALS Vial : 59 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 15:02:23 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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	86	0.00
2		n-C8	0.962	1.020	-6.0	90	0.00
3		n-C9	1.011	1.085	-7.3	91	0.00
4		n-C10	1.064	1.119	-5.2	89	0.00
5		n-C11	1.069	1.146	-7.2	91	0.00
6	S	n-dodecane-d26	0.992	0.985	0.7	85	0.00
7		n-C12	1.116	1.182	-5.9	90	0.00
10		n-C13	1.122	1.185	-5.6	90	0.00
12		n-C14	1.164	1.218	-4.6	89	0.00
14		n-C15	1.189	1.255	-5.6	90	0.00
15		n-C16	1.208	1.290	-6.8	91	0.00
16	I	5a-androstane	1.000	1.000	0.0	87	0.00
18		n-C17	0.952	0.997	-4.7	89	0.00
19		Pristane	0.949	0.983	-3.6	88	0.00
20		n-C18	0.944	0.996	-5.5	90	0.00
21		Phytane	0.962	0.995	-3.4	88	0.00
22		n-C19	0.948	1.014	-7.0	91	0.00
23	S	n-eicosane-d42	0.758	0.762	-0.5	86	0.00
24		n-C20	0.957	1.003	-4.8	89	0.00
25		n-C21	0.969	1.043	-7.6	92	0.00
26		n-C22	0.974	1.033	-6.1	90	0.00
27		n-C23	0.982	1.041	-6.0	90	0.00
28		n-C24	0.984	1.041	-5.8	90	0.00
29		n-C25	0.985	0.956	2.9	83	0.00
30		n-C26	0.989	1.051	-6.3	91	0.00
31		n-C27	0.964	1.047	-8.6	93	0.00
32		n-C28	0.976	1.050	-7.6	92	0.00
33		n-C29	0.978	1.041	-6.4	91	0.00
34	S	n-triacontane-d62	0.754	0.774	-2.7	88	0.00
35		n-C30	0.964	1.047	-8.6	92	0.00
36		n-C31	0.944	1.010	-7.0	90	0.00
37		n-C32	0.929	1.021	-9.9	93	0.00
38		n-C33	0.898	0.951	-5.9	89	0.00
39		n-C34	0.903	0.988	-9.4	92	0.00
40		n-C35	0.872	0.955	-9.5	92	0.00
41		n-C36	0.935	1.003	-7.3	91	0.00
42		n-C37	0.842	0.910	-8.1	92	0.00
43		n-C38	0.827	0.873	-5.6	90	0.00

44	n-C39	0.795	0.867	-9.1	93	0.00
45	n-C40	0.722	0.818	-13.3	95	0.00

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.017	0.000	100.0#	0#	-9.03#
9	i-14	0.018	0.000	100.0#	0#	-9.73#
11	i-15	0.018	0.000	100.0#	0#	-10.88#
13	i-16	0.019	0.000	100.0#	0#	-11.77#
17	i-18	0.019	0.000	100.0#	0#	-13.72#
46	TPH	0.018	0.000	100.0#	0#	-29.05#
47	TRH1	0.018	0.000	100.0#	0#	-7.75#
48	TRH2	0.018	0.000	100.0#	0#	-15.92#
49	TRH3	0.018	0.000	100.0#	0#	-23.38#
50	TRH4	0.018	0.000	100.0#	0#	-28.40#
51	TRH5	0.018	0.000	100.0#	0#	-33.37#
52	TRH6	0.018	0.000	100.0#	0#	-44.83#
53	GRO	0.018	0.000	100.0#	0#	-5.27#
54	DRO	0.018	0.000	100.0#	0#	-14.31#
55	RRO	0.018	0.000	100.0#	0#	-33.00#

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

FID1C08BACK081213.M Mon Aug 12 15:02:29 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073I.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 05:44:45
Operator : Meghan Dailey
Sample : AL-WKICV-25-002
Misc :
ALS Vial : 59 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 15:02:23 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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	12.907	330942	50.000	ug/mlm
16)	I 5a-androstane	18.136	432505	50.072	ug/mlm
	System Monitoring Compounds				
6)	S n-dodecane-d26	8.631	163035	24.823	ug/mlm
23)	S n-eicosane-d42	17.540	165577	25.282	ug/mlm
34)	S n-triacontane-d62	29.404	167282	25.690	ug/mlm
	Target Compounds				
2)	n-C8	3.496	168879	26.533	ug/mlm
3)	n-C9	4.816	179593	26.844	ug/mlm
4)	n-C10	6.227	185126	26.292	ug/mlm
5)	n-C11	7.579	189776	26.830	ug/mlm
7)	n-C12	8.837	192281	26.026	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	10.007	196420	26.459	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	11.100	200305	26.000	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	12.127	206706	26.276	ug/mlm
15)	n-C16	13.158	211253	26.423	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.257	212692	25.854	ug/mlm
19)	Pristane	14.374	210324	25.652	ug/mlm
20)	n-C18	15.429	215216	26.387	ug/mlm
21)	Phytane	15.592	214414	25.801	ug/mlm
22)	n-C19	16.663	218721	26.713	ug/mlm
24)	n-C20	17.938	216961	26.252	ug/mlm
25)	n-C21	19.234	223177	26.663	ug/mlm
26)	n-C22	20.533	223302	26.541	ug/mlm
27)	n-C23	21.816	222653	26.259	ug/mlm
28)	n-C24	23.076	222147	26.147	ug/mlm
29)	n-C25	24.306	205799	24.186	ug/mlm
30)	n-C26	25.502	227305	26.616	ug/mlm
31)	n-C27	26.663	226247	27.184	ug/mlm
32)	n-C28	27.790	226655	26.888	ug/mlm
33)	n-C29	28.881	225171	26.663	ug/mlm
35)	n-C30	29.940	225180	27.049	ug/mlm
36)	n-C31	30.965	218164	26.758	ug/mlm
37)	n-C32	31.961	217713	27.136	ug/mlm
38)	n-C33	32.925	205273	26.474	ug/mlm
39)	n-C34	33.866	212894	27.301	ug/mlm
40)	n-C35	34.858	206307	27.389	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073I.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 05:44:45
Operator : Meghan Dailey
Sample : AL-WKICV-25-002
Misc :
ALS Vial : 59 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 15:02:23 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.988	212254	26.294	ug/mlm
42)	n-C37	37.290	196605	27.033	ug/mlm
43)	n-C38	38.812	188880	26.454	ug/mlm
44)	n-C39	40.597	187313	27.289	ug/mlm
45)	n-C40	42.701	176284	28.251	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

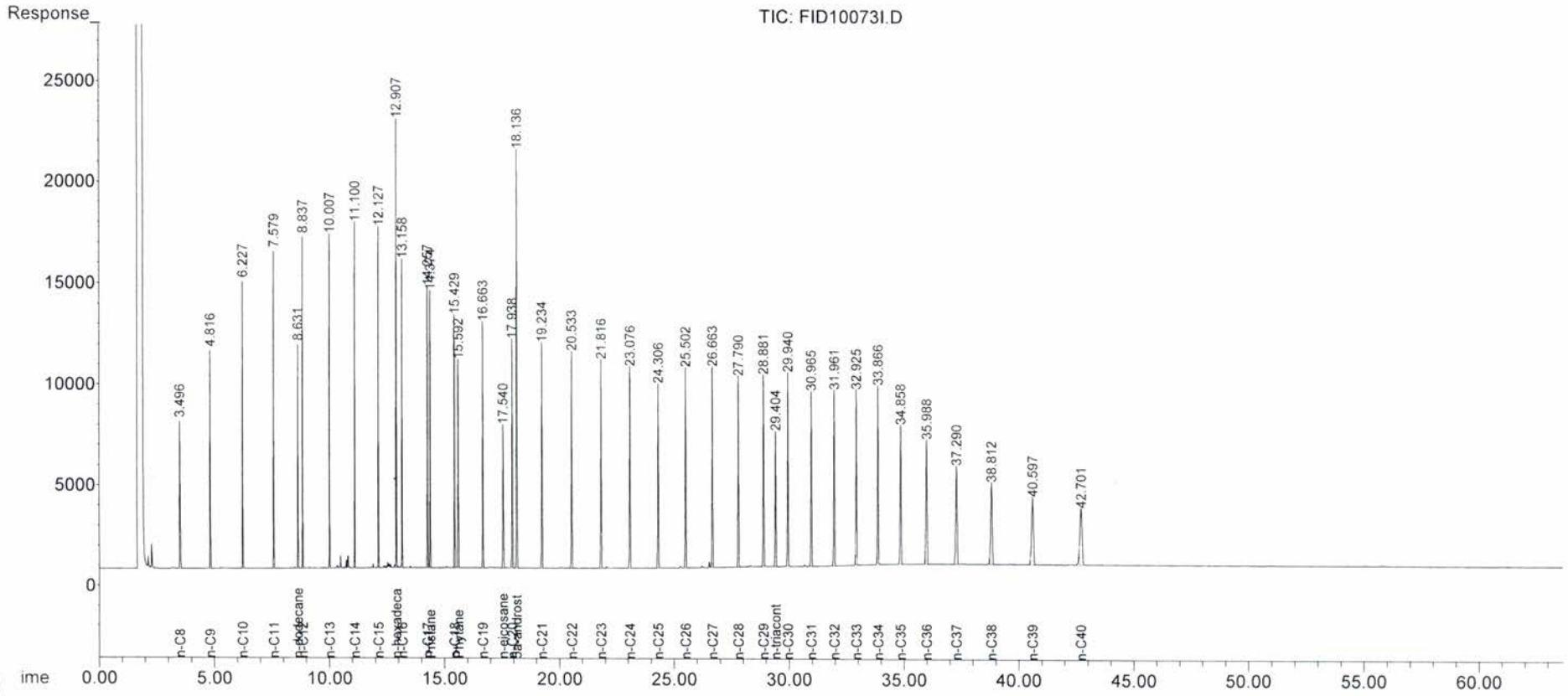
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073I.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 05:44:45
Operator : Meghan Dailey
Sample : AL-WKICV-25-002
Misc :
ALS Vial : 59 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 15:02:23 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073J.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 06:55:19
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 15:06:55 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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	86	0.00
2		n-C8	0.962	0.992	-3.1	86	0.00
3		n-C9	1.011	1.035	-2.4	86	0.00
4		n-C10	1.064	1.090	-2.4	86	0.00
5		n-C11	1.069	1.090	-2.0	86	0.00
6	S	n-dodecane-d26	0.992	1.006	-1.4	86	0.00
7		n-C12	1.116	1.140	-2.2	86	0.00
10		n-C13	1.122	1.140	-1.6	86	0.00
12		n-C14	1.164	1.189	-2.1	86	0.00
14		n-C15	1.189	1.210	-1.8	86	0.00
15		n-C16	1.208	1.228	-1.7	86	0.00
16	I	5a-androstane	1.000	1.000	0.0	86	0.00
18		n-C17	0.952	0.971	-2.0	86	0.00
19		Pristane	0.949	0.967	-1.9	86	0.00
20		n-C18	0.944	0.961	-1.8	86	0.00
21		Phytane	0.962	0.980	-1.9	86	0.00
22		n-C19	0.948	0.965	-1.8	86	0.00
23	S	n-eicosane-d42	0.758	0.764	-0.8	85	0.00
24		n-C20	0.957	0.975	-1.9	86	0.00
25		n-C21	0.969	0.989	-2.1	86	0.00
26		n-C22	0.974	0.992	-1.8	86	0.00
27		n-C23	0.982	1.002	-2.0	86	0.00
28		n-C24	0.984	1.006	-2.2	86	0.00
29		n-C25	0.985	1.008	-2.3	86	0.00
30		n-C26	0.989	1.012	-2.3	86	0.00
31		n-C27	0.964	0.988	-2.5	86	0.00
32		n-C28	0.976	1.006	-3.1	87	0.00
33		n-C29	0.978	1.011	-3.4	87	0.00
34	S	n-triacontane-d62	0.754	0.773	-2.5	87	0.00
35		n-C30	0.964	1.003	-4.0	87	0.00
36		n-C31	0.944	0.991	-5.0	88	0.00
37		n-C32	0.929	0.984	-5.9	88	0.00
38		n-C33	0.898	0.956	-6.5	88	0.00
39		n-C34	0.903	0.961	-6.4	88	0.00
40		n-C35	0.872	0.926	-6.2	88	0.00
41		n-C36	0.935	0.977	-4.5	87	0.00
42		n-C37	0.842	0.859	-2.0	86	0.00
43		n-C38	0.827	0.827	0.0	84	0.00

44	n-C39	0.795	0.772	2.9	82	0.00
45	n-C40	0.722	0.705	2.4	80	0.00

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.017	0.000	100.0#	0#	-9.03#
9	i-14	0.018	0.000	100.0#	0#	-9.73#
11	i-15	0.018	0.000	100.0#	0#	-10.88#
13	i-16	0.019	0.000	100.0#	0#	-11.77#
17	i-18	0.019	0.000	100.0#	0#	-13.72#
46	TPH	0.018	0.000	100.0#	0#	-29.05#
47	TRH1	0.018	0.000	100.0#	0#	-7.75#
48	TRH2	0.018	0.000	100.0#	0#	-15.92#
49	TRH3	0.018	0.000	100.0#	0#	-23.38#
50	TRH4	0.018	0.000	100.0#	0#	-28.40#
51	TRH5	0.018	0.000	100.0#	0#	-33.37#
52	TRH6	0.018	0.000	100.0#	0#	-44.83#
53	GRO	0.018	0.000	100.0#	0#	-5.27#
54	DRO	0.018	0.000	100.0#	0#	-14.31#
55	RRO	0.018	0.000	100.0#	0#	-33.00#

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

FID1C08BACK081213.M Mon Aug 12 15:07:00 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073J.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 06:55:19
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 15:06:55 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 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	12.907	328340	50.000 ug/mlm
16) I	5a-androstane	18.136	427035	50.072 ug/mlm
	System Monitoring Compounds			
6) S	n-dodecane-d26	8.631	165083	25.334 ug/mlm
23) S	n-eicosane-d42	17.540	163902	25.347 ug/mlm
34) S	n-triacontane-d62	29.404	165064	25.674 ug/mlm
	Target Compounds			
2)	n-C8	3.497	162962	25.806 ug/mlm
3)	n-C9	4.816	169849	25.588 ug/mlm
4)	n-C10	6.227	178929	25.613 ug/mlm
5)	n-C11	7.579	179128	25.525 ug/mlm
7)	n-C12	8.837	184006	25.103 ug/mlm
8)	i-13	0.000	0	N.D. ug/mld
9)	i-14	0.000	0	N.D. ug/mld
10)	n-C13	10.007	187399	25.444 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	11.099	194009	25.382 ug/mlm
13)	i-16	0.000	0	N.D. ug/mld
14)	n-C15	12.127	197616	25.320 ug/mlm
15)	n-C16	13.157	199600	25.164 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	14.257	204555	25.184 ug/mlm
19)	Pristane	14.374	204309	25.237 ug/mlm
20)	n-C18	15.429	205116	25.471 ug/mlm
21)	Phytane	15.592	208514	25.412 ug/mlm
22)	n-C19	16.663	205679	25.442 ug/mlm
24)	n-C20	17.938	208214	25.516 ug/mlm
25)	n-C21	19.234	209048	25.295 ug/mlm
26)	n-C22	20.532	211817	25.498 ug/mlm
27)	n-C23	21.816	211505	25.264 ug/mlm
28)	n-C24	23.076	211947	25.266 ug/mlm
29)	n-C25	24.305	214178	25.494 ug/mlm
30)	n-C26	25.503	216121	25.631 ug/mlm
31)	n-C27	26.663	210693	25.639 ug/mlm
32)	n-C28	27.789	214562	25.780 ug/mlm
33)	n-C29	28.880	215842	25.885 ug/mlm
35)	n-C30	29.937	213096	25.926 ug/mlm
36)	n-C31	30.965	211394	26.259 ug/mlm
37)	n-C32	31.958	207072	26.140 ug/mlm
38)	n-C33	32.923	203830	26.625 ug/mlm
39)	n-C34	33.863	204389	26.546 ug/mlm
40)	n-C35	34.857	197418	26.545 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073J.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 06:55:19
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 15:06:55 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.988	204046	25.601	ug/mlm
42)	n-C37	37.290	183360	25.535	ug/mlm
43)	n-C38	38.805	176689	25.064	ug/mlm
44)	n-C39	40.589	164587	24.285	ug/mlm
45)	n-C40	42.694	149936	24.337	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

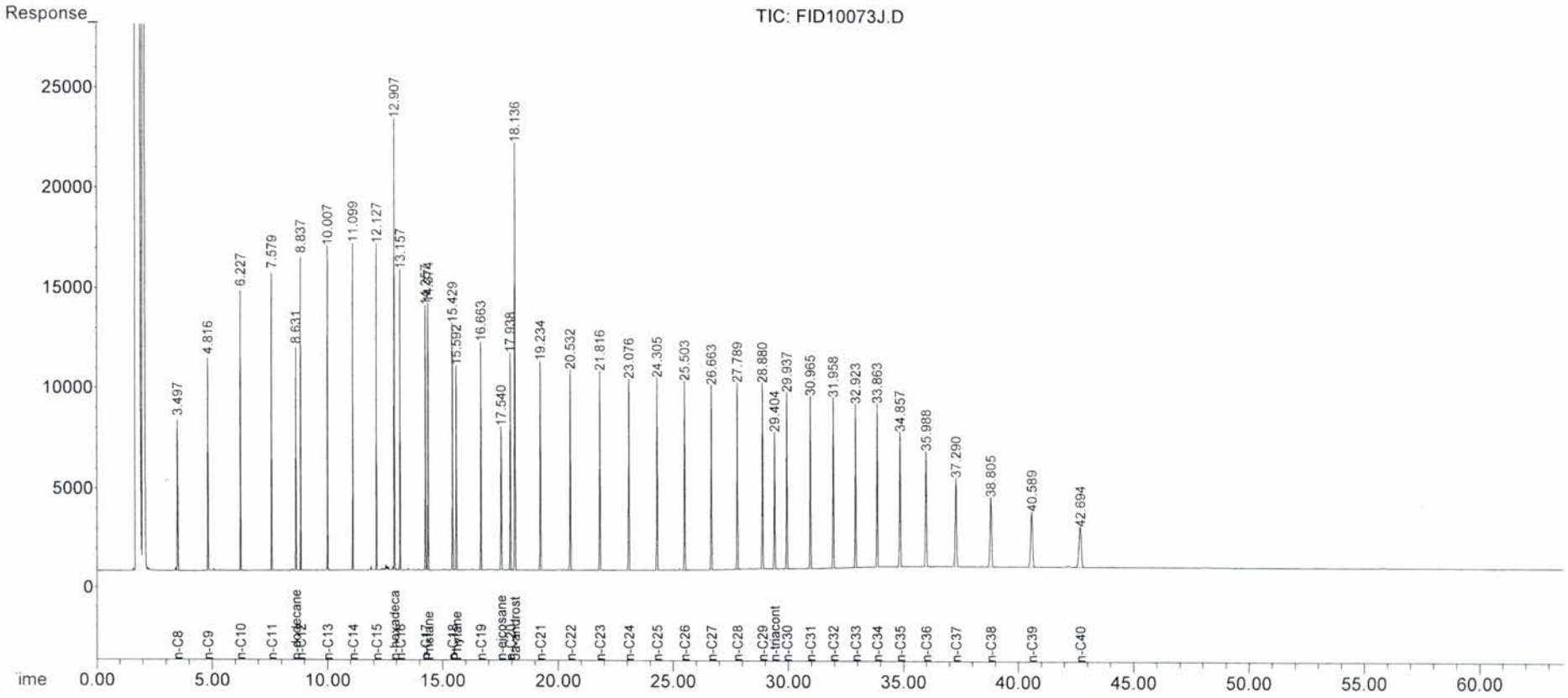
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073J.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 06:55:19
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 15:06:55 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Aliphatic Mass Discrimination Ratio

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

File Name	Sample Name	n-C20 (Area)	n-C36 (Area)	n-C36/n-C20 ratio	Q
FID10073C.D	AL-WKC1-1.25-019	12143	12037	0.99	
FID10073D.D	AL-WKC2-10-019	98208	97002	0.99	
FID10073E.D	AL-WKC3-25-019	243017	233923	0.96	
FID10073F.D	AL-WKC4-40-019	383571	364710	0.95	
FID10073G.D	AL-WKC5-50-019	454323	427630	0.94	
FID10073H.D	AL-WKC6-100-019	920851	842927	0.92	
FID10073I.D	AL-WKICV-25-002	216961	212254	0.98	
FID10073J.D	AL-WKCC-25-024	208214	204046	0.98	
FID10074B.D	AL-WKCC-25-024	219556	197505	0.90	
FID10074G.D	AL-WKCC-25-024	211105	188907	0.89	
FID10074J.D	AL-WKCC-25-024	208640	186042	0.89	

Qualifiers (Q): Ratio of n-C36 to n-C20 needs to be > 0.70

Aliphatic Internal Standard Area Data

B&B Laboratories
Project J13034
Report 13-3089

Arcadis-Mayflower AR
Aliphatic Hyrdocarbon and Total Petroleum Hydrocarbon Data
Area of Internal Standards

Client Project # B0086003.1301 B0086003.1302

File Name	Sample Name	Internal Standard 1 n-hexadecane-d34			Internal Standard 2 5α-androstane		
		Response (Area)	50% (Area)	200% (Area)	Response (Area)	50% (Area)	200% (Area)
FID10073E.D	**AL-WKC3-25-019**	**383337**	**191669**	**766674**	**499201**	**249601**	**998402**
FID10073I.D	**AL-WKICV-25-002**	**330942**	**165471**	**661884**	**432505**	**216253**	**865010**
FID10073J.D	**AL-WKCC-25-024**	**328340**	**164170**	**656680**	**427035**	**213518**	**854070**
FID10074B.D	**AL-WKCC-25-024**	**354101**	**177051**	**708202**	**446506**	**223253**	**893012**
FID10074C.D	AL-WKSRM2779-20-01	377398			501190		
FID10074F.D	AL-WKPem-001	362561			453185		
ENV3076A.D	Procedural Blank	338521			441772		
ENV3076C.D	MS (SED-DA-028 (0-0.5))	341391			433601		
ENV3076D.D	MSD (SED-DA-028 (0-0.5))	245738			305884		
ENV3076E.D	Duplicate (ARC1560)	293747			372382		
FID10074G.D	**AL-WKCC-25-024**	**341543**	**170772**	**683086**	**429216**	**214608**	**858432**
ARC1558.D	SED-DA-032 (0-0.5)	303666			384249		
ARC1560.D	SED-DA-032 (1.0-1.5)	307195			386469		
ARC1561.D	SED-DA-031 (0-0.5)	291792			374479		
ARC1566.D	SED-DA-029 (0-0.5)	297665			372170		
ARC1571.D	SED-DA-030 (0-0.5)	193908			251955		
ARC1574.D	SED-DA-028 (0-0.5)	325780			411628		
ARC1579.D	SED-DA-027 (0-0.5)	324774			408256		
FID10074J.D	**AL-WKCC-25-024**	**337305**	**168653**	**674610**	**422972**	**211486**	**845944**

Polycyclic Aromatic Hydrocarbon
Initial Calibration Data
and
Initial Calibration Verification Data

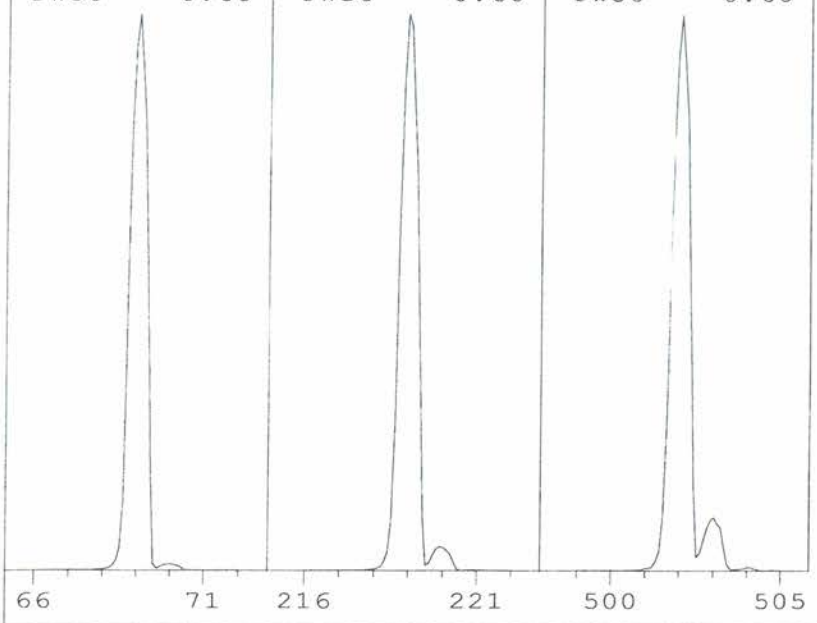
PAH ICAL
AR 60140.M

GC/MS 6
(PAH-2012)

Autotune

Mon Aug 12 14:36:06 2013 Instrument: GCMS5
C:\MSDCHEM\1\5975\atune.u US83141113

Mass	69.00	Mass	218.90	Mass	502.00
Ab	495876	Ab	446184	Ab	28567
Pw50	0.60	Pw50	0.60	Pw50	0.60

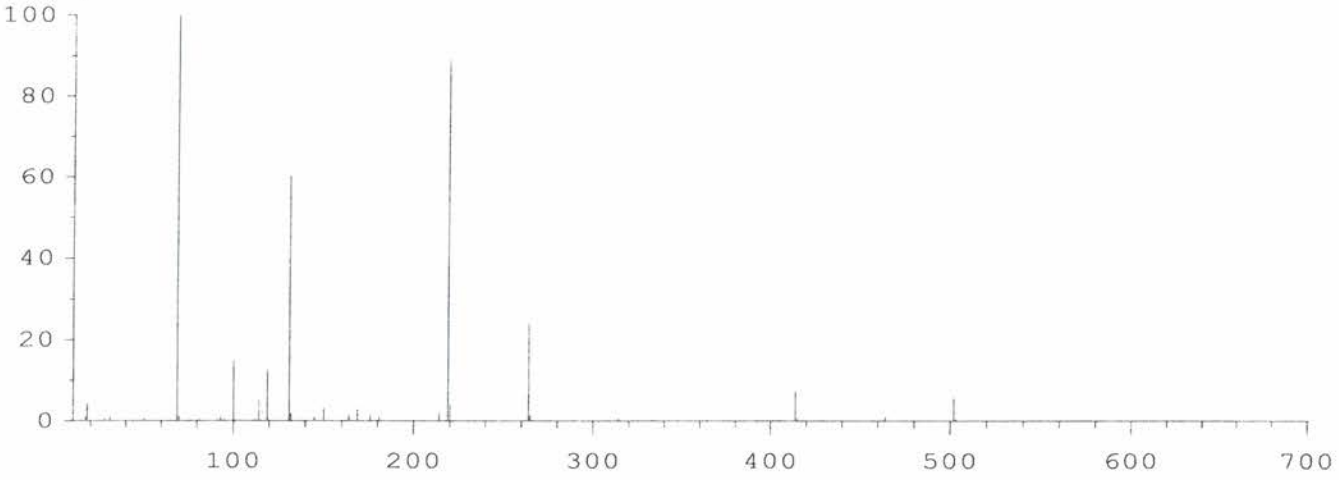


Ion Pol	Pos	MassGain	-605
		MassOffs	-39
Emission	34.6	AmuGain	1984
EIEnrgy	69.9	AmuOffs	122.19
Filament	1	Wid219	-0.015
		DC Pol	Neg
Repeller	25.77		
IonFcus	90.2	HEDEnab	On
EntLens	32.0	EMVolts	1282
EntOffs	17.57		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	290	Turbo Speed	100
MS Quad	180	HiVac	2.05e05

Scan: 10.00 - 701.00 Samples: 8 Thresh: 100 Step: 0.10
139 peaks Base: 69.00 Abundance: 469568



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	469568	100.00	70.00	5289	1.13
219.00	420352	89.52	220.00	18432	4.38
502.00	26480	5.64	503.00	2793	10.55

Air/Water Check: H2O~4.16% N2~0.77% O2~0.27% CO2~0.32% N2/H2O~18.53%

Column(1) Flow: 1.18 Column(2): 0 ml/min. Interface Temp: 290

Ramp Criteria:

Ion Focus Maximum	90	volts using ion	502;	EM Gain	44670
Repeller Maximum	35	volts using ion	219;	Gain Factor	0.45

MassGain Values(Samples): -602(3) -601(2) -587(1) -563(0) -476(FS)

TARGET MASS:	50	69	131	219	414	502	1050
Amu Offset:	122.2	122.2	122.2	122.2	122.2	122.2	122.2
Entrance Lens Offset:	17.6	17.6	17.6	17.6	17.6	17.6	17.6

Method Path : C:\GCMS6\MS60140\
Method File : AR60140.M
Title : PAH Calibration Table-2013A
Last Update : Tue Aug 13 13:53:14 2013
Response Via : Initial Calibration

Calibration Files
1 =MS60140B.D 2 =MS60140C.D 3 =MS60140D.D 4 =MS60140E.D 5 =MS60140F.D
6 =MS60140G.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	Fluorene-d10	----------ISTD----------							
2)	S	Naphthalene-d8	2.189	1.803	1.716	1.728	1.801	1.751	1.831	9.77
3)	T	cis/trans Decalin	0.372	0.324	0.309	0.297	0.306	0.297	0.318	8.98
4)	un	C1-Decalins	0.372	0.324	0.309	0.297	0.306	0.297	0.318	8.98
5)	un	C2-Decalins	0.372	0.324	0.309	0.297	0.306	0.297	0.318	8.98
6)	un	C3-Decalins	0.372	0.324	0.309	0.297	0.306	0.297	0.318	8.98
7)	un	C4-Decalins	0.372	0.324	0.309	0.297	0.306	0.297	0.318	8.98
8)	T	Naphthalene	2.382	1.981	1.873	1.883	1.939	1.883	1.990	9.87
9)	T	2-Methylnaphth...	1.498	1.221	1.162	1.181	1.239	1.243	1.257	9.72
10)	T	1-Methylnaphth...	1.367	1.156	1.096	1.118	1.156	1.141	1.172	8.38
11)	T	2,6-Dimethylna...	1.225	1.028	0.990	1.009	1.063	1.086	1.067	7.96
12)	T	1,6,7-Trimethy...	1.199	0.979	0.932	0.970	1.024	1.036	1.023	9.19
13)	un	C2-Naphthalenes	2.382	1.981	1.873	1.883	1.939	1.883	1.990	9.87
14)	un	C3-Naphthalenes	2.382	1.981	1.873	1.883	1.939	1.883	1.990	9.87
15)	un	C4-Naphthalenes	2.382	1.981	1.873	1.883	1.939	1.883	1.990	9.87
16)	T	Benzothiophene	1.871	1.587	1.485	1.486	1.534	1.489	1.576	9.54
17)	un	C1-Benzothioph...	1.871	1.587	1.485	1.486	1.534	1.489	1.576	9.54
18)	un	C2-Benzothioph...	1.871	1.587	1.485	1.486	1.534	1.489	1.576	9.54
19)	un	C3-Benzothioph...	1.871	1.587	1.485	1.486	1.534	1.489	1.576	9.54
20)	un	C4-Benzothioph...	1.871	1.587	1.485	1.486	1.534	1.489	1.576	9.54
21)	S	Acenaphthene-d10	1.142	0.946	0.894	0.928	0.965	0.973	0.974	8.89
22)	T	Biphenyl	1.854	1.554	1.493	1.516	1.583	1.578	1.596	8.22
23)	T	Acenaphthylene	1.946	1.599	1.523	1.580	1.705	1.878	1.705	10.09
24)	T	Acenaphthene	1.268	1.059	1.008	1.048	1.090	1.074	1.091	8.34
25)	T	Dibenzofuran	1.957	1.659	1.609	1.633	1.718	1.747	1.721	7.36
26)	T	Fluorene	1.594	1.314	1.257	1.283	1.369	1.420	1.373	8.98
27)	T	1-Methylfluorene	0.915	0.724	0.683	0.715	0.740	0.749	0.754	10.84
28)	un	C1-Fluorenes	1.594	1.314	1.257	1.283	1.369	1.420	1.373	8.98
29)	un	C2-Fluorenes	1.594	1.314	1.257	1.283	1.369	1.420	1.373	8.98
30)	un	C3-Fluorenes	1.594	1.314	1.257	1.283	1.369	1.420	1.373	8.98
31)	I	Pyrene-d10	----------ISTD----------							
32)	S	Phenanthrene-d10	1.126	0.966	0.934	0.991	0.974	0.925	0.986	7.37
33)	T	Carbazole	0.975	0.811	0.791	0.874	0.920	1.001	0.896	9.54
34)	T	Dibenzothiophene	1.234	1.059	1.041	1.099	1.129	1.124	1.114	6.11
35)	T	4-Methyldibenz...	0.713	0.611	0.598	0.637	0.654	0.721	0.656	7.83
36)	un	2/3-Methyldibe...	0.713	0.611	0.598	0.637	0.654	0.721	0.656	7.83
37)	un	1-Methyldibenz...	0.713	0.611	0.598	0.637	0.654	0.721	0.656	7.83
38)	un	C2-Dibenzothio...	1.234	1.059	1.041	1.099	1.129	1.124	1.114	6.11
39)	un	C3-Dibenzothio...	1.234	1.059	1.041	1.099	1.129	1.124	1.114	6.11
40)	un	C4-Dibenzothio...	1.234	1.059	1.041	1.099	1.129	1.124	1.114	6.11
41)	T	Phenanthrene	1.136	1.017	0.995	1.057	1.014	0.964	1.030	5.83
42)	T	Anthracene	1.016	0.885	0.862	0.922	0.902	0.900	0.914	5.88
43)	un	3-Methylphenan...	0.810	0.696	0.682	0.735	0.780	0.900	0.767	10.58
44)	un	2-Methylphenan...	0.810	0.696	0.682	0.735	0.780	0.900	0.767	10.58
45)	un	2-Methylanthra...	0.810	0.696	0.682	0.735	0.780	0.900	0.767	10.58
46)	un	4/9-Methylphen...	0.810	0.696	0.682	0.735	0.780	0.900	0.767	10.58
47)	T	1-Methylphenan...	0.810	0.696	0.682	0.735	0.780	0.900	0.767	10.58
48)	T	3,6-Dimethylph...	0.857	0.722	0.702	0.763	0.797	0.827	0.778	7.73
49)	T	Retene	0.308	0.265	0.259	0.283	0.287	0.329	0.289	9.13
50)	un	C2-Phenanthren...	1.136	1.017	0.995	1.057	1.014	0.964	1.030	5.83
51)	un	C3-Phenanthren...	1.136	1.017	0.995	1.057	1.014	0.964	1.030	5.83
52)	un	C4-Phenanthren...	1.136	1.017	0.995	1.057	1.014	0.964	1.030	5.83
53)	T	Naphthobenzoth...	1.014	0.861	0.826	0.918	0.947	1.179	0.958	13.26

Method Path : C:\GCMS6\MS60140\
Method File : AR60140.M
Title : PAH Calibration Table-2013A

54)	un	C1-Naphthobenz...	1.014	0.861	0.826	0.918	0.947	1.179	0.958	13.26
55)	un	C2-Naphthobenz...	1.014	0.861	0.826	0.918	0.947	1.179	0.958	13.26
56)	un	C3-Naphthobenz...	1.014	0.861	0.826	0.918	0.947	1.179	0.958	13.26
57)	un	C4-Naphthobenz...	1.014	0.861	0.826	0.918	0.947	1.179	0.958	13.26
58)	T	Fluoranthene	1.397	1.195	1.171	1.268	1.301	1.338	1.278	6.70
59)	T	Pyrene	1.336	1.131	1.056	1.129	1.150	1.312	1.186	9.45
60)	T	2-Methylfluora...	0.769	0.646	0.612	0.663	0.682	0.800	0.696	10.56
61)	T	Benzo(b)fluorene	0.768	0.678	0.663	0.736	0.725	0.730	0.717	5.45
62)	un	C1-Fluoranthen...	1.397	1.195	1.171	1.268	1.301	1.338	1.278	6.70
63)	un	C2-Fluoranthen...	1.397	1.195	1.171	1.268	1.301	1.338	1.278	6.70
64)	un	C3-Fluoranthen...	1.397	1.195	1.171	1.268	1.301	1.338	1.278	6.70
65)	un	C4-Fluoranthen...	1.397	1.195	1.171	1.268	1.301	1.338	1.278	6.70
66)	S	Chrysene-d12	0.947	0.841	0.849	0.957	0.997	1.332	0.987	18.21
67)	T	Benz(a)anthracene	0.907	0.792	0.767	0.862	0.907	1.103	0.890	13.44
68)	T	Chrysene/Triph...	1.180	1.089	1.051	1.197	1.237	1.543	1.216	14.35
69)	un	C1-Chrysenes	1.180	1.089	1.051	1.197	1.237	1.543	1.216	14.35
70)	un	C2-Chrysenes	1.180	1.089	1.051	1.197	1.237	1.543	1.216	14.35
71)	un	C3-Chrysenes	1.180	1.089	1.051	1.197	1.237	1.543	1.216	14.35
72)	un	C4-Chrysenes	1.180	1.089	1.051	1.197	1.237	1.543	1.216	14.35
73)	I	Benzo(a)pyrene-d12	----------ISTD----------							
74)	un	C29-Hopane	0.490	0.412	0.388	0.394	0.415	0.391	0.415	9.24
75)	un	18a-Oleanane	0.490	0.412	0.388	0.394	0.415	0.391	0.415	9.24
76)	T	C30-Hopane	0.490	0.412	0.388	0.394	0.415	0.391	0.415	9.24
77)	T	Benzo(b)fluora...	1.607	1.426	1.319	1.417	1.452	1.550	1.462	7.01
78)	T	Benzo(k,j)fluo...	1.625	1.515	1.459	1.537	1.631	1.419	1.531	5.61
79)	un	Benzo(a)fluora...	1.625	1.515	1.459	1.537	1.631	1.419	1.531	5.61
80)	T	Benzo(e)pyrene	1.863	1.618	1.491	1.570	1.600	1.414	1.593	9.58
81)	T	Benzo(a)pyrene	1.464	1.363	1.224	1.300	1.344	1.518	1.369	7.84
82)	T	Indeno(1,2,3-c...	1.427	1.301	1.243	1.292	1.395	1.476	1.356	6.67
83)	T	Dibenzo(a,h)an...	1.110	1.023	0.977	1.057	1.122	1.116	1.068	5.53
84)	un	C1-Dibenzo(a,h...	1.110	1.023	0.977	1.057	1.122	1.116	1.068	5.53
85)	un	C2-Dibenzo(a,h...	1.110	1.023	0.977	1.057	1.122	1.116	1.068	5.53
86)	un	C3-Dibenzo(a,h...	1.110	1.023	0.977	1.057	1.122	1.116	1.068	5.53
87)	T	Benzo(g,h,i)pe...	1.308	1.145	1.060	1.107	1.125	1.162	1.151	7.35
88)	S	Perylene-d12	1.345	1.235	1.182	1.199	1.263	1.249	1.245	4.63
89)	T	Perylene	1.519	1.396	1.339	1.406	1.451	1.516	1.438	4.94
90)	S	5(b)H-Cholane	0.304	0.266	0.243	0.253	0.266	0.224	0.260	10.36
91)	un	C20-TAS	1.938	1.638	1.505	1.620	1.706	1.718	1.688	8.55
92)	un	C21-TAS	1.938	1.638	1.505	1.620	1.706	1.718	1.688	8.55
93)	un	C26(20S)-TAS	1.938	1.638	1.505	1.620	1.706	1.718	1.688	8.55
94)	T	C26(20R)/C27(2...	1.938	1.638	1.505	1.620	1.706	1.718	1.688	8.55
95)	un	C28(20S)-TAS	1.938	1.638	1.505	1.620	1.706	1.718	1.688	8.55
96)	un	C27(20R)-TAS	1.938	1.638	1.505	1.620	1.706	1.718	1.688	8.55
97)	un	C28(20R)-TAS	1.938	1.638	1.505	1.620	1.706	1.718	1.688	8.55

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140B.D
Acq On : 12 Aug 2013 7:24 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 13 13:53:08 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 11:47:10 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.344	176	149729m	251.05		0.00
31) Pyrene-d10	29.606	212	297065m	250.63		0.00
73) Benzo(a)pyrene-d12	38.343	264	241044m	250.32		-0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.709	136	26122m	23.99		0.00
21) Acenaphthene-d10	19.561	164	13625m	23.52		0.00
32) Phenanthrene-d10	24.687	188	26707m	22.97		0.00
66) Chrysene-d12	33.803	240	22451m	18.82		0.00
88) Perylene-d12	38.654	264	25912m	21.04		-0.04
90) 5(b)H-Cholane	34.191	217	5856m	22.91		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.090	138	4389m	34.06		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.793	128	28412m	23.99		
9) 2-Methylnaphthalene	16.022	142	17885m	23.91		
10) 1-Methylnaphthalene	16.356	142	16289m	23.34		
11) 2,6-Dimethylnaphthalene	18.140	156	14608m	22.93		
12) 1,6,7-Trimethylnaphtha...	20.982	170	14307m	23.48		
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	13.960	134	22189m	23.70		
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	17.610	154	21920m	22.99		
23) Acenaphthylene	19.087	152	23025m	22.57		
24) Acenaphthene	19.672	154	15155m	23.36		
25) Dibenzofuran	20.285	168	23222m	22.63		
26) Fluorene	21.456	166	19051m	23.20		
27) 1-Methylfluorene	23.440	180	10995m	24.37		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.519	167	22915m	21.71		
34) Dibenzothiophene	24.341	184	28835m	21.87		
35) 4-Methyldibenzothiophene	25.865	198	17033m	22.05		
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	24.757	178	26694m	22.00		
42) Anthracene	24.930	178	24160m	22.40		

Data Path : C:\GCMS6\MS60140\
Data File : MS60140B.D
Acq On : 12 Aug 2013 7:24 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 13 13:53:08 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 11:47:10 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D.	d	
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	26.904	192	18997m	20.95		
48) 3,6-Dimethylphenanthrene	27.978	206	20334m	22.08		
49) Retene	30.645	234	6515m	19.15		
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	32.949	234	24181m	20.65		
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.879	202	33158m	21.93		
59) Pyrene	29.676	202	31681m	22.60		
60) 2-Methylfluoranthene	30.403	216	18361m	22.41		
61) Benzo(b)fluorene	31.026	216	18379m	21.48		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.764	228	21450m	20.47		
68) Chrysene/Triphenylene	33.880	228	27809m	20.11		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.736	191	9429m	910.45		
77) Benzo(b)fluoranthene	37.295	252	31013m	20.24		
78) Benzo(k,j)fluoranthene	37.373	252	31165m	19.43		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.266	252	35729m	23.41		
81) Benzo(a)pyrene	38.460	252	28144m	21.06		
82) Indeno(1,2,3-c,d)pyrene	43.105	276	27010m	19.57		
83) Dibenzo(a,h)anthracene	43.178	278	21193m	19.15		
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	24969m	21.50		
89) Perylene	38.770	252	29275m	20.61		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.391	231	37315m	22.21		
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\MS60140\
Data File : MS60140B.D
Acq On : 12 Aug 2013 7:24 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 13 13:53:08 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 11:47:10 2013
Response via : Initial Calibration

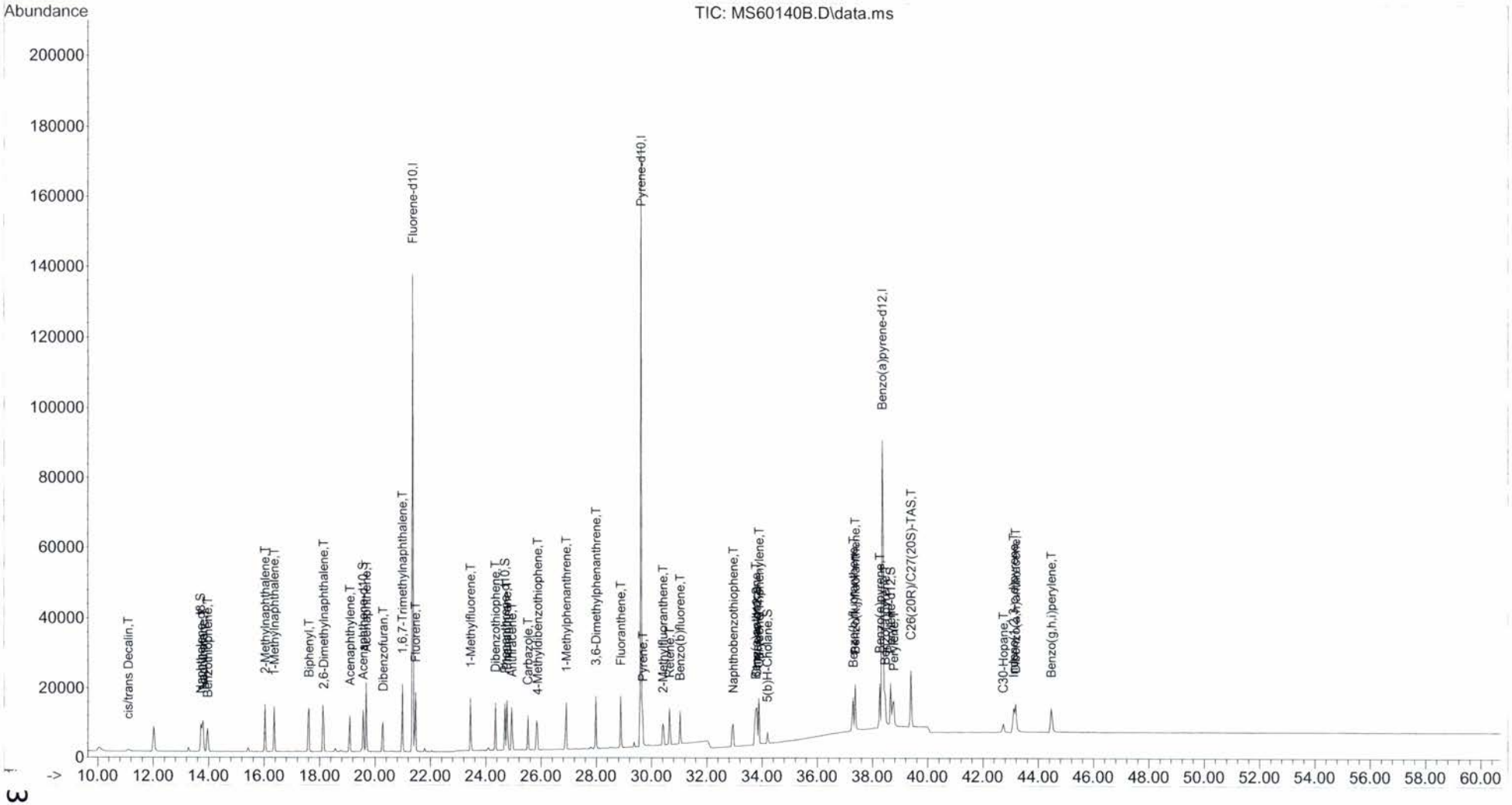
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140B.D
Acq On : 12 Aug 2013 7:24 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 13 13:53:08 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 11:47:10 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140C.D
Acq On : 12 Aug 2013 8:33 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 13 13:28:03 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:23:04 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.343	176	149983m	251.05		0.00
31) Pyrene-d10	29.606	212	290057m	250.63		0.00
73) Benzo(a)pyrene-d12	38.343	264	225628m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.708	136	107746m	98.58		0.00
21) Acenaphthene-d10	19.560	164	56550m	97.22		0.00
32) Phenanthrene-d10	24.688	188	111935m	98.34		0.00
66) Chrysene-d12	33.803	240	97356m	83.63		0.00
88) Perylene-d12	38.654	264	111339m	96.70		0.00
90) 5(b)H-Cholane	34.191	217	23993m	100.61		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.088	138	19166m	129.97		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.791	128	118321m	99.56		
9) 2-Methylnaphthalene	16.021	142	73008m	97.26		
10) 1-Methylnaphthalene	16.355	142	68970m	98.60		
11) 2,6-Dimethylnaphthalene	18.139	156	61444m	96.36		
12) 1,6,7-Trimethylnaphtha...	20.981	170	58480m	95.63		
13) C2-Naphthalenes	0.000		0	N.D.		
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.		
16) Benzothiophene	13.959	134	94269m	100.29		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.609	154	91997m	96.36		
23) Acenaphthylene	19.086	152	94787m	92.63		
24) Acenaphthene	19.671	154	63409m	97.16		
25) Dibenzofuran	20.284	168	98638m	95.90		
26) Fluorene	21.455	166	78663m	95.81		
27) 1-Methylfluorene	23.441	180	43606m	96.41		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.519	167	93058m	90.02		
34) Dibenzothiophene	24.341	184	120861m	93.79		
35) 4-Methyldibenzothiophene	25.865	198	71301m	94.33		
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	116628m	98.33		
42) Anthracene	24.930	178	102694m	97.41		

Data Path : C:\GCMS6\MS60140\
Data File : MS60140C.D
Acq On : 12 Aug 2013 8:33 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 13 13:28:03 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:23:04 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D.	d	
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	26.904	192	79711m	89.88		
48) 3,6-Dimethylphenanthrene	27.978	206	83656m	92.88		
49) Retene	30.646	234	27407m	82.23		
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	32.949	234	100296m	87.63		
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	28.879	202	138497m	93.54		
59) Pyrene	29.676	202	130915m	95.53		
60) 2-Methylfluoranthene	30.403	216	75322m	93.93		
61) Benzo(b)fluorene	31.027	216	79220m	94.98		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.764	228	91499m	88.71		
68) Chrysene/Triphenylene	33.881	228	125294m	91.99		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.735	191	37177m	458.96		
77) Benzo(b)fluoranthene	37.295	252	128829m	87.90		
78) Benzo(k,j)fluoranthene	37.373	252	135977m	88.81		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.266	252	145220m	100.91		
81) Benzo(a)pyrene	38.460	252	122622m	98.30		
82) Indeno(1,2,3-c,d)pyrene	43.104	276	115256m	90.01		
83) Dibenzo(a,h)anthracene	43.178	278	91362m	89.23		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.469	276	102230m	94.10		
89) Perylene	38.770	252	125949m	95.08		
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	39.391	231	147643m	94.26		
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\MS60140\
Data File : MS60140C.D
Acq On : 12 Aug 2013 8:33 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 13 13:28:03 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:23:04 2013
Response via : Initial Calibration

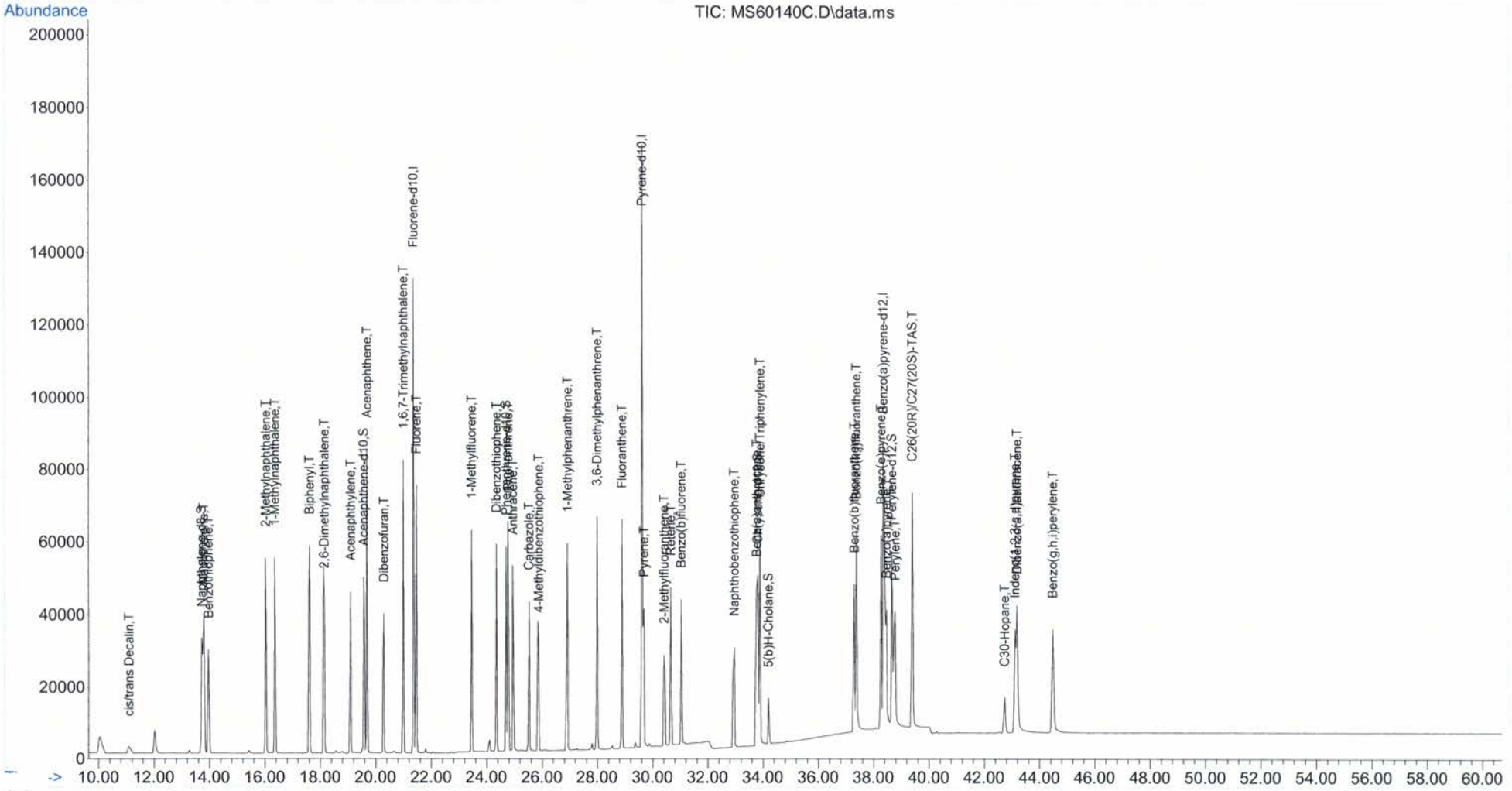
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140C.D
Acq On : 12 Aug 2013 8:33 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 13 13:28:03 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:23:04 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140D.D
Acq On : 12 Aug 2013 9:43 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 13 13:32:55 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:28:10 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.341	176	142889m	251.05		0.00
31) Pyrene-d10	29.606	212	273389m	250.63		0.00
73) Benzo(a)pyrene-d12	38.343	264	220989m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.706	136	244364m	234.61		0.00
21) Acenaphthene-d10	19.558	164	127237m	229.60		0.00
32) Phenanthrene-d10	24.687	188	254934m	237.30		0.00
66) Chrysene-d12	33.802	240	231658m	211.20		0.00
88) Perylene-d12	38.653	264	260794m	230.51		0.00
90) 5(b)H-Cholane	34.190	217	53694m	229.32		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.087	138	43480m	287.90		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.790	128	266515m	235.38		
9) 2-Methylnaphthalene	16.019	142	165446m	231.32		
10) 1-Methylnaphthalene	16.353	142	155782m	233.68		
11) 2,6-Dimethylnaphthalene	18.137	156	140804m	231.81		
12) 1,6,7-Trimethylnaphtha...	20.979	170	132647m	227.72		
13) C2-Naphthalenes	0.000		0	N.D.		
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.		
16) Benzothiophene	13.957	134	210045m	234.35		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.607	154	210480m	231.49		
23) Acenaphthylene	19.084	152	214917m	220.67		
24) Acenaphthene	19.669	154	143650m	231.12		
25) Dibenzofuran	20.282	168	227869m	232.61		
26) Fluorene	21.453	166	179252m	229.34		
27) 1-Methylfluorene	23.440	180	97985m	227.71		
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	25.519	167	213804m	219.33		
34) Dibenzothiophene	24.341	184	279974m	230.27		
35) 4-Methyldibenzothiophene	25.865	198	164452m	230.60		
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	268830m	240.10		
42) Anthracene	24.930	178	235688m	236.77		

Data Path : C:\GCMS6\MS60140\
Data File : MS60140D.D
Acq On : 12 Aug 2013 9:43 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 13 13:32:55 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:28:10 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D.	d	
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	26.904	192	184071m	220.08		
48) 3,6-Dimethylphenanthrene	27.978	206	191764m	225.73		
49) Retene	30.645	234	63142m	200.95		
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	32.948	234	226611m	210.11		
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.879	202	319643m	228.93		
59) Pyrene	29.675	202	288109m	223.04		
60) 2-Methylfluoranthene	30.403	216	168152m	222.17		
61) Benzo(b)fluorene	31.026	216	182424m	232.25		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.763	228	208810m	213.21		
68) Chrysene/Triphenylene	33.880	228	284999m	219.84		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.736	191	85569m	620.43		
77) Benzo(b)fluoranthene	37.295	252	291745m	198.99		
78) Benzo(k,j)fluoranthene	37.372	252	320681m	208.58		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.265	252	327850m	230.83		
81) Benzo(a)pyrene	38.459	252	269572m	219.06		
82) Indeno(1,2,3-c,d)pyrene	43.104	276	269710m	215.35		
83) Dibenzo(a,h)anthracene	43.178	278	213719m	214.10		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.469	276	231912m	218.19		
89) Perylene	38.769	252	295909m	227.37		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.390	231	332216m	216.60		
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\MS60140\
Data File : MS60140D.D
Acq On : 12 Aug 2013 9:43 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 13 13:32:55 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:28:10 2013
Response via : Initial Calibration

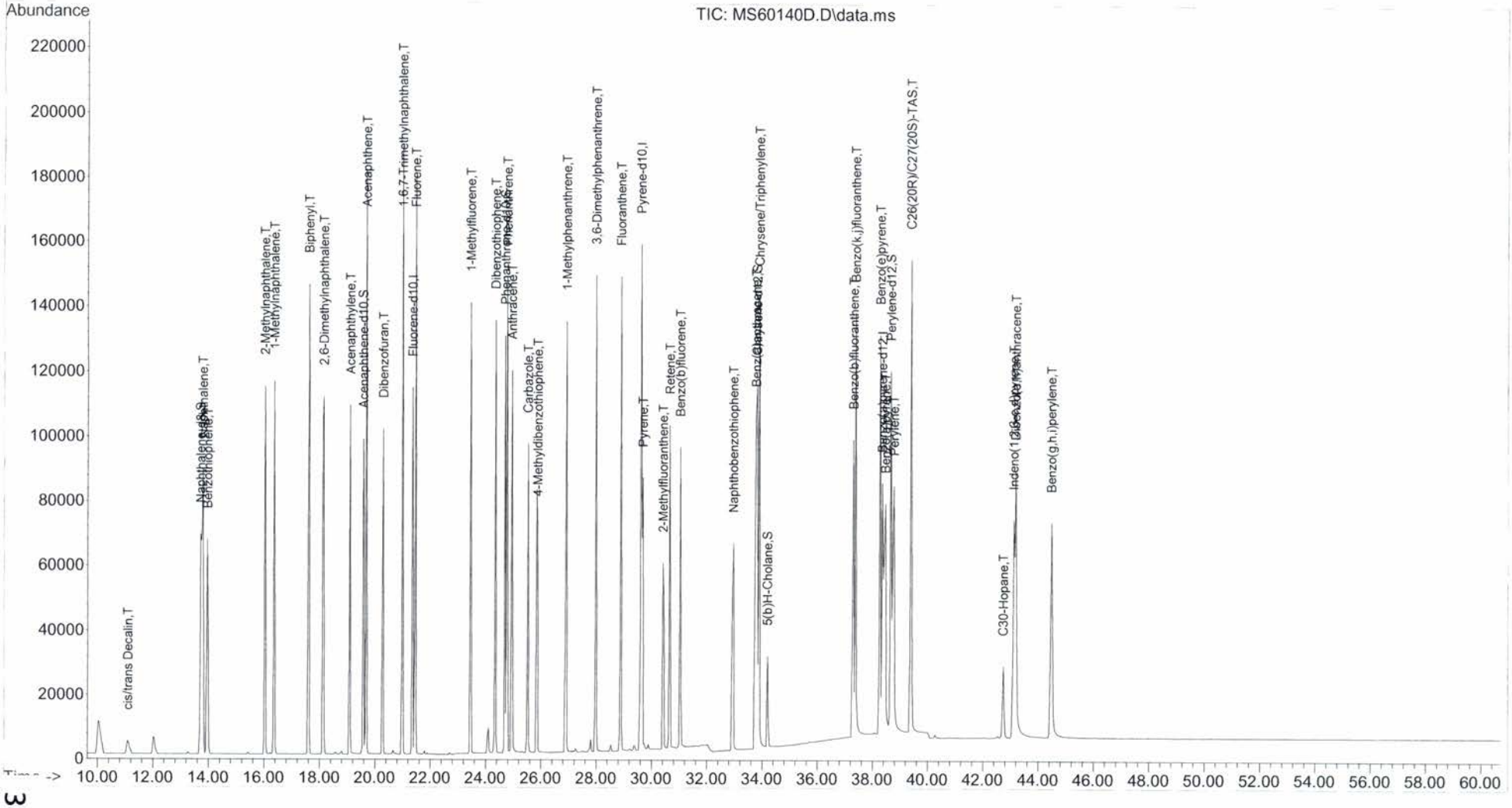
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140D.D
Acq On : 12 Aug 2013 9:43 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 13 13:32:55 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:28:10 2013
Response via : Initial Calibration



Data Path : C:\GCMS6\MS60140\
Data File : MS60140E.D
Acq On : 12 Aug 2013 10:52 pm
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 13 13:38:09 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:33:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.342	176	157880m	251.05		0.00
31) Pyrene-d10	29.607	212	295654m	250.63		0.00
73) Benzo(a)pyrene-d12	38.342	264	245133m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.707	136	543472m	472.09		0.00
21) Acenaphthene-d10	19.559	164	292001m	476.77		0.00
32) Phenanthrene-d10	24.688	188	584867m	502.70		0.00
66) Chrysene-d12	33.801	240	564418m	475.42		0.00
88) Perylene-d12	38.652	264	587120m	467.45		0.00
90) 5(b)H-Cholane	34.189	217	123891m	477.58		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.088	138	92312m	517.89		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.791	128	591946m	473.12		
9) 2-Methylnaphthalene	16.020	142	371835m	470.45		
10) 1-Methylnaphthalene	16.354	142	351235m	476.73		
11) 2,6-Dimethylnaphthalene	18.138	156	317367m	472.81		
12) 1,6,7-Trimethylnaphtha...	20.980	170	305118m	474.12		
13) C2-Naphthalenes	0.000		0	N.D.		
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.		
16) Benzothiophene	13.958	134	464602m	469.05		
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	17.608	154	472343m	470.24		
23) Acenaphthylene	19.085	152	492830m	458.38		
24) Acenaphthene	19.670	154	330123m	480.56		
25) Dibenzofuran	20.283	168	510920m	472.04		
26) Fluorene	21.454	166	404372m	468.32		
27) 1-Methylfluorene	23.441	180	226632m	476.92		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.519	167	511056m	484.46		
34) Dibenzothiophene	24.341	184	639081m	485.49		
35) 4-Methyldibenzothiophene	25.866	198	378676m	490.43		
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	617616m	509.37		
42) Anthracene	24.930	178	545440m	506.05		

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140E.D
Acq On : 12 Aug 2013 10:52 pm
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 13 13:38:09 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:33:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D.	d	
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	26.905	192	428730m	473.71		
48) 3,6-Dimethylphenanthrene	27.979	206	450532m	489.99		
49) Retene	30.646	234	149345m	439.01		
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	32.947	234	545118m	467.38		
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	748613m	495.45		
59) Pyrene	29.676	202	665935m	476.47		
60) 2-Methylfluoranthene	30.403	216	393944m	480.85		
61) Benzo(b)fluorene	31.027	216	438113m	516.12		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.762	228	507355m	475.53		
68) Chrysene/Triphenylene	33.879	228	701811m	497.12		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.735	191	192868m	898.33		
77) Benzo(b)fluoranthene	37.294	252	695059m	420.14		
78) Benzo(k,j)fluoranthene	37.371	252	749742m	430.55		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.264	252	765466m	485.17		
81) Benzo(a)pyrene	38.458	252	635361m	465.69		
82) Indeno(1,2,3-c,d)pyrene	43.104	276	621646m	449.48		
83) Dibenzo(a,h)anthracene	43.177	278	513117m	466.94		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.468	276	536922m	458.09		
89) Perylene	38.768	252	689225m	477.23		
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	39.389	231	793225m	467.79		
95) C28(20S)-TAS	0.000		0	N.D.		
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140E.D
Acq On : 12 Aug 2013 10:52 pm
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 13 13:38:09 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:33:01 2013
Response via : Initial Calibration

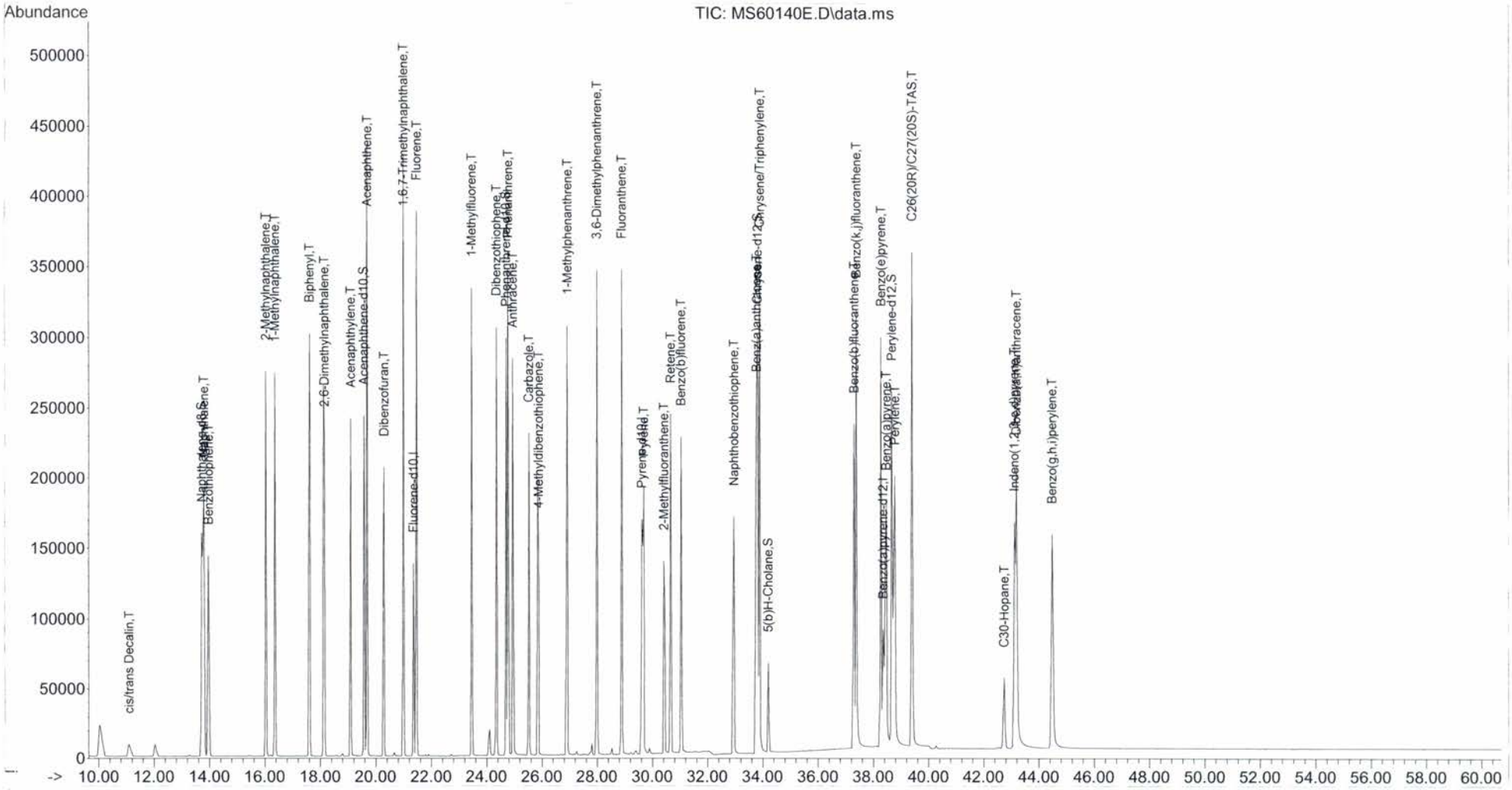
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140E.D
Acq On : 12 Aug 2013 10:52 pm
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 13 13:38:09 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:33:01 2013
Response via : Initial Calibration



Data Path : C:\GCMS6\MS60140\
Data File : MS60140F.D
Acq On : 13 Aug 2013 12:01 am
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 13 13:43:32 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:38:15 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.341	176	152729m	251.05		0.00
31) Pyrene-d10	29.606	212	299629m	250.63		0.00
73) Benzo(a)pyrene-d12	38.342	264	253286m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.705	136	1095974m	984.03		0.00
21) Acenaphthene-d10	19.557	164	587247m	990.99		0.00
32) Phenanthrene-d10	24.687	188	1165748m	987.57		0.00
66) Chrysene-d12	33.802	240	1192430m	992.84		0.00
88) Perylene-d12	38.653	264	1277959m	991.71		0.00
90) 5(b)H-Cholane	34.190	217	269640m	1009.11		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.086	138	184319m	1011.18		
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	13.789	128	1179755m	974.72		
9) 2-Methylnaphthalene	16.018	142	754480m	986.68		
10) 1-Methylnaphthalene	16.353	142	702288m	985.18		
11) 2,6-Dimethylnaphthalene	18.136	156	646606m	996.04		
12) 1,6,7-Trimethylnaphtha...	20.978	170	622693m	1000.28		
13) C2-Naphthalenes	0.000		0	N.D.		
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.		
16) Benzothiophene	13.956	134	927783m	968.15		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.607	154	954326m	982.39		
23) Acenaphthylene	19.084	152	1029059m	990.47		
24) Acenaphthene	19.669	154	664250m	999.99		
25) Dibenzofuran	20.282	168	1039919m	993.39		
26) Fluorene	21.452	166	834676m	999.38		
27) 1-Methylfluorene	23.440	180	453285m	986.82		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.519	167	1090279m	1019.23		
34) Dibenzothiophene	24.341	184	1330313m	996.32		
35) 4-Methyldibenzothiophene	25.865	198	788270m	1006.71		
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	1201921m	977.15		
42) Anthracene	24.930	178	1081028m	989.62		

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140F.D
Acq On : 13 Aug 2013 12:01 am
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 13 13:43:32 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:38:15 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	26.904	192	922670m	1005.64		
48) 3,6-Dimethylphenanthrene	27.978	206	954221m	1023.48		
49) Retene	30.645	234	306750m	889.43		
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	32.948	234	1139110m	964.01		
54) C1-Naphthobenzothiophenes	0.000		0		N.D.	d
55) C2-Naphthobenzothiophenes	0.000		0		N.D.	d
56) C3-Naphthobenzothiophenes	0.000		0		N.D.	d
57) C4-Naphthobenzothiophenes	0.000		0		N.D.	d
58) Fluoranthene	28.878	202	1557131m	1016.47		
59) Pyrene	29.675	202	1374807m	970.26		
60) 2-Methylfluoranthene	30.437	216	820844m	988.02		
61) Benzo(b)fluorene	31.026	216	874336m	1017.77		
62) C1-Fluoranthenes/Pyrenes	0.000		0		N.D.	d
63) C2-Fluoranthenes/Pyrenes	0.000		0		N.D.	d
64) C3-Fluoranthenes/Pyrenes	0.000		0		N.D.	d
65) C4-Fluoranthenes/Pyrenes	0.000		0		N.D.	d
67) Benz(a)anthracene	33.763	228	1081702m	992.43		
68) Chrysene/Triphenylene	33.880	228	1470091m	1019.79		
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	42.735	191	419724m	1463.44		
77) Benzo(b)fluoranthene	37.295	252	1472133m	847.63		
78) Benzo(k,j)fluoranthene	37.372	252	1644098m	899.26		
79) Benzo(a)fluoranthene	0.000		0		N.D.	d
80) Benzo(e)pyrene	38.265	252	1612418m	989.00		
81) Benzo(a)pyrene	38.459	252	1357519m	964.48		
82) Indeno(1,2,3-c,d)pyrene	43.104	276	1387351m	981.59		
83) Dibenzo(a,h)anthracene	43.177	278	1124833m	999.65		
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	44.468	276	1128088m	938.10		
89) Perylene	38.769	252	1470052m	989.47		
91) C20-TAS	0.000		0		N.D.	d
92) C21-TAS	0.000		0		N.D.	d
93) C26(20S)-TAS	0.000		0		N.D.	d
94) C26(20R)/C27(20S)-TAS	39.390	231	1726492m	989.76		
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\MS60140\
Data File : MS60140F.D
Acq On : 13 Aug 2013 12:01 am
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 13 13:43:32 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:38:15 2013
Response via : Initial Calibration

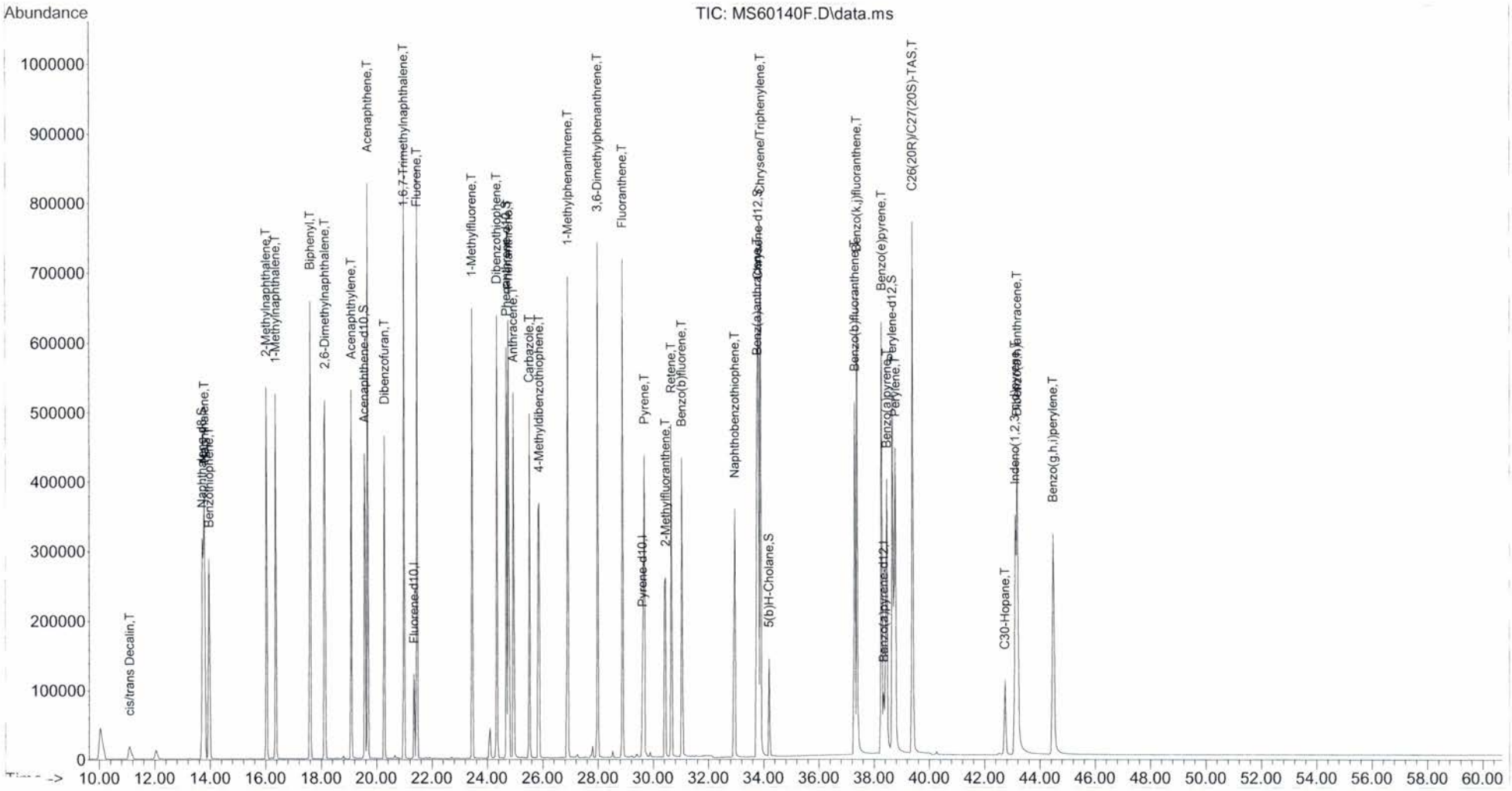
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140F.D
Acq On : 13 Aug 2013 12:01 am
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 13 13:43:32 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:38:15 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140G.D
Acq On : 13 Aug 2013 1:10 am
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 13 13:52:20 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:43:38 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.342	176	145430m	251.05		0.00
31) Pyrene-d10	29.607	212	282926m	250.63		0.00
73) Benzo(a)pyrene-d12	38.380	264	272711m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.707	136	5075510m	4785.05		0.00
21) Acenaphthene-d10	19.559	164	2819816m	4996.51		0.00
32) Phenanthrene-d10	24.688	188	5226487m	4693.17		0.00
66) Chrysene-d12	33.801	240	7517065m	6641.70		0.00
88) Perylene-d12	38.691	264	6801910m	4922.31		0.04
90) 5(b)H-Cholane	34.189	217	1222410m	4269.44		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.088	138	850849m	4646.94		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.791	128	5454176m	4731.99		
9) 2-Methylnaphthalene	16.020	142	3604210m	4949.29		
10) 1-Methylnaphthalene	16.354	142	3301130m	4862.44		
11) 2,6-Dimethylnaphthalene	18.138	156	3144883m	5088.21		
12) 1,6,7-Trimethylnaphtha...	20.980	170	3000334m	5061.53		
13) C2-Naphthalenes	0.000		0	N.D.		
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.		
16) Benzothiophene	13.958	134	4287723m	4698.31		
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	17.608	154	4530276m	4898.10		
23) Acenaphthylene	19.085	152	5396087m	5460.12		
24) Acenaphthene	19.670	154	3118335m	4932.01		
25) Dibenzofuran	20.283	168	5035327m	5051.68		
26) Fluorene	21.454	166	4121965m	5183.09		
27) 1-Methylfluorene	23.441	180	2184815m	4997.84		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.520	167	5598577m	5540.54		
34) Dibenzothiophene	24.342	184	6257697m	4960.01		
35) 4-Methyldibenzothiophene	25.866	198	4103108m	5547.28		
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.		
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.758	178	5390440m	4637.69		
42) Anthracene	24.931	178	5093097m	4937.59		

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140G.D
Acq On : 13 Aug 2013 1:10 am
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 13 13:52:20 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:43:38 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0		N.D.	d
44) 2-Methylphenanthrene	0.000		0		N.D.	d
45) 2-Methylanthracene	0.000		0		N.D.	d
46) 4/9-Methylphenanthrene	0.000		0		N.D.	d
47) 1-Methylphenanthrene	26.905	192	5025526m	5800.19		
48) 3,6-Dimethylphenanthrene	27.979	206	4675178m	5308.85		
49) Retene	30.681	234	1660954m	5099.50		
50) C2-Phenanthrenes/Anthr...	0.000		0		N.D.	d
51) C3-Phenanthrenes/Anthr...	0.000		0		N.D.	d
52) C4-Phenanthrenes/Anthr...	0.000		0		N.D.	
53) Naphthobenzothiophene	32.947	234	6698187m	6011.53		
54) C1-Naphthobenzothiophenes	0.000		0		N.D.	d
55) C2-Naphthobenzothiophenes	0.000		0		N.D.	d
56) C3-Naphthobenzothiophenes	0.000		0		N.D.	d
57) C4-Naphthobenzothiophenes	0.000		0		N.D.	d
58) Fluoranthene	28.880	202	7559081m	5224.91		
59) Pyrene	29.676	202	7403431m	5532.65		
60) 2-Methylfluoranthene	30.438	216	4549156m	5796.69		
61) Benzo(b)fluorene	31.027	216	4156502m	5134.33		
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	33.762	228	6214650m	5991.74		
68) Chrysene/Triphenylene	33.879	228	8658467m	6336.68		
69) C1-Chrysenes	0.000		0		N.D.	d
70) C2-Chrysenes	0.000		0		N.D.	d
71) C3-Chrysenes	0.000		0		N.D.	d
72) C4-Chrysenes	0.000		0		N.D.	d
74) C29-Hopane	0.000		0		N.D.	d
75) 18a-Oleanane	0.000		0		N.D.	d
76) C30-Hopane	42.735	191	2128110m	5562.06		
77) Benzo(b)fluoranthene	37.294	252	8458078m	4461.87		
78) Benzo(k,j)fluoranthene	37.371	252	7700042m	3852.27		
79) Benzo(a)fluoranthene	0.000		0		N.D.	d
80) Benzo(e)pyrene	38.264	252	7669585m	4375.74		
81) Benzo(a)pyrene	38.458	252	8250602m	5457.42		
82) Indeno(1,2,3-c,d)pyrene	43.140	276	7904358m	5245.16		
83) Dibenzo(a,h)anthracene	43.214	278	6025456m	5028.25		
84) C1-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
85) C2-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
86) C3-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
87) Benzo(g,h,i)perylene	44.505	276	6272177m	4907.24		
89) Perylene	38.768	252	8266955m	5193.89		
91) C20-TAS	0.000		0		N.D.	d
92) C21-TAS	0.000		0		N.D.	d
93) C26(20S)-TAS	0.000		0		N.D.	d
94) C26(20R)/C27(20S)-TAS	39.389	231	9358744m	5012.01		
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\MS60140\
Data File : MS60140G.D
Acq On : 13 Aug 2013 1:10 am
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 13 13:52:20 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:43:38 2013
Response via : Initial Calibration

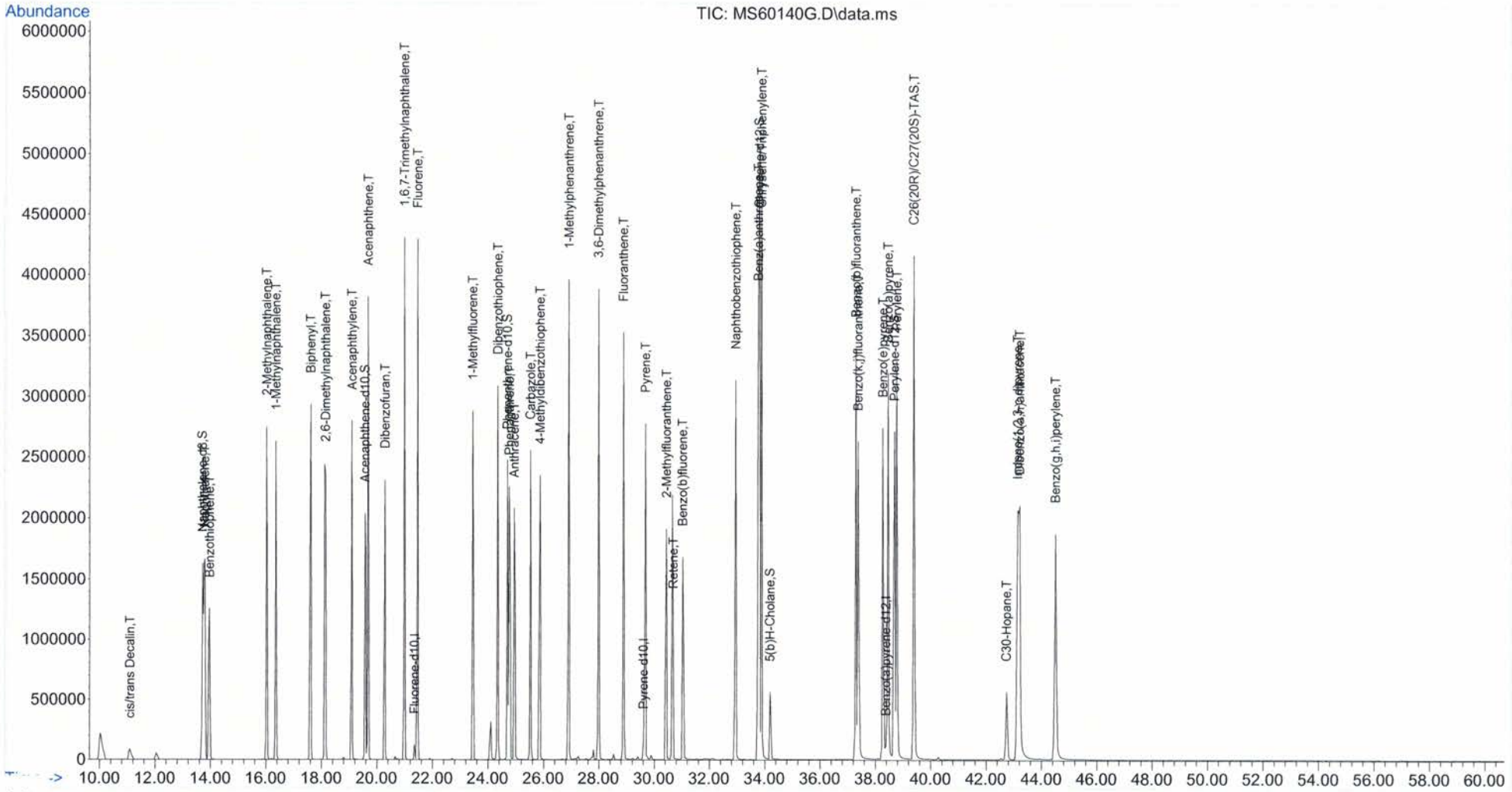
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140G.D
Acq On : 13 Aug 2013 1:10 am
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 13 13:52:20 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:43:38 2013
Response via : Initial Calibration



Data Path : C:\GCMS6\MS60140\
Data File : MS60140I.D
Acq On : 13 Aug 2013 3:29 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 13 14:01:17 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 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	102	0.00
2	S	Naphthalene-d8	1.831	1.654	9.7	98	0.00
3	T	cis/trans Decalin	0.318	0.360	-13.2	119	0.00
4	un	C1-Decalins	0.318	0.000	100.0#	0#	-12.26#
5	un	C2-Decalins	0.318	0.000	100.0#	0#	-13.40#
6	un	C3-Decalins	0.318	0.000	100.0#	0#	-16.13#
7	un	C4-Decalins	0.318	0.000	100.0#	0#	-18.58#
8	T	Naphthalene	1.990	2.218	-11.5	121	0.00
9	T	2-Methylnaphthalene	1.257	1.433	-14.0	126	0.00
10	T	1-Methylnaphthalene	1.172	1.354	-15.5	126	0.00
11	T	2,6-Dimethylnaphthalene	1.067	1.174	-10.0	121	-0.03
12	T	1,6,7-Trimethylnaphthalene	1.023	1.169	-14.3	128	0.00
13	un	C2-Naphthalenes	1.990	0.000	100.0#	0#	-18.47#
14	un	C3-Naphthalenes	1.990	0.000	100.0#	0#	-20.28#
15	un	C4-Naphthalenes	1.990	0.000	100.0#	0#	-21.79#
16	T	Benzothiophene	1.576	1.794	-13.8	123	0.00
17	un	C1-Benzothiophenes	1.576	0.000	100.0#	0#	-15.41#
18	un	C2-Benzothiophenes	1.576	0.000	100.0#	0#	-18.14#
19	un	C3-Benzothiophenes	1.576	0.000	100.0#	0#	-20.23#
20	un	C4-Benzothiophenes	1.576	0.000	100.0#	0#	-22.18#
21	S	Acenaphthene-d10	0.974	0.869	10.8	99	0.00
22	T	Biphenyl	1.596	1.786	-11.9	122	-0.03
23	T	Acenaphthylene	1.705	1.769	-3.8	118	0.00
24	T	Acenaphthene	1.091	1.218	-11.6	123	0.00
25	T	Dibenzofuran	1.721	1.935	-12.4	123	-0.03
26	T	Fluorene	1.373	1.455	-6.0	118	0.00
27	T	1-Methylfluorene	0.754	0.000	100.0#	0#	-23.44#
28	un	C1-Fluorenes	1.373	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.373	0.000	100.0#	0#	-25.10#
30	un	C3-Fluorenes	1.373	0.000	100.0#	0#	-26.70#
31	I	Pyrene-d10	1.000	1.000	0.0	97	0.00
32	S	Phenanthrene-d10	0.986	0.952	3.4	99	0.00
33	T	Carbazole	0.896	0.959	-7.0	117	0.00
34	T	Dibenzothiophene	1.114	1.292	-16.0	120	0.00
35	T	4-Methyldibenzothiophene	0.656	0.000	100.0#	0#	-25.87#
36	un	2/3-Methyldibenzothiophene	0.656	0.000	100.0#	0#	-26.14#
37	un	1-Methyldibenzothiophene	0.656	0.000	100.0#	0#	-26.49#
38	un	C2-Dibenzothiophenes	1.114	0.000	100.0#	0#	-26.94#
39	un	C3-Dibenzothiophenes	1.114	0.000	100.0#	0#	-28.78#
40	un	C4-Dibenzothiophenes	1.114	0.000	100.0#	0#	-30.44#
41	T	Phenanthrene	1.030	1.244	-20.8	121	0.00
42	T	Anthracene	0.914	1.053	-15.2	118	0.00
43	un	3-Methylphenanthrene	0.767	0.000	100.0#	0#	-26.70#
44	un	2-Methylphenanthrene	0.767	0.000	100.0#	0#	-26.91#
45	un	2-Methylanthracene	0.767	0.000	100.0#	0#	-26.91#
46	un	4/9-Methylphenanthrene	0.767	0.000	100.0#	0#	-26.91#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60140\
Data File : MS60140I.D
Acq On : 13 Aug 2013 3:29 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 13 14:01:17 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 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	0.767	0.839	-9.4	119	0.00
48	T	3,6-Dimethylphenanthrene	0.778	0.000	100.0#	0#	-27.98#
49	T	Retene	0.289	0.000	100.0#	0#	-30.65#
50	un	C2-Phenanthrenes/Anthracene	1.030	0.000	100.0#	0#	-28.53#
51	un	C3-Phenanthrenes/Anthracene	1.030	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.030	0.000	100.0#	0#	-32.03#
53	T	Naphthobenzothiophene	0.958	0.000	100.0#	0#	-32.95#
54	un	C1-Naphthobenzothiophenes	0.958	0.000	100.0#	0#	-33.92#
55	un	C2-Naphthobenzothiophenes	0.958	0.000	100.0#	0#	-35.78#
56	un	C3-Naphthobenzothiophenes	0.958	0.000	100.0#	0#	-37.06#
57	un	C4-Naphthobenzothiophenes	0.958	0.000	100.0#	0#	-37.68#
58	T	Fluoranthene	1.278	1.427	-11.7	118	0.00
59	T	Pyrene	1.186	1.313	-10.7	120	0.00
60	T	2-Methylfluoranthene	0.696	0.000	100.0#	0#	-30.40#
61	T	Benzo(b)fluorene	0.717	0.000	100.0#	0#	-31.03#
62	un	C1-Fluoranthenes/Pyrenes	1.278	0.000	100.0#	0#	-30.65#
63	un	C2-Fluoranthenes/Pyrenes	1.278	0.000	100.0#	0#	-32.13#
64	un	C3-Fluoranthenes/Pyrenes	1.278	0.000	100.0#	0#	-33.80#
65	un	C4-Fluoranthenes/Pyrenes	1.278	0.000	100.0#	0#	-35.28#
66	S	Chrysene-d12	0.987	0.817	17.2	93	0.00
67	T	Benz(a)anthracene	0.890	0.953	-7.1	120	0.00
68	T	Chrysene/Triphenylene	1.216	1.266	-4.1	117	0.00
69	un	C1-Chrysenes	1.216	0.000	100.0#	0#	-35.39#
70	un	C2-Chrysenes	1.216	0.000	100.0#	0#	-36.01#
71	un	C3-Chrysenes	1.216	0.000	100.0#	0#	-38.07#
72	un	C4-Chrysenes	1.216	0.000	100.0#	0#	-39.66#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	97	0.00
74	un	C29-Hopane	0.415	0.000	100.0#	0#	-40.67#
75	un	18a-Oleanane	0.415	0.000	100.0#	0#	-41.48#
76	T	C30-Hopane	0.415	0.000	100.0#	0#	-42.74#
77	T	Benzo(b)fluoranthene	1.462	1.674	-14.5	123	0.00
78	T	Benzo(k,j)fluoranthene	1.531	1.710	-11.7	114	0.00
79	un	Benzo(a)fluoranthene	1.531	0.000	100.0#	0#	-37.29#
80	T	Benzo(e)pyrene	1.593	1.808	-13.5	117	0.00
81	T	Benzo(a)pyrene	1.369	1.467	-7.2	116	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.356	1.467	-8.2	114	0.00
83	T	Dibenzo(a,h)anthracene	1.068	1.192	-11.6	118	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.068	0.000	100.0#	0#	-48.67#
85	un	C2-Dibenzo(a,h)anthracenes	1.068	0.000	100.0#	0#	-50.37#
86	un	C3-Dibenzo(a,h)anthracenes	1.068	0.000	100.0#	0#	-50.77#
87	T	Benzo(g,h,i)perylene	1.151	1.273	-10.6	116	0.00
88	S	Perylene-d12	1.245	1.130	9.2	93	0.00
89	T	Perylene	1.438	1.591	-10.6	115	0.00
90	S	5(b)H-Cholane	0.260	0.254	2.3	101	0.00
91	un	C20-TAS	1.688	0.000	100.0#	0#	-33.10#
92	un	C21-TAS	1.688	0.000	100.0#	0#	-34.23#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS6\MS60140\
Data File : MS60140I.D
Acq On : 13 Aug 2013 3:29 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 13 14:01:17 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 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	1.688	0.000	100.0#	0# -38.65#
94 T	C26(20R)/C27(20S)-TAS	1.688	0.000	100.0#	0# -39.39#
95 un	C28(20S)-TAS	1.688	0.000	100.0#	0# -39.97#
96 un	C27(20R)-TAS	1.688	0.000	100.0#	0# -40.63#
97 un	C28(20R)-TAS	1.688	0.000	100.0#	0# -41.55#

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

Data Path : C:\GCMS6\MS60140\
Data File : MS60140I.D
Acq On : 13 Aug 2013 3:29 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 13 14:01:17 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.345	176	145627m	251.05		0.00
31) Pyrene-d10	29.606	212	264749m	250.63		0.00
73) Benzo(a)pyrene-d12	38.343	264	214185m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.709	136	239997m	225.93		0.00
21) Acenaphthene-d10	19.561	164	126079m	223.05		0.00
32) Phenanthrene-d10	24.688	188	251628m	241.56		0.00
66) Chrysene-d12	33.803	240	215836m	206.98		0.00
88) Perylene-d12	38.653	264	241695m	226.82		0.00
90) 5(b)H-Cholane	34.191	217	54264m	244.32		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.090	138	51668m	280.45		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.793	128	321686m	278.67		
9) 2-Methylnaphthalene	16.022	142	208077m	285.31		
10) 1-Methylnaphthalene	16.357	142	196153m	288.48		
11) 2,6-Dimethylnaphthalene	18.112	156	170233m	275.10		
12) 1,6,7-Trimethylnaphtha...	20.982	170	169517m	285.56		
13) C2-Naphthalenes	0.000		0	N.D.		
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.		
16) Benzothiophene	13.960	134	258667m	283.01		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.583	154	256717m	277.24		
23) Acenaphthylene	19.087	152	254430m	257.23		
24) Acenaphthene	19.673	154	177010m	279.67		
25) Dibenzofuran	20.258	168	279236m	279.78		
26) Fluorene	21.456	166	211495m	265.54		
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	25.519	167	250888m	265.20		
34) Dibenzothiophene	24.341	184	336421m	285.81		
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	24.757	178	325598m	299.12		
42) Anthracene	24.930	178	278856m	288.74		

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140I.D
Acq On : 13 Aug 2013 3:29 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 13 14:01:17 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43)	3-Methylphenanthrene	0.000		0	N.D.	d	
44)	2-Methylphenanthrene	0.000		0	N.D.	d	
45)	2-Methylanthracene	0.000		0	N.D.	d	
46)	4/9-Methylphenanthrene	0.000		0	N.D.	d	
47)	1-Methylphenanthrene	26.905	192	219006m	270.14		
48)	3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49)	Retene	0.000		0	N.D.	d	
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51)	C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52)	C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53)	Naphthobenzothiophene	0.000		0	N.D.	d	
54)	C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55)	C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56)	C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57)	C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58)	Fluoranthene	28.879	202	377103m	279.23		
59)	Pyrene	29.676	202	346651m	276.74		
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	33.764	228	251281m	267.39		
68)	Chrysene/Triphenylene	33.880	228	332347m	258.66		
69)	C1-Chrysenes	0.000		0	N.D.	d	
70)	C2-Chrysenes	0.000		0	N.D.	d	
71)	C3-Chrysenes	0.000		0	N.D.	d	
72)	C4-Chrysenes	0.000		0	N.D.	d	
74)	C29-Hopane	0.000		0	N.D.	d	
75)	18a-Oleanane	0.000		0	N.D.	d	
76)	C30-Hopane	0.000		0	N.D.	d	
77)	Benzo(b)fluoranthene	37.295	252	358901m	286.93		
78)	Benzo(k,j)fluoranthene	37.373	252	364304m	278.09		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.265	252	385157m	282.67		
81)	Benzo(a)pyrene	38.459	252	313078m	267.29		
82)	Indeno(1,2,3-c,d)pyrene	43.105	276	308459m	265.94		
83)	Dibenzo(a,h)anthracene	43.179	278	252689m	276.61		
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	269934m	274.07		
89)	Perylene	38.770	252	340715m	276.92		
91)	C20-TAS	0.000		0	N.D.	d	
92)	C21-TAS	0.000		0	N.D.	d	
93)	C26(20S)-TAS	0.000		0	N.D.	d	
94)	C26(20R)/C27(20S)-TAS	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\MS60140\
Data File : MS60140I.D
Acq On : 13 Aug 2013 3:29 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 13 14:01:17 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration

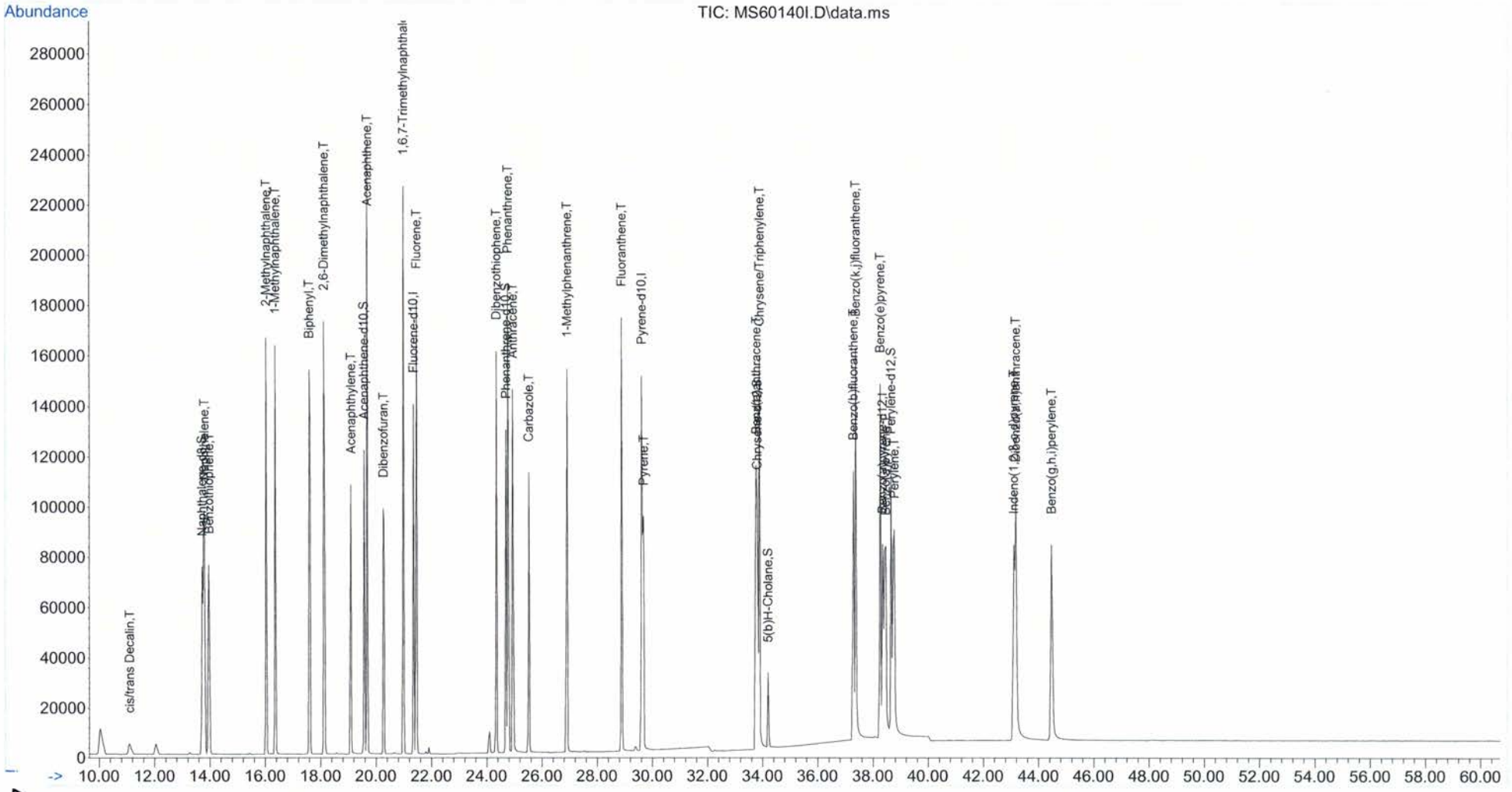
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS6\MS60140\
Data File : MS60140I.D
Acq On : 13 Aug 2013 3:29 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 13 14:01:17 2013
Quant Method : C:\GCMS6\MS60140\AR60140.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Aug 13 13:53:14 2013
Response via : Initial Calibration



PAH Mass Discrimination Ratio

B&B Laboratories
Project J13034
Report 13-3089

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Mass Discrimination Sheet

Client Project #B0086003.1301/1302

File Name	Sample Name	Benzo(g,h,i)perylene Concentration (ng/mL)	Phenanthrene Concentration (ng/mL)	Benzo(g,h,i)perylene/ Phenanthrene ratio	Q
MS60140B.D	AR-WKC1-020-030	21.5	22.0	0.98	
MS60140C.D	AR-WKC2-100-030	94.1	98.3	0.96	
MS60140D.D	AR-WKC3-250-030	218	240	0.91	
MS60140E.D	AR-WKC4-500-030	458	509	0.90	
MS60140F.D	AR-WKC5-1000-030	938	977	0.96	
MS60140G.D	AR-WKC6-5000-030	4907	4638	1.06	
MS60140I.D	AR-WKICV-250-004	274	299	0.92	
MS60140J.D	AR-WKCC-250-038	255	268	0.95	
MS60140L.D	AR-WKCC-250-038	165	205	0.80	
MS60140M.D	AR-WKCC-250-038	215	200	1.07	
MS60140N.D	AR-WKCC-250-038	188	200	0.94	
MS60140O.D	AR-WKCC-250-038	239	252	0.95	

Qualifiers (Q): Ratio of Benzo(g,h,i)perylene to Phenanthrene needs to be ≥ 0.70

PAH Internal Standard Area Data

B&B Laboratories
Project J13034
Report 13-3089

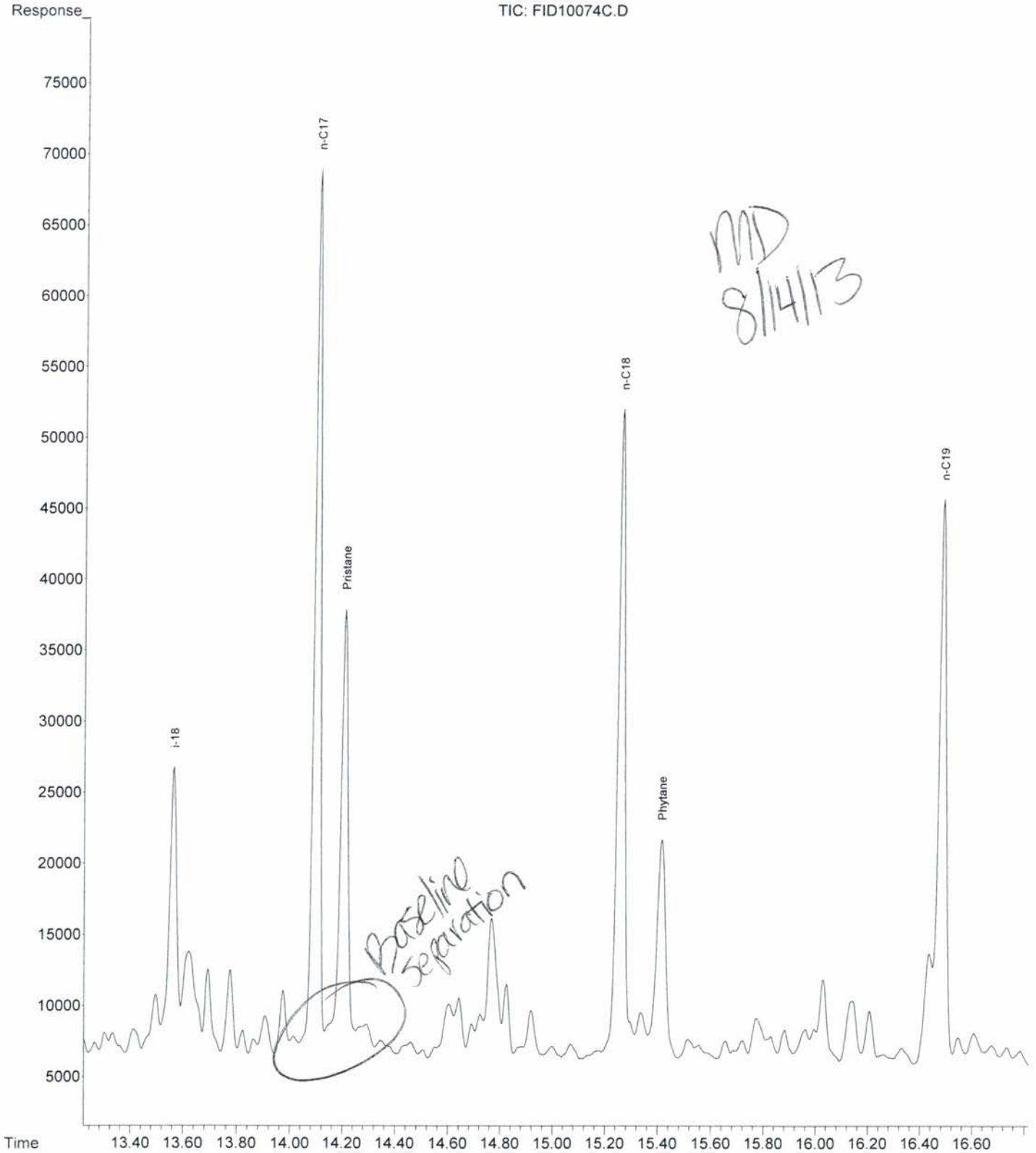
Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
The Area of the Internal Standards in the Associated Calibration Standard

Client Project #B0086003.1301/1302

File Name	Sample Name	Internal Standard 1 Fluorene-d10			Internal Standard 2 Pyrene-d10			Internal Standard 3 Benzo(a)pyrene-d12		
		Response (Area)	50% (Area)	200% (Area)	Response (Area)	50% (Area)	200% (Area)	Response (Area)	50% (Area)	200% (Area)
MS60140D.D	**AR-WKC3-250-030**	**142889**	**71445**	**285778**	**273389**	**136695**	**546778**	**220989**	**110495**	**441978**
MS60140I.D	**AR-WKICV-250-004**	**145627**			**264749**			**214185**		
MS60140J.D	**AR-WKCC-250-038**	**120765**	**60383**	**241530**	**210581**	**105291**	**421162**	**155062**	**77531**	**310124**
ENV3076B.D	SRM 1941c	122899			239520			253723		
ENV3076C.D	MS (SED-DA-028 (0-0.5) MS/MSD)	150388			253012			150789		
ENV3076D.D	MSD (SED-DA-028 (0-0.5) MS/MSD)	153709			252611			142446		
ENV3076E.D	Dupl. (SED-DA-032 (1.0-1.5))	111914			262041			180588		
ARC1558.D	SED-DA-032 (0-0.5)	133835			288752			175296		
ARC1559.D	SED-DA-032 (0.5-1.0)	128329			287823			219519		
ARC1560.D	SED-DA-032 (1.0-1.5)	133528			306120			214436		
MS60140L.D	**AR-WKCC-250-038**	**144557**	**72279**	**289114**	**308600**	**154300**	**617200**	**218549**	**109275**	**437098**
MS60140O.D	**AR-WKCC-250-038**	**166648**	**83324**	**333296**	**278638**	**139319**	**557276**	**257942**	**128971**	**515884**
ARC1561.D	SED-DA-031 (0-0.5)	135484			253534			248866		
ARC1562.D	SED-DA-031 (0.5-1.0)	151000			307695			267018		
ARC1563.D	SED-DA-031 (1.0-1.5)	138873			304306			282973		
ARC1566.D	SED-DA-029 (0-0.5)	145788			290743			266254		
ARC1567.D	SED-DA-029 (0.5-1.0)	137054			293959			294055		
ARC1568.D	SED-DA-029 (1.0-1.5)	131550			283385			272917		
MS60140M.D	**AR-WKCC-250-038**	**141278**	**70639**	**282556**	**295884**	**147942**	**591768**	**265225**	**132613**	**530450**
ARC1571.D	SED-DA-030 (0-0.5)	138642			265337			212248		
ARC1572.D	SED-DA-030 (0.5-1.0)	128067			275086			261809		
ARC1573.D	SED-DA-030 (1.0-1.5)	139946			301217			270919		
ARC1574.D	SED-DA-028 (0-0.5)	178001			308869			167099		
ARC1577.D	SED-DA-028 (0.5-1.0)	149055			293134			203948		
ARC1578.D	SED-DA-028 (1.0-1.5)	143722			300591			243388		
ARC1579.D	SED-DA-027 (0-0.5)	154083			296412			203763		
ARC1580.D	SED-DA-027 (0.5-1.0)	150350			268797			137430		
MS60140N.D	**AR-WKCC-250-038**	**157798**	**78899**	**315596**	**332086**	**166043**	**664172**	**218972**	**109486**	**437944**

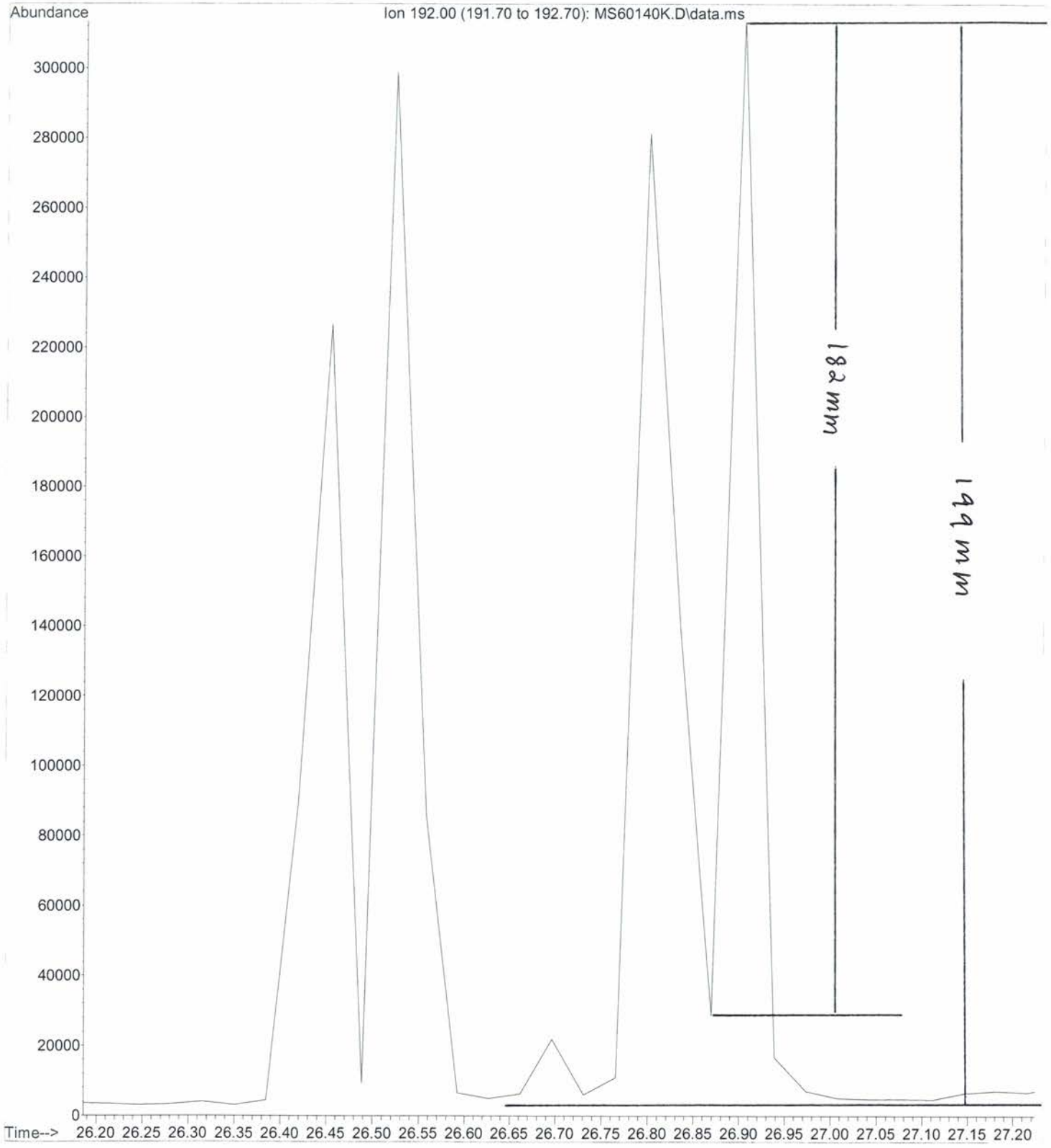
SRM-2779 Reference Oil
Aliphatic and PAH
Resolution Checks

File :P:\2013\J13034\Aliphatics\ENV 3076\FID10074\FID10074C.D
Operator : Meghan Dailey
Acquired : 13-Aug-2013, 14:14:25 using AcqMethod ALIBACK.M
Instrument : HP5890
Sample Name: AL-WKSRM2779-20-01
Misc Info :
Vial Number: 53



```
File        :C:\GCMS6\MS60140\MS60140K.D
Operator    : YM
Acquired    : 13 Aug 2013    5:47 am using AcqMethod PAH-2012.M
Instrument :    GCMS6
Sample Name: AR-SRM2779-WK-4.0-002
Misc Info   :
Vial Number: 11
```

9/6 separation TM



Supporting Documents

Shipping, Sample Receiving, and Project Initiation Documents

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 7/30/13 SDG#: 13073001

Sender: Arcadis- Mayflower AR

1. Number of Shipping Containers: 2 Arcadis- Daniel Mays

Comments: 1 of 2, large blue cooler

2. Airbill Present? Yes/No Shipping Company: FedEx

Airbill Number: 8987 6914 8662

Comments: priority overnight

3. Custody Seals on Container?
No (Yes) (Intact) Not Intact

Comments: on top of duct tape

4. Chain of Custody Records?
No (Yes)

Comments: no relinquished signature on COC

5. General Sample Conditions:
Frozen (Cool) Unrefrigerated
Dry Ice Blue Ice (Ice)

Temperature/Comments: 7.4°C / temp blank 5.1°C (T6

6. List of Broken Containers:

None

7. Number of Samples Expected: 2 coolers Number of Samples Received: _____

8. Problems/Discrepancies:

N/A

Cooler 1:
11 seds
2 waters

9. Resolutions:

N/A

10. Checked in by: Amanda Brewster Date: 7/30/13

large blue cooler

Sdg 13073001
Cooler 1 of 2

wet ice
thermometer 6
7.4°c
temp blank: 5.1°c

eurofins | Lancaster Laboratories

489697
CUSTODY SEAL

DATE: 7.29.13
SIGNATURE: D.D

2425 New Holland Pike, Lancaster, PA 17601-5994 (717) 656-2300

FedEx Express NEW Package US Airbill

FedEx Tracking Number 8987 6914 8662

From
Date
Sender's Name Phone
Company
Address Dept./Floor/Suite/Room
City State ZIP

Your Internal Billing Reference

To
Recipient's Name Phone
Company
Address Dept./Floor/Suite/Room
We cannot deliver to P.O. boxes or P.O. ZIP codes.
Address
Use this line for the HOLD location address or for continuation of your shipping address.
City State ZIP

HOLD Weekday
FedEx location address REQUIRED. NOT available for FedEx First Overnight.
HOLD Saturday
FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

8987 6914 8662

0200 Recipient's Copy

4 Express Package Service * To most locations.
NOTE: Service order has changed. Please select carefully.

Packages up to 150 lbs.
For packages over 150 lbs., use the new FedEx Express Freight US Rates.

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

- NEW FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.
- FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* ☐ FedEx Box ☐ FedEx Tube ☐ Other

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery
NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

☐ No Signature Required — Package may be left without obtaining a signature for delivery.
☐ Direct Signature — Someone at recipient's address may sign for delivery. Fee applies.
☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. Fee applies.

Does this shipment contain dangerous goods?

☐ No ☐ Yes — As per attached Shipper's Declaration ☐ Yes — Shipper's Declaration not required ☐ Dry Ice — Dry Ice, 9, UN 1845 ___ x ___ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

☐ Cargo Aircraft Only

7 Payment Bill to:

Enter FedEx Acct. No. or Credit Card No. below.

☐ Sender Acct. No. in Section 1 will be billed ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

Total Packages Total Weight Total Declared Value† Credit Card Auth.

lbs. $ .00

† Liability is limited to $500 unless you declare a higher value. See the current FedEx Service Guide for details.

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414

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 7/30/13 SDG#: 13073001

Sender: Arcadis - Mayflower AR

1. Number of Shipping Containers: 2 Arcadis - Daniel Mays

Comments: 2 of 2, large blue cooler

2. Airbill Present? (Yes) No Shipping Company: Fed Ex

Airbill Number: 7958 0260 9144

Comments: priority overnight

3. Custody Seals on Container?
No (Yes) (Intact) Not Intact

Comments: on top of duct tape

4. Chain of Custody Records?
(No) Yes

Comments: paperwork in Cooler 1

5. General Sample Conditions:
Frozen (Cool) Unrefrigerated
Dry Ice Blue Ice (Ice)

Temperature/Comments: 10.9°c / temp blank 2.3°c (T6

6. List of Broken Containers:

None

7. Number of Samples Expected: 2 coolers Number of Samples Received: _____

8. Problems/Discrepancies:

N/A

Cooler 2: 16 seds

9. Resolutions:

N/A

10. Checked in by: Amanda Brewster Date: 7/30/13

Delay 13-073-001
Cooler 1 of 2 (1)

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: Daniel Mays Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs, mod. 8270 SIM	Analyses: TEH, mod. 8015			Cooler #		Other Instructions / Comments
SED-DA-033(0-0.5)	7-27-13	945	Sed	None	8 oz jar	1	X	X			1		Full PAH list
SED-DA-033(0.5-1.0)	7-27-13	950	Sed	None	4 oz jar	1	X				1		44 PAH list
SED-DA-033(1.0-1.5)	7-27-13	955	Sed	None	4 oz jar	1	X				1		44 PAH list
SED-DA-034(0-0.5)	7-27-13	1010	Sed	None	8 oz jar	1	X	X			2		Full PAH list
SED-DA-034(0.5-1.0)	7-27-13	1015	Sed	None	4 oz jar	1	X				1		44 PAH list
SED-DA-034(1.0-1.5)	7-27-13	1020	Sed	None	4 oz jar	1	X				1		44 PAH list
SED-DA-035(0-0.5)	7-27-13	1400	Sed	None	8 oz jar	1	X	X			2		Full PAH list
SED-DA-035(0.5-1.0)	7-27-13	1405	Sed	None	4 oz jar	1	X				1		44 PAH list
SED-DA-035(1.0-1.5)	7-27-13	410	Sed	None	4 oz jar	1	X				1		44 PAH list
SED-DA-035(0-0.5)MS/MSD	7-27-13	1400	Sed	None	8 oz jar	2 +1 QC	X	X			2		Full PAH list ~~received~~ 1 jar 9B 7/30/13
					Total # of Containers	11	7/30/13						

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays Daniel Mays	ARCADIS	7-29-13	1000	Printed Name: FedEx		7-29-13	1000
Signature:				Signature:			
Printed Name:				Printed Name: Angela Preuster B&B Labs		7/30/13	15:15
Signature				Signature: Angela Preuster			

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: B0086003.1301 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs mod 8270 SIM	Analyses: TEH mod. 8015					Other Instructions / Comments
SED-EB-01-072713	7-27-13	1500	Water	none	1L amber	2	X	X			1		Full PAH list
SED-DA-036(0-0.5)	7-28-13	915	Sed	None	8 oz jar	1	X	X			2		Full PAH List
SED-DA-DUP-01-072813	7-28-13		Sed	None	8 oz jar	1	X	X			2		Full PAH List
SED-DA-036(0.5-1.0)	7-28-13	920	Sed	None	4 oz jar	1	X				1		44 PAH List
SED-DA-036(1.0-1.5)	7-28-13	925	Sed	None	4 oz jar	1	X				2		44 PAH List
SED-DA-037(0-0.5)	7-28-13	1015	Sed	None	8 oz jar	1	X	X			2		Full PAH List
SED-DA-037(0.5-1.0)	7-28-13	1020	Sed	None	4 oz jar	1	X				1		44 PAH List
SED-DA-037(1.0-1.5)	7-28-13	1025	Sed	None	4 oz jar	1	X				2		44 PAH List
SED-DA-038(0-0.5)	7-28-13	1115	Sed	None	8 oz jar	1	X	X			2		Full PAH List
SED-DA-038(0.5-1.0)	7-28-13	1120	Sed	None	4 oz jar	1	X				2		44 PAH List
					Total # of Containers	11							

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Daniel Mays	ARCADIS	7-29-13	1000	Fedex		7-29-13	1000
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: BQ086003.1301 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 mod. 8270 SIM	Analyses: TEH mod. 8015	Analyses: #	Other Instructions / Comments
SED-DA-038(1.0-1.5)	7-28-13	1125	Sed	None	4 oz jar	1	X		1	44 PAH List
SED-DA-032(0-0.5)	7-28-13	1400	Sed	None	8 oz jar	1	X	X	2	Full PAH List
SED-DA-032(0.5-1.0)	7-28-13	1405	Sed	None	4 oz jar	1	X		2	44 PAH List
SED-DA-032(1.0-1.5)	7-28-13	1410	Sed	None	4 oz jar	1	X		1	44 PAH List
SED-DA-031(0-0.5)	7-28-13	1430	Sed	None	8 oz jar	1	X	X	2	Full PAH List
SED-DA-031(0.5-1.0)	7-28-13	1435	Sed	None	4 oz jar	1	X		2	44 PAH List
SED-DA-031(1.0-1.5)	7-28-13	1440	Sed	None	4 oz jar	1	X		2	44 PAH List
					Total # of Containers	7				

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Daniel Mays Daniel Mays	ARCADIS	7-29-13	1000	Fedex		7-29-13	1000
Signature:				Signature			
				Fedex Express	B&B Labs	7/30/13	5:15
Signature				Signature:			

Matrix:
T=Tissue G=Gas
S=Soil/Sediment Ws=Waste
R=Rinseate HW=Hazardous Waste
P=Product W=Water

Sample Container: Volfmatonal
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	Project #
64222	J13034	Arcadis - Mayflower AR	ARC1537	SED-DA-033 (0-0.5)	07/27/13	07/30/13	PAH, TPH, ALI	SED		13073001	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1301
64223	J13034	Arcadis - Mayflower AR	ARC1538	SED-DA-033 (0.5-1.0)	07/27/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64224	J13034	Arcadis - Mayflower AR	ARC1539	SED-DA-033 (1.0-1.5)	07/27/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64225	J13034	Arcadis - Mayflower AR	ARC1540	SED-DA-034 (0-0.5)	07/27/13	07/30/13	PAH, TPH, ALI	SED		13073001	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1301
64226	J13034	Arcadis - Mayflower AR	ARC1541	SED-DA-034 (0-.5-1.0)	07/27/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64227	J13034	Arcadis - Mayflower AR	ARC1542	SED-DA-034 (1.0-1.5)	07/27/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64228	J13034	Arcadis - Mayflower AR	ARC1543	SED-DA-035 (0-0.5)	07/27/13	07/30/13	PAH, TPH, ALI	SED		13073001	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1301
64229	J13034	Arcadis - Mayflower AR	ARC1544	SED-DA-035 (0.5-1.0)	07/27/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64230	J13034	Arcadis - Mayflower AR	ARC1545	SED-DA-035 (1.0-1.5)	07/27/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64231	J13034	Arcadis - Mayflower AR	ARC1546	SED-DA-035 (0-0.5) MS/MSD	07/27/13	07/30/13	PAH, TPH, ALI	SED	1 of 2	13073001	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1301
64232	J13034	Arcadis - Mayflower AR	ARC1547	SED-DA-035 (0-0.5) MS/MSD	07/27/13	07/30/13	HOLD	SED	2 of 2	13073001	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1301
64233	J13034	Arcadis - Mayflower AR	ARC1548	SED-DA-036 (0-0.5)	07/28/13	07/30/13	PAH, TPH, ALI	SED		13073001	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1301
64234	J13034	Arcadis - Mayflower AR	ARC1549	SED-DA-DUP-01-072813	07/28/13	07/30/13	PAH, TPH, ALI	SED		13073001	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1301
64235	J13034	Arcadis - Mayflower AR	ARC1550	SED-DA-036 (0.5-1.0)	07/28/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64236	J13034	Arcadis - Mayflower AR	ARC1551	SED-DA-036 (1.0-1.5)	07/28/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64237	J13034	Arcadis - Mayflower AR	ARC1552	SED-DA-037 (0-0.5)	07/28/13	07/30/13	PAH, TPH, ALI	SED		13073001	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1301
64238	J13034	Arcadis - Mayflower AR	ARC1553	SED-DA-037 (0.5-1.0)	07/28/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64239	J13034	Arcadis - Mayflower AR	ARC1554	SED-DA-037 (1.0-1.5)	07/28/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64240	J13034	Arcadis - Mayflower AR	ARC1555	SED-DA-038 (0-0.5)	07/28/13	07/30/13	PAH, TPH, ALI	SED		13073001	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1301
64241	J13034	Arcadis - Mayflower AR	ARC1556	SED-DA-038 (0.5-1.0)	07/28/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64242	J13034	Arcadis - Mayflower AR	ARC1557	SED-DA-038 (1.0-1.5)	07/28/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64243	J13034	Arcadis - Mayflower AR	ARC1558	SED-DA-032 (0-0.5)	07/28/13	07/30/13	PAH, TPH, ALI	SED		13073001	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1301
64244	J13034	Arcadis - Mayflower AR	ARC1559	SED-DA-032 (0.5-1.0)	07/28/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64245	J13034	Arcadis - Mayflower AR	ARC1560	SED-DA-032 (1.0-1.5)	07/28/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64246	J13034	Arcadis - Mayflower AR	ARC1561	SED-DA-031 (0-0.5)	07/28/13	07/30/13	PAH, TPH, ALI	SED		13073001	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1301
64247	J13034	Arcadis - Mayflower AR	ARC1562	SED-DA-031 (0.5-1.0)	07/28/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64248	J13034	Arcadis - Mayflower AR	ARC1563	SED-DA-031 (1.0-1.5)	07/28/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64249	J13034	Arcadis - Mayflower AR	ARC1564	SED-EB-01-072713	07/27/13	07/30/13	PAH, TPH, ALI	WATER	1 of 2	13073001	Cooler 1	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1301
64250	J13034	Arcadis - Mayflower AR	ARC1565	SED-EB-01-072713	07/27/13	07/30/13	HOLD	WATER	2 of 2	13073001	Cooler 1	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1301

Report 13-3088

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13073001
Client: Arcadis- Mayflower AR
Initiation Date: 7/30/13

Number of Samples: 10
Matrix: sediments
Due Date: 45 days: 10/13/13
Comments: PAH, TPH, ALI
received 7/30/13

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, 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:

1626 ARC1576 as 1615/4SD

Sample Custodian Signature: Amanda Brewster — Date: 7/30/13

Laboratory Manager Signature: [signature] — Date: 7/30/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	#	Project #
64222	J13034	Arcadis - Mayflower AR	ARC1537	SED-DA-033 (0-0.5)	07/27/13	07/30/13	PAH, TPH, ALI	SED		13073001	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1301
64225	J13034	Arcadis - Mayflower AR	ARC1540	SED-DA-034 (0-0.5)	07/27/13	07/30/13	PAH, TPH, ALI	SED		13073001	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1301
64228	J13034	Arcadis - Mayflower AR	ARC1543	SED-DA-035 (0-0.5)	07/27/13	07/30/13	PAH, TPH, ALI	SED		13073001	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1301
64231	J13034	Arcadis - Mayflower AR	ARC1546	SED-DA-035 (0-0.5) MS/MSD	07/27/13	07/30/13	PAH, TPH, ALI	SED	1 of 2	13073001	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1301
64233	J13034	Arcadis - Mayflower AR	ARC1548	SED-DA-036 (0-0.5)	07/28/13	07/30/13	PAH, TPH, ALI	SED		13073001	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1301
64234	J13034	Arcadis - Mayflower AR	ARC1549	SED-DA-DUP-01-072813	07/28/13	07/30/13	PAH, TPH, ALI	SED		13073001	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1301
64237	J13034	Arcadis - Mayflower AR	ARC1552	SED-DA-037 (0-0.5)	07/28/13	07/30/13	PAH, TPH, ALI	SED		13073001	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1301
64240	J13034	Arcadis - Mayflower AR	ARC1555	SED-DA-038 (0-0.5)	07/28/13	07/30/13	PAH, TPH, ALI	SED		13073001	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1301
64243	J13034	Arcadis - Mayflower AR	ARC1558	SED-DA-032 (0-0.5)	07/28/13	07/30/13	PAH, TPH, ALI	SED		13073001	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1301
64246	J13034	Arcadis - Mayflower AR	ARC1561	SED-DA-031 (0-0.5)	07/28/13	07/30/13	PAH, TPH, ALI	SED		13073001	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1301

TD

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Report 13-3089

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13073001
Client: Arcadis- Mayflower AR
Initiation Date: 7/30/13

Number of Samples: 16
Matrix: sediments
Due Date: 45 days: 10/13/13
Comments: PAH: 44 analytes
received 7/30/13

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 1941	☐ Blank Spike
☐ Blank Spike Duplicate	☑	Matrix Spike _____
☑ Matrix Spike Duplicate _____	☑	Duplicate _____

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, ACI — Volume(s): 100 ul

Spike Standard(s): PAH ACI — Volume(s): 100 ul

Internal Standard(s): PAH, ACI — Volume(s): 100 ul

Final Extract Volume (ml): 1 — Final Solvent: DCM

Comments:

only need for PAHs
Short List

Sample Custodian Signature: Amanda Brewster Date: 7/30/13

Laboratory Manager Signature: _____ Date: 7/30/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64223	J13034	Arcadis - Mayflower AR	ARC1538	SED-DA-033 (0.5-1.0)	07/27/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64224	J13034	Arcadis - Mayflower AR	ARC1539	SED-DA-033 (1.0-1.5)	07/27/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64226	J13034	Arcadis - Mayflower AR	ARC1541	SED-DA-034 (0-.5-1.0)	07/27/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64227	J13034	Arcadis - Mayflower AR	ARC1542	SED-DA-034 (1.0-1.5)	07/27/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64229	J13034	Arcadis - Mayflower AR	ARC1544	SED-DA-035 (0.5-1.0)	07/27/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64230	J13034	Arcadis - Mayflower AR	ARC1545	SED-DA-035 (1.0-1.5)	07/27/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64235	J13034	Arcadis - Mayflower AR	ARC1550	SED-DA-036 (0.5-1.0)	07/28/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64236	J13034	Arcadis - Mayflower AR	ARC1551	SED-DA-036 (1.0-1.5)	07/28/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64238	J13034	Arcadis - Mayflower AR	ARC1553	SED-DA-037 (0.5-1.0)	07/28/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64239	J13034	Arcadis - Mayflower AR	ARC1554	SED-DA-037 (1.0-1.5)	07/28/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64241	J13034	Arcadis - Mayflower AR	ARC1556	SED-DA-038 (0.5-1.0)	07/28/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64242	J13034	Arcadis - Mayflower AR	ARC1557	SED-DA-038 (1.0-1.5)	07/28/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64244	J13034	Arcadis - Mayflower AR	ARC1559	SED-DA-032 (0.5-1.0)	07/28/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64245	J13034	Arcadis - Mayflower AR	ARC1560	SED-DA-032 (1.0-1.5)	07/28/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64247	J13034	Arcadis - Mayflower AR	ARC1562	SED-DA-031 (0.5-1.0)	07/28/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301
64248	J13034	Arcadis - Mayflower AR	ARC1563	SED-DA-031 (1.0-1.5)	07/28/13	07/30/13	PAH	SED	44 analytes	13073001	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1301

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Report 13-3090

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13073001
Client: Arcadis-MayflowerAR
Initiation Date: 7/30/13

Number of Samples: 1
Matrix: water
Due Date: 45 days: 10/13/13
Comments: collected 7/27/13
extract by 8/02/13
received 7/30/13

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): 1ml

Spike Standard(s): PAH, ALI Volume(s): 1ml

Internal Standard(s): PAH, ALI Volume(s): 1ml

Final Extract Volume (ml): 1.0 Final Solvent: DCM

Comments:

Sample Custodian Signature: Amanda Brewster Date: 7/30/13

Laboratory Manager Signature: ____ Date: 7/30/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
64249	J13034	Arcadis - Mayflower AR	ARC1564	SED-EB-01-072713	07/27/13	07/30/13	PAH, TPH, ALI	WATER	1 of 2	13073001	Cooler 1	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1301

amanda brewster

From: amanda brewster <amandabrewster@tdi-bi.com>
Sent: Tuesday, July 30, 2013 5:11 PM
To: 'Mays, Daniel'; Parmelee, Rhiannon (Rhiannon.Parmelee@arcadis-us.com); 'Jennifer.Chandler@arcadis-us.com'; 'Dennis.Capria@arcadis-us.com'; Mott, Lyndi (Lyndi.Mott@arcadis-us.com)
Cc: Juan Ramirez (juanramirez@tdi-bi.com); Donell Frank; 'tommcdonald@tdi-bi.com' (tommcdonald@tdi-bi.com)
Subject: Samples received 7/30/13
Attachments: COC 7-30-13.pdf

Hi Daniel,

We received your samples today in good condition.
The internal temperature of Cooler 1 was 7.4ºC and the temperature blank was 5.1ºC.
The internal temperature of Cooler 1 was 10.9ºC and the temperature blank was 2.3ºC.
A PDF of the COC is attached for your records.

Regards,
Amanda

From: Mays, Daniel [mailto:Daniel.Mays@arcadis-us.com]
Sent: Monday, July 29, 2013 6:25 PM
To: amandabrewster@TDI-BI.com
Subject: B&B Cooler Shipment from Mayflower, AR

Good Evening Mrs. Amanda Brewster,

I shipped 2 coolers via Fedex today for arrival tomorrow morning 7-30-2013.

The tracking numbers are 898769148662 and 795802609144. 28 Sample Jars.

Regards,

Danny Mays | Environmental Specialist, E.I. | daniel.mays@arcadis-us.com
ARCADIS U.S., Inc. | 801 Corporate Center Drive, Suite 300 | Raleigh, North Carolina 27607
T: 919-415-2281 | M: 919-812-1417 | F: 919-854-5448
Professional Affiliate/ARCADIS G&M of North Carolina, Inc.
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B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 7/31/13 SDG#: 13073101

Sender: Arcadis- Mayflower AR

1. Number of Shipping Containers: 2 Arcadis- Daniel Mays

Comments: 1 of 2, large blue cooler

2. Airbill Present? (Yes)/No Shipping Company: FedEx

Airbill Number: 7958 0334 7496

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: paperwork in cooler 2

5. General Sample Conditions:
Frozen (Cool) Unrefrigerated
Dry Ice Blue Ice (Ice)

Temperature/Comments: 6.6°C / temp blank 2.9°C (TB)

6. List of Broken Containers:

None

7. Number of Samples Expected: 2 coders Number of Samples Received: _____

8. Problems/Discrepancies:

None

Cooler 1:
19 seds
2 waters

9. Resolutions:

N/A

10. Checked in by: Amanda Brewster Date: 7/31/13

large blue cooler

wet ice
T6
no COC
6.6°C / temp blank 2.9°c

Sdg 13073101
Cooler 1 of 2

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485723

CUSTODY SEAL

DATE: 7-30-13

SIGNATURE: [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: 30JUL13
ACTWGT: 60.0 LB MAN
CAD: /POS1400
DIMS: 24x13x13 IN

BILL SENDER

TO B AND B LABS
B AND B LABS
14391 B SOUTH DOWLING RD

COLLEGE STATION TX 77845
(979) 693-3446 REF:
INV:
PO: DEPT:

FedEx Express

2 of 2
MPS# 0661 7958 0334 7496
Mstr# 8769 3820 1029

0200

WED - 31 JUL 10:30A
PRIORITY OVERNIGHT

XH CLLA

77845
TX-US IAH

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 7/31/13 SDG#: 13073101

Sender: Arcadis- Mayflower AR

1. Number of Shipping Containers: 2 Arcadis- Daniel Mays

Comments: 2 of 2, large blue cooler

2. Airbill Present? (Yes) No Shipping Company: Fed Ex

Airbill Number: 8769 3820 1029 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: no relinquished signature

5. General Sample Conditions:
Frozen (Cool) Unrefrigerated
Dry Ice Blue Ice (Ice)
Temperature/Comments: 4.9°C / temp blank 3.6°C (T6

6. List of Broken Containers:

None

7. Number of Samples Expected: 2 coolers Number of Samples Received: _____

8. Problems/Discrepancies:

None

Cooler 2:
19 seds
2 waters

9. Resolutions:

N/A

10. Checked in by: Amanda Brewster Date: 7/31/13

large blue cooler

sdg 13073101
Cooler 2of2

4.9°C / temp blank 3.6°C

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486724
CUSTODY SEAL
2425 New Holland Pike, Lancaster, PA 17601-5994 (717) 656-2300

DATE: 7-30-15
SIGNATURE:

FedEx Express NEW Package US Airbill

8769 3820 1029

0200

FedEx Retrieval Copy

1 From
Date 7-30-2015 Sender's FedEx Account Number
Sender's Name Daniel Mays Phone
Company ARL ADI
Address 801 Corporate Center Dr Ste 206
City Raleigh State NC ZIP 27607

2 Your Internal Billing Reference J13034

3 To
Recipient's Name B+B Laboratories Inc Phone 979 693-3446
Company B+B Labs
Address 14391 B Scott Dunlap Rd
Address
City College Station State TX ZIP 77845

4 Express Package Service
NOTE: Service order has changed. Please select carefully
Packages up to 150 lbs.

Next Business Day
06 FedEx First Overnight
01 X FedEx Priority Overnight
05 FedEx Standard Overnight

2 or 3 Business Days
49 NEW FedEx 2Day A.M
03 FedEx 2Day
20 FedEx Express Saver

5 Packaging
06 FedEx Envelope* 02 FedEx Pak* 03 FedEx Box 04 FedEx Tube 01 X Other

6 Special Handling and Delivery Signature Options
03 SATURDAY DELIVERY
X No Signature Required 10 Direct Signature 34 Indirect Signature
Does this shipment contain dangerous goods?
One box must be checked
X No 04 Yes Yes 06 Dry Ice
Cargo Aircraft Only

HOLD Weekday 01
HOLD Saturday 31

7 Payment Bill to
1 X Sender 2 Recipient 3 Third Party 4 Credit Card 5 Cash/Check
Total Packages 2 Total Weight

612

8769 3820 1029

Pg. 1/4

B&B Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Home Office 14391B South Dowling Road College Station TX 77845 phone (979) 693-3446 fax (979) 693-6389 http://www.tdi-bi.com

TDI Brooks

Client: ARCADIS

Project ID: B0086003.1301 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs, mod. 8270 SIM	Analyses: TEth, mod. 8015	Other Instructions / Comments
SED-DA-029(0-0.5)	7-29-13	1030	Sed	None	8 oz jar	1	X	X	Full PAH List
SED-DA-029(0.5-1.0)	7-29-13	1035	Sed	None	4 oz jar	1	X		44 PAH List
SED-DA-029(1.0-1.5)	7-29-13	1040	Sed	None	4 oz jar	1	X		44 PAH List
SED-DA-029(1.5-2.0)	7-29-13	1045	Sed	None	4 oz jar	1	X		44 PAH List, extract + hold
SED-DA-029(2.0-3.0)	7-29-13	1050	Sed	None	4 oz jar	1	X		44 PAH List, extract + hold
SED-DA-EB-02-072913	7-29-13	1110	water	None	1L Amber	2	X	X	Full PAH List
SED-DA-030(0-0.5)	7-29-13	1120	Sed	None	8 oz jar	1	X	X	Full PAH List
SED-DA-030(0.5-1.0)	7-29-13	1125	Sed	None	4 oz jar	1	X		44 PAH List
SED-DA-030(1.0-1.5)	7-29-13	1130	Sed	None	4 oz jar	1	X		44 PAH List
SED-DA-028(0-0.5)	7-29-13	1300	Sed	None	8 oz jar	1	X	X	Full PAH List
					Total # of Containers	11			

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays	ARCADIS	7-30-13	1700	Printed Name: Fedex		7-30-13	1700
Signature:				Signature:			
Printed Name				Printed Name: Amanda Brewster	B&B Labs	7-30-13	2:00
Signature:				Signature: Amanda Brewster			

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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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: Daniel Mays Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs mod. 8270SIM	Analyses: TEH, mod. 8015	Analyses	Analyses	Analyses: 1,2	Analyses	Other Instructions / Comments
SED-DA-028(0-0.5)	7-29-13	1300	Sed	None	8 oz jar	2	X	X			1		Full PAH List
SED-DA-028(0.5-1.0)	7-29-13	1305	Sed	None	4 oz jar	1	X				1		44 PAH List
SED-DA-028(1.0-1.5)	7-29-13	1310	Sed	None	4 oz jar	1	X				1		44 PAH List
SED-DA-027(0-0.5)	7-29-13	1400	Sed	None	8 oz jar	1	X	X			1		Full PAH List
SED-DA-027(0.5-1.0)	7-29-13	1405	Sed	None	4 oz jar	1	X				1		44 PAH List
SED-DA-027(1.0-1.5)	7-29-13	1410	Sed	None	4 oz jar	1	X				1		44 PAH List
SED-DA-027(1.5-2.0)	7-29-13	1415	Sed	None	4 oz jar	1	X				1		44 PAH List, extract+hold
SED-DA-027(2.0-3.0)	7-29-13	1420	Sed	None	4 oz jar	1	X				1		44 PAH List, extract+hold
SED-DA-027(3.0-3.6)	7-29-13	1425	Sed	None	4 oz jar	1	X				1		44 PAH List, extract+hold
SED-DA-EB-03-073013	7-30-13	900	Water	None	1L amber	2	X	X			2,2		Full PAH List
					Total # of Containers	12							

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays Daniel Mays	ARCADIS	7-30-13	1700	Printed Name: Fedex		7-31-13	1720
Signature:				Signature:			
Printed Name:				Printed Name: Arcadis Brewster Bob abs		7/31/13	1300
Signature:				Signature: Arcadis Brewster			

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

Pg 3/4

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: B0086003.B01 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs mod. 8270 SIM	TEH mod. 8015			Analyses		Comments
SED-DA-026(0-0.5)	7-30-13	830	Sed	None	8 oz jar	1	X	X			2		Full PAH List
SED-DA-026(0.5-1.0)	7-30-13	835	Sed	None	4 oz jar	1	X				2		44 PAH List
SED-DA-026(1.0-1.5)	7-30-13	840	Sed	None	4 oz jar	1	X				2		44 PAH List
SED-DA-026(1.5-2.0)	7-30-13	845	Sed	None	4 oz jar	1	X				2		44 PAH List, extract + hold
SED-DA-026(2.0-3.0	7-30-13	850	Sed	None	4 oz jar	1	X				2		44 PAH List, extract + hold
SED-DA-026(3.0-3.4)	7-30-13	855	Sed	None	4 oz jar	1	X				2		44 PAH List, extract + hold
SED-DA-025(0-0.5)	7-30-13	945	Sed	None	8 oz jar	1	X	X			2		Full PAH List
SED-DA-025(0.5-1.0)	7-30-13	950	Sed	None	4 oz jar	1	X				2		44 PAH List
SED-DA-025(1.0-1.5)	7-30-13	955	Sed	None	4 oz jar	1	X				2		44 PAH List
SED-DA-024(0-0.5)	7-30-13	1015	Sed	None	8 oz jar	1	X	X			2		Full PAH List
					Total # of Containers	10							

Other Instructions

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays	ARCADIS	7-30-13	1700	Printed Name: Fedex		7-30-13	1700
Signature:				Signature:			
Printed Name:				Printed Name: [illegible]	[illegible]	7/31/13	13:00
Signature:				Signature: [illegible]			

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

Pg. 4/4

B&B Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Home Office 14391B South Dowling Road College Station TX 77845 phone (979) 693-3446 fax (979) 693-6389 http://www.tdi-bi.com

TDI Brooks

Client: ARCADIS

Project ID: B0086003.B01 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs, mod. 8270SIM	Analyses: TEH, mod. 8015					Other Instructions / Comments
SED-DA-024(0.5-1.0)	7-30-13	1020	Sed	None	4 oz jar	1	X				2		44 PAH List
SED-DA-024(1.0-1.5)	7-30-13	1025	Sed	None	4 oz jar	1	X				2		44 PAH List
SED-DA-024(1.5-2.0)	7-30-13	1030	Sed	None	4 oz jar	1	X				2		44 PAH List, extract + hold
SED-DA-024(2.0-3.0)	7-30-13	1035	Sed	None	4 oz jar	1	X				2		44 PAH List, extract + hold
SED-DA-020(0-0.5)	7-30-13	1100	Sed	None	8 oz jar	1	X	X			2		Full PAH List
SED-DA-020(0.5-1.0)	7-30-13	1105	Sed	None	4 oz jar	1	X				2		44 PAH List
SED-DA-020(1.0-1.5)	7-30-13	1110	Sed	None	4 oz jar	1	X				2		44 PAH List
SED-DA-BG-007(0-0.5)	7-30-13	1345	Sed	None	8 oz jar	1	X	X			2		Full PAH List
SED-DA-DUP-020(0-0.5)	7-30-13		Sed	None	8 oz jar	1	X	X			2		Full PAH List
					Total # of Containers	89							

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays	ARCADIS	7-30-13	1700	Printed Name: Fedex		7-30-13	1700
Signature:				Signature:			
Printed Name				Printed Name: Mauricio Preciado	B & B Labs	7/31/13	13:02
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	Project #
64251	J13034	Arcadis - Mayflower AR	ARC1566	SED-DA-029 (0-0.5)	07/29/13	07/31/13	PAH, TPH, ALI	SED		13073101	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64252	J13034	Arcadis - Mayflower AR	ARC1567	SED-DA-029 (0.5-1.0)	07/29/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64253	J13034	Arcadis - Mayflower AR	ARC1568	SED-DA-029 (1.0-1.5)	07/29/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64254	J13034	Arcadis - Mayflower AR	ARC1569	SED-DA-029 (1.5-2.0)	07/29/13	07/31/13	PAH	SED	extract & hold, 44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64255	J13034	Arcadis - Mayflower AR	ARC1570	SED-DA-029 (2.0-3.0)	07/29/13	07/31/13	PAH	SED	extract & hold, 44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64256	J13034	Arcadis - Mayflower AR	ARC1571	SED-DA-030 (0-0.5)	07/29/13	07/31/13	PAH, TPH, ALI	SED		13073101	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64257	J13034	Arcadis - Mayflower AR	ARC1572	SED-DA-030 (0.5-1.0)	07/29/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64258	J13034	Arcadis - Mayflower AR	ARC1573	SED-DA-030 (1.0-1.5)	07/29/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64259	J13034	Arcadis - Mayflower AR	ARC1574	SED-DA-028 (0-0.5)	07/29/13	07/31/13	PAH, TPH, ALI	SED		13073101	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64260	J13034	Arcadis - Mayflower AR	ARC1575	SED-DA-028 (0-0.5) MS/MSD	07/29/13	07/31/13	PAH, TPH, ALI	SED	1 of 2	13073101	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64261	J13034	Arcadis - Mayflower AR	ARC1576	SED-DA-028 (0-0.5) MS/MSD	07/29/13	07/31/13	HOLD	SED	2 of 2	13073101	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64262	J13034	Arcadis - Mayflower AR	ARC1577	SED-DA-028 (0.5-1.0)	07/29/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64263	J13034	Arcadis - Mayflower AR	ARC1578	SED-DA-028 (1.0-1.5)	07/29/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64264	J13034	Arcadis - Mayflower AR	ARC1579	SED-DA-027 (0-0.5)	07/29/13	07/31/13	PAH, TPH, ALI	SED		13073101	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64265	J13034	Arcadis - Mayflower AR	ARC1580	SED-DA-027 (0.5-1.0)	07/29/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64266	J13034	Arcadis - Mayflower AR	ARC1581	SED-DA-027 (1.0-1.5)	07/29/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64267	J13034	Arcadis - Mayflower AR	ARC1582	SED-DA-027 (1.5-2.0)	07/29/13	07/31/13	PAH	SED	extract & hold, 44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64268	J13034	Arcadis - Mayflower AR	ARC1583	SED-DA-027 (2.0-3.0)	07/29/13	07/31/13	PAH	SED	extract & hold, 44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64269	J13034	Arcadis - Mayflower AR	ARC1584	SED-DA-027 (3.0-3.6)	07/29/13	07/31/13	PAH	SED	extract & hold, 44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64270	J13034	Arcadis - Mayflower AR	ARC1585	SED-DA-026 (0-0.5)	07/30/13	07/31/13	PAH, TPH, ALI	SED		13073101	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64271	J13034	Arcadis - Mayflower AR	ARC1586	SED-DA-026 (0.5-1.0)	07/30/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64272	J13034	Arcadis - Mayflower AR	ARC1587	SED-DA-026 (1.0-1.5)	07/30/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64273	J13034	Arcadis - Mayflower AR	ARC1588	SED-DA-026 (1.5-2.0)	07/30/13	07/31/13	PAH	SED	extract & hold, 44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64274	J13034	Arcadis - Mayflower AR	ARC1589	SED-DA-026 (2.0-3.0)	07/30/13	07/31/13	PAH	SED	extract & hold, 44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64275	J13034	Arcadis - Mayflower AR	ARC1590	SED-DA-026 (3.0-3.4)	07/30/13	07/31/13	PAH	SED	extract & hold, 44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64276	J13034	Arcadis - Mayflower AR	ARC1591	SED-DA-025 (0-0.5)	07/30/13	07/31/13	PAH, TPH, ALI	SED		13073101	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64277	J13034	Arcadis - Mayflower AR	ARC1592	SED-DA-025 (0.5-1.0)	07/30/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64278	J13034	Arcadis - Mayflower AR	ARC1593	SED-DA-025 (1.0-1.5)	07/30/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64279	J13034	Arcadis - Mayflower AR	ARC1594	SED-DA-024 (0-0.5)	07/30/13	07/31/13	PAH, TPH, ALI	SED		13073101	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64280	J13034	Arcadis - Mayflower AR	ARC1595	SED-DA-024 (0.5-1.0)	07/30/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64281	J13034	Arcadis - Mayflower AR	ARC1596	SED-DA-024 (1.0-1.5)	07/30/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64282	J13034	Arcadis - Mayflower AR	ARC1597	SED-DA-024 (1.5-2.0)	07/30/13	07/31/13	PAH	SED	extract & hold, 44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64283	J13034	Arcadis - Mayflower AR	ARC1598	SED-DA-024 (2.0-3.0)	07/30/13	07/31/13	PAH	SED	extract & hold, 44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64284	J13034	Arcadis - Mayflower AR	ARC1599	SED-DA-020 (0-0.5)	07/30/13	07/31/13	PAH, TPH, ALI	SED		13073101	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64285	J13034	Arcadis - Mayflower AR	ARC1600	SED-DA-020 (0.5-1.0)	07/30/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64286	J13034	Arcadis - Mayflower AR	ARC1601	SED-DA-020 (1.0-1.5)	07/30/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64287	J13034	Arcadis - Mayflower AR	ARC1602	SED-DA-BG-007 (0-0.5)	07/30/13	07/31/13	PAH, TPH, ALI	SED		13073101	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64288	J13034	Arcadis - Mayflower AR	ARC1603	SED-DA-DUP-02-073013	07/30/13	07/31/13	PAH, TPH, ALI	SED		13073101	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64289	J13034	Arcadis - Mayflower AR	ARC1604	SED-DA-EB-02-072913	07/29/13	07/31/13	PAH, TPH, ALI	WATER	1 of 2	13073101	Cooler 1	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302
64290	J13034	Arcadis - Mayflower AR	ARC1605	SED-DA-EB-02-072913	07/29/13	07/31/13	HOLD	WATER	2 of 2	13073101	Cooler 1	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302
64291	J13034	Arcadis - Mayflower AR	ARC1606	SED-DA-EB-03-073013	07/30/13	07/31/13	PAH, TPH, ALI	WATER	1 of 2	13073101	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302
64292	J13034	Arcadis - Mayflower AR	ARC1607	SED-DA-EB-03-073013	07/30/13	07/31/13	HOLD	WATER	2 of 2	13073101	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13073101
Client: Arcadis - Mayflower
Initiation Date: 7/31/13 AR

Number of Samples: 16
Matrix: sediments
Due Date: AB 7/31/13 TE 45 days: 10/14/13
Comments: PAH: 44 analytes
received 7/31/13

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 1541	☐	Blank Spike
☐ Blank Spike Duplicate		☒	Matrix Spike _____
☐ Matrix Spike Duplicate _____		☐	Duplicate _____

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PHL, ACL Volume(s): 100

Spike Standard(s): PAH, ACL Volume(s): 100

Internal Standard(s): PAH, ACL Volume(s): 100

Final Extract Volume (ml): 1.0 Final Solvent: DCM

Comments:

Analyze PAHs short list only

Sample Custodian Signature: Amanda Brewster Date: 7/31/13

Laboratory Manager Signature: _____ Date: 7/31/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	#	Project #
64252	J13034	Arcadis - Mayflower AR	ARC1567	SED-DA-029 (0.5-1.0)	07/29/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64253	J13034	Arcadis - Mayflower AR	ARC1568	SED-DA-029 (1.0-1.5)	07/29/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64257	J13034	Arcadis - Mayflower AR	ARC1572	SED-DA-030 (0.5-1.0)	07/29/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64258	J13034	Arcadis - Mayflower AR	ARC1573	SED-DA-030 (1.0-1.5)	07/29/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64262	J13034	Arcadis - Mayflower AR	ARC1577	SED-DA-028 (0.5-1.0)	07/29/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64263	J13034	Arcadis - Mayflower AR	ARC1578	SED-DA-028 (1.0-1.5)	07/29/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64265	J13034	Arcadis - Mayflower AR	ARC1580	SED-DA-027 (0.5-1.0)	07/29/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64266	J13034	Arcadis - Mayflower AR	ARC1581	SED-DA-027 (1.0-1.5)	07/29/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64271	J13034	Arcadis - Mayflower AR	ARC1586	SED-DA-026 (0.5-1.0)	07/30/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64272	J13034	Arcadis - Mayflower AR	ARC1587	SED-DA-026 (1.0-1.5)	07/30/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64277	J13034	Arcadis - Mayflower AR	ARC1592	SED-DA-025 (0.5-1.0)	07/30/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64278	J13034	Arcadis - Mayflower AR	ARC1593	SED-DA-025 (1.0-1.5)	07/30/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64280	J13034	Arcadis - Mayflower AR	ARC1595	SED-DA-024 (0.5-1.0)	07/30/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64281	J13034	Arcadis - Mayflower AR	ARC1596	SED-DA-024 (1.0-1.5)	07/30/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64285	J13034	Arcadis - Mayflower AR	ARC1600	SED-DA-020 (0.5-1.0)	07/30/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64286	J13034	Arcadis - Mayflower AR	ARC1601	SED-DA-020 (1.0-1.5)	07/30/13	07/31/13	PAH	SED	44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302

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B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13073101
Client: Arcadis - Mayflower AR
Initiation Date: 7/31/13

Number of Samples: 2
Matrix: water
Due Date: 45 days: 10/14/13
Comments: collected 7/29-7/30
extract by 8/04-8/05
received 7/31/13

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): 1 mL

Spike Standard(s): PAH, ALI Volume(s): 1 mL

Internal Standard(s): PAH, ALI Volume(s): 1 mL

Final Extract Volume (ml): 1.0 Final Solvent: DCM

Comments:

Sample Custodian Signature: Amanda Brewster Date: 7/31/13

Laboratory Manager Signature: _____ Date: 7/31/13

Sample Initiaiton - general Rev 1.doc
Rev 1

cc: COC Book
Extraction Lab

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64289	J13034	Arcadis - Mayflower AR	ARC1604	SED-DA-EB-02-072913	07/29/13	07/31/13	PAH, TPH, ALI	WATER	1 of 2	13073101	Cooler 1	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302
64291	J13034	Arcadis - Mayflower AR	ARC1606	SED-DA-EB-03-073013	07/30/13	07/31/13	PAH, TPH, ALI	WATER	1 of 2	13073101	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302

1/2

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 1307-3101
Client: Arcadis - Mayflower AR
Initiation Date: 7/31/13

Number of Samples: 11
Matrix: sediments
Due Date: 45 days: 10/14/13
Comments: PAH, TPH, ALI
received 7/31/13

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 5441	☐ Blank Spike	
☐ Blank Spike Duplicate		☑ Matrix Spike ____	
☑ Matrix Spike Duplicate ____		☑ Duplicate ____	

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, AC Volume(s): 100µL
Spike Standard(s): PAH, AC Volume(s): 100µL
Internal Standard(s): PAH, AC Volume(s): 100µL
Final Extract Volume (ml): 1.0 Final Solvent: DCM

Comments:
Use AEC 1575 as MS/MSD

Sample Custodian Signature: amanda Brewster Date: 7/31/13
Laboratory Manager Signature: ____ Date: 7/31/13

Sample Initiaiton - general Rev 1.doc
Rev 1

cc: COC Book
Extraction Lab

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64251	J13034	Arcadis - Mayflower AR	ARC1566	SED-DA-029 (0-0.5)	07/29/13	07/31/13	PAH, TPH, ALI	SED		13073101	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64256	J13034	Arcadis - Mayflower AR	ARC1571	SED-DA-030 (0-0.5)	07/29/13	07/31/13	PAH, TPH, ALI	SED		13073101	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64259	J13034	Arcadis - Mayflower AR	ARC1574	SED-DA-028 (0-0.5)	07/29/13	07/31/13	PAH, TPH, ALI	SED		13073101	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64260	J13034	Arcadis - Mayflower AR	ARC1575	SED-DA-028 (0-0.5) MS/MSD	07/29/13	07/31/13	PAH, TPH, ALI	SED	1 of 2	13073101	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64264	J13034	Arcadis - Mayflower AR	ARC1579	SED-DA-027 (0-0.5)	07/29/13	07/31/13	PAH, TPH, ALI	SED		13073101	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64270	J13034	Arcadis - Mayflower AR	ARC1585	SED-DA-026 (0-0.5)	07/30/13	07/31/13	PAH, TPH, ALI	SED		13073101	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64276	J13034	Arcadis - Mayflower AR	ARC1591	SED-DA-025 (0-0.5)	07/30/13	07/31/13	PAH, TPH, ALI	SED		13073101	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64279	J13034	Arcadis - Mayflower AR	ARC1594	SED-DA-024 (0-0.5)	07/30/13	07/31/13	PAH, TPH, ALI	SED		13073101	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64284	J13034	Arcadis - Mayflower AR	ARC1599	SED-DA-020 (0-0.5)	07/30/13	07/31/13	PAH, TPH, ALI	SED		13073101	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64287	J13034	Arcadis - Mayflower AR	ARC1602	SED-DA-BG-007 (0-0.5)	07/30/13	07/31/13	PAH, TPH, ALI	SED		13073101	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64288	J13034	Arcadis - Mayflower AR	ARC1603	SED-DA-DUP-02-073013	07/30/13	07/31/13	PAH, TPH, ALI	SED		13073101	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302

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B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13073101
Client: Arcadis - Mayflower AR
Initiation Date: 7/31/13

Number of Samples: 10
Matrix: sediments
Due Date: 45 days: 10/14/13
Comments: EXTRACT & HOLD
PAH: 44 analytes
received 7/31/13

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): 100 ul

Final Extract Volume (ml): 1 Final Solvent: DCM

Comments:

extract + hold

Sample Custodian Signature: amanda Brewster Date: 7/31/13

Laboratory Manager Signature: _____ Date: 7/31/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
64254	J13034	Arcadis - Mayflower AR	ARC1569	SED-DA-029 (1.5-2.0)	07/29/13	07/31/13	PAH	SED	extract & hold, 44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64255	J13034	Arcadis - Mayflower AR	ARC1570	SED-DA-029 (2.0-3.0)	07/29/13	07/31/13	PAH	SED	extract & hold, 44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64267	J13034	Arcadis - Mayflower AR	ARC1582	SED-DA-027 (1.5-2.0)	07/29/13	07/31/13	PAH	SED	extract & hold, 44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64268	J13034	Arcadis - Mayflower AR	ARC1583	SED-DA-027 (2.0-3.0)	07/29/13	07/31/13	PAH	SED	extract & hold, 44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64269	J13034	Arcadis - Mayflower AR	ARC1584	SED-DA-027 (3.0-3.6)	07/29/13	07/31/13	PAH	SED	extract & hold, 44 analytes	13073101	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64273	J13034	Arcadis - Mayflower AR	ARC1588	SED-DA-026 (1.5-2.0)	07/30/13	07/31/13	PAH	SED	extract & hold, 44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64274	J13034	Arcadis - Mayflower AR	ARC1589	SED-DA-026 (2.0-3.0)	07/30/13	07/31/13	PAH	SED	extract & hold, 44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64275	J13034	Arcadis - Mayflower AR	ARC1590	SED-DA-026 (3.0-3.4)	07/30/13	07/31/13	PAH	SED	extract & hold, 44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64282	J13034	Arcadis - Mayflower AR	ARC1597	SED-DA-024 (1.5-2.0)	07/30/13	07/31/13	PAH	SED	extract & hold, 44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64283	J13034	Arcadis - Mayflower AR	ARC1598	SED-DA-024 (2.0-3.0)	07/30/13	07/31/13	PAH	SED	extract & hold, 44 analytes	13073101	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302

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amanda brewster

From: amanda brewster <amandabrewster@tdi-bi.com>
Sent: Wednesday, July 31, 2013 4:39 PM
To: 'Mays, Daniel'; Parmelee, Rhiannon (Rhiannon.Parmelee@arcadis-us.com); 'Jennifer.Chandler@arcadis-us.com'; 'Dennis.Capria@arcadis-us.com'; Mott, Lyndi (Lyndi.Mott@arcadis-us.com)
Cc: Juan Ramirez (juanramirez@tdi-bi.com); Donell Frank; 'tommcdonald@tdi-bi.com' (tommcdonald@tdi-bi.com)
Subject: RE: B+B Shipment 7-30-2013
Attachments: COC 7-31-13.pdf

Hi Daniel,

We received your samples today in good condition.
The internal temperature of Cooler 1 was 6.6ºC and the temperature blank was 2.9ºC.
The internal temperature of Cooler 2 was 4.9ºC and the temperature blank was 3.6ºC.
A PDF of the COC is attached for your records.

Regards,
Amanda

From: Mays, Daniel [mailto:Daniel.Mays@arcadis-us.com]
Sent: Tuesday, July 30, 2013 5:11 PM
To: amandabrewster@TDI-BI.com
Subject: B+B Shipment 7-30-2013

Good evening Amanda,

2 coolers were shipped to B+B today, tracking number 876938201029 and 795803347496.

Regards,

Danny Mays | Environmental Specialist, E.I. | daniel.mays@arcadis-us.com
ARCADIS U.S., Inc. | 801 Corporate Center Drive, Suite 300 | Raleigh, North Carolina 27607
T: 919-415-2281 | M: 919-812-1417 | F: 919-854-5448
Professional Affiliate/ARCADIS G&M of North Carolina, Inc.
Please consider the environment before printing this email

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Laboratory Bench Sheet Logs

B&B LABORATORIES ENVIRONMENTAL EXTRACTION LOG

MATRIX
- ☐ OTHER
- ☐ WATER
- ☒ SEDIMENT
- ☐ TISSUE

Job #: J13034 SDG #: 13073001, 13073101

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) CK 8/9
Long / (Short)

Surrogate: 100 µL
PAH: AR-WKSU-2500-002
Pest/PCB: —
Aliphatic: AL-WKSU-200-001
Other: —

Spike: 100 µL
PAH: AR-WKSK-1000-026
Pest/PCB: —
Aliphatic: AL-WKSK-100-026
Other: —

GC Int Std: 100 µL
PAH: AR-WKIS-2500-002
Pest/PCB: —
Aliphatic: AL-WKIS-500-001
Other: —

Turbo Vap II
Bath T (C):
Pressure (>20psi):
Check Water Level:
Turbo Vap Date:

General Comments:

Report 13-3089

All samples get PAH/ALI standards. See comments for specific analysis — CK

	Added	Witness
Surrogate:	8/8/13 CK	8-8-13 EN
Spike:	8/8/13 CK	8-8-13 EN
Internal:	8/12/13 CK	8-12-13 EN

	Sample Name	Client ID	Wet Wt. (g or L)	Dry Wt. %	Dry Wt. (g)	Extraction Comments	Internal Chain of Custody	
1	ENV3076A	Procedural Blank	—	—	—		Extraction Prep	
2	ENV3076B	SRM 1941b	4.11	97.61	4.01		Date: 8/8/13	Date: 8/8/13
3	ENV3076C	Matrix Spike (ARC1575)	101.24	14.88	15.06		Initials: CK	Initials: CK
4	ENV3076D	Matrix Spike Dup (ARC1575)	100.97	14.88	15.02		Extraction	
5	ENV3076E	Duplicate (ARC1560)	19.45	77.34	15.04		Date: 8/8/13	Date: 8-9-13
6	ARC1558	SED-DA-032 (0-0.5)	46.78	32.30	15.11		Initials: CK	Initials: EN
7	ARC1559	SED-DA-032 (0.5-1.0)	22.52	67.19	15.13	PAH only	Concentration	
8	ARC1560	SED-DA-032 (1.0-1.5)	19.46	77.34	15.05	PAH only	Date: 8-9-13	Date: 8-9-13
9	ARC1561	SED-DA-031 (0-0.5)	57.15	26.32	15.04		Initials: EN	Initials: EN
10	ARC1562	SED-DA-031 (0.5-1.0)	41.05	36.67	15.05	PAH only	Short Columns	
11	ARC1563	SED-DA-031 (1.0-1.5)	26.19	57.46	15.05	PAH only	Date: 8-9-13	Date: 8-9-13
12	ARC1566	SED-DA-029 (0-0.5)	45.12	33.33	15.04		Initials: EN	Initials: EN

ENV 3076

B&B LABORATORIES ENVIRONMENTAL EXTRACTION LOG

	Sample Name	Client ID	Wet Wt. (g or L)	Dry Wt. %	Dry Wt. (g)	Extraction Comments
13	ARC1567	SED-DA-029 (0.5-1.0)	26.31	57.78	15.20	PAH only
14	ARC1568	SED-DA-029 (1.0-1.5)	21.14	71.84	15.19	PAH only
15	ARC1569	SED-DA-029 (1.5-2.0)	21.65	69.78	15.11	do not analyze - HOLD
16	ARC1570	SED-DA-029 (2.0-3.0)	24.35	62.18	15.14	do not analyze - HOLD
17	ARC1571	SED-DA-030 (0-0.5)	76.86	19.59	15.06	
18	ARC1572	SED-DA-030 (0.5-1.0)	20.76	72.41	15.03	PAH only
19	ARC1573	SED-DA-030 (1.0-1.5)	19.14	78.46	15.02	PAH only
20	ARC1574	SED-DA-028 (0-0.5)	106.39	14.12	15.02	sample original for MS/MSD
21	ARC1577	SED-DA-028 (0.5-1.0)	27.51	55.36	15.23	PAH only
22	ARC1578	SED-DA-028 (1.0-1.5)	22.74	66.67	15.16	PAH only
23	ARC1579	SED-DA-027 (0-0.5)	34.83	43.13	15.02	
24	ARC1580	SED-DA-027 (0.5-1.0)	58.41	25.71	15.02	PAH only

Internal Chain of Custody

	Date	Initials
Concentration Short Columns	8-12-13	EM
	8-12-13	CK
Columns SA1		
Concentration SA1		
Columns SA2		
Concentration SA2		
Transfer for HPLC		
HPLC		
Post-HPLC Concentration		
Final Extract Transfer	8/12/13	CK

Dry Weight Page

DRY 1350, 1351, 1352, 1353

Lipid/EOM Page

EOM1016

Clean-up/Separation/Other Columns

—

Lot Numbers

DCM: 52195
Hexane: —
Hydromatrix: —
Water: DI045-B
Silica: BCBJ9493V
Alumina: TG14BZEMS
Sodium Sulfate: 2092C525
Pentane: —
Copper: 115050-AV
Hydrochloric Acid: —
SPE Columns: —
Other: —

Sample Storage Box #

~~#424~~ 8/15/13 CK

J13034-1

HPLC Storage Box #

—

QC Review

Date	Initials
8/12/13	

Copied to Folders

8/12/13 CK

B&B LABORATORIES % DRY WEIGHT LOGBOOK

13073101

MATRIX
- ☐ OTHER
- ☒ SEDIMENT
- ☐ TISSUE

Type: _____

Job #: J13034 SDG #: 13073001,

Client: Arcadis - Mayflower AR

General comments:

Lab Mananger		Date/Init: ☑ Bal. Cal.	Beaker + Dry Smpl (g)		Date/Init:
Date:	Init:		Date/Init:	Date/Init:	
8/6/13		8/2/13 CK	8/5/13 HA ☑ Bal. Cal.	8/5/13 ☑ Bal. Cal.	8/6/13 CK

	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	1	2	(%) Dry Weight	Comments
1	ARC1537	SED-DA-033 (0-0.5)	1.29	2.60	2.10	2.09	61.07	
2	ARC1540	SED-DA-034 (0-0.5)	~~1.32~~ CK 8/2	2.56	1.85	1.84	44.19	1.27
3	ARC1543	SED-DA-035 (0-0.5)	1.30	3.06	2.15	2.15	48.30	
4	ARC1546	SED-DA-035 (0-0.5) MS/MSD	1.30	2.61	1.92	1.88	44.27	
5	ARC1548	SED-DA-036 (0-0.5)	1.30	2.62	1.73	~~1.72~~ HA 8/6/13	31.82	1.72
6	ARC1549	SED-DA-DUP-01-072813	1.29	2.95	1.87	1.87	34.94	
7	ARC1552	SED-DA-037 (0-0.5)	1.28	2.52	1.63	1.63	28.23	
8	ARC1555	SED-DA-038 (0-0.5)	1.30	3.00	1.76	1.76	27.06	
9	ARC1558	SED-DA-032 (0-0.5)	1.31	2.92	1.83	1.83	32.30	
10	ARC1561	SED-DA-031 (0-0.5)	1.31	2.45	1.61	1.61	26.32	
11	ARC1566	SED-DA-029 (0-0.5)	1.30	2.77	1.79	1.79	33.33	
12	ARC1571	SED-DA-030 (0-0.5)	1.29	2.77	1.58	1.58	19.59	
13	ARC1574	SED-DA-028 (0-0.5)	1.29	2.99	1.52	1.53	14.12	
14	ARC1575	SED-DA-028 (0-0.5) MS/MSD	1.29	2.50	1.47	1.47	14.88	
15	ARC1579	SED-DA-027 (0-0.5)	1.30	2.90	1.99	1.99	43.13	
16	ARC1585	SED-DA-026 (0-0.5)	1.30	2.49	1.42	1.42	10.08	

DRY 1350

B&B LABORATORIES % DRY WEIGHT LOGBOOK

					Beaker + Dry Smpl (g) Date/Init: 8/5/13 HA ☑ Bal. Cal.	Beaker + Dry Smpl (g) Date/Init: 8/6/13 ☑ Bal. Cal.		
	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	1	2	(%) Dry Weight	Comments
17	ARC1591	SED-DA-025 (0-0.5)	1.29	2.99	1.68	1.68	22.94	
18	ARC1594	SED-DA-024 (0-0.5)	1.29	2.70	1.72	1.72	30.50	
19	ARC1599	SED-DA-020 (0-0.5)	1.30	2.71	1.55	1.55	17.73	
20	ARC1602	SED-DA-BG-007 (0-0.5)	1.31	2.70	1.97	1.97	47.48	
21	ARC1603	SED-DA-DUP-02-073013	1.29	2.65	1.46	1.46	12.50	
22	ARC1602 Dup	Duplicate	1.30	2.74	1.97	1.97	46.53	
23								
24								

$$\%\ \text{Dry Weight} = \frac{[\text{Beaker + Dry SMPL (g)}] - [\text{Beaker Weight (g)}]}{[\text{Beaker + Wet SMPL (g)}] - [\text{Beaker Weight (g)}]} \times 100$$

$$\text{RPD} = \frac{[\text{Original \% Dry Weight Value} - \text{Duplicate \% Dry Weight Value}]}{[\text{Original \% Dry Weight Value} + \text{Duplicate \% Dry Weight Value}] \times 0.5} \times 100$$

The Relative Percent Difference (RPD) between duplicates must be ≤ 25%.

Date / Init.	RPD
8/6/13 CK	2.030%
Sample # ARC1602	
Duplicate # ARC1602 Dup	

DRY 1350

B&B LABORATORIES % DRY WEIGHT LOGBOOK

MATRIX
- ☐ OTHER
- ☒ SEDIMENT
- ☐ TISSUE Type

Job #: J13034 SDG #: 13073101 13080101

Client: Arcadis - Mayflower AR

General comments:

Lab Mananger Date:	Lab Mananger Init:	Date/Init: ☑ Bal. Cal.	Beaker + Dry Smpl (g) Date/Init: ☑ Bal. Cal.	Beaker + Dry Smpl (g) Date/Init: ☑ Bal. Cal.	Date/Init:
8/6/13	[illegible]	8/2/13 CK	8/5/13 HA ☑ Bal. Cal.	8/6/13 HA ☑ Bal. Cal.	8/6/13 CK

	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	1	2	(%) Dry Weight	Comments
1	ARC1569	SED-DA-029 (1.5-2.0)	1.32	2.71	2.29	2.29	69.78	
2	ARC1570	SED-DA-029 (2.0-3.0)	1.31	2.50	2.06	2.05	62.18	
3	ARC1582	SED-DA-027 (1.5-2.0)	1.32	2.50	2.16	2.16	71.19	
4	ARC1583	SED-DA-027 (2.0-3.0)	1.31	3.73	3.08	3.08	73.14	
5	ARC1584	SED-DA-027 (3.0-3.6)	1.29	3.58	2.98	2.98	73.80	
6	ARC1588	SED-DA-026 (1.5-2.0)	1.30	2.55	1.90	1.90	48.00	
7	ARC1589	SED-DA-026 (2.0-3.0)	1.31	3.91	3.18	3.17	71.54	
8	ARC1590	SED-DA-026 (3.0-3.4)	1.29	2.74	2.47	2.46	80.69	
9	ARC1597	SED-DA-024 (1.5-2.0)	1.30	2.57	1.54	1.54	18.90	
10	ARC1598	SED-DA-024 (2.0-3.0)	1.30	2.47	1.51	1.51	17.95	
11	ARC1611	SED-DA-BG-011 (0-0.5)	1.31	2.48	1.97	1.96	55.56	
12	ARC1612	SED-DA-BG-010 (0-0.5)	1.30	4.01	2.87	2.86	57.56	
13	ARC1613	SED-DA-BG-008 (0-0.5)	1.30	2.61	1.96	1.96	50.38	
14	ARC1614	SED-DA-BG-008 (0-0.5) MS/MSD	1.28	3.17	2.19	2.19	48.15	
15	ARC1616	SED-DA-DUP-03-073113	1.29	2.65	2.09	2.09	58.82	
16	ARC1617	SED-DA-BG-009 (0-0.5)	1.30	2.83	2.16	2.16	56.21	

DRY 1351

B&B LABORATORIES % DRY WEIGHT LOGBOOK

					Beaker + Dry Smpl (g) Date/Init: 8/5/13 HA ☑ Bal. Cal.	Beaker + Dry Smpl (g) Date/Init: 8/6/13 HA ☑ Bal. Cal.	Date/Init: 8/6/13 CK	
	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	1	2	(%) Dry Weight	Comments
17	ARC1569 Dup	Duplicate	1.32	2.70	2.27	2.27	68.84	
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
8/6/13 CK	1.361
Sample # ARC1569	
Duplicate # ARC1569Dup	

DRY 1351

B&B LABORATORIES % DRY WEIGHT LOGBOOK

MATRIX
- ☐ OTHER
- ☒ SEDIMENT
- ☐ TISSUE Type

Job #: J13034 SDG #: 13073001

Client: Arcadis - Mayflower AR

General comments:

Lab Mananger		Date/Init: ☑ Bal. Cal.	Beaker + Dry Smpl (g)		Date/Init:
Date:	Init:		Date/Init:	Date/Init:	
8/6/13	JA	8/2/13 CK	8/5/13 HA ☑ Bal. Cal.	8/6/13 HA ☑ Bal. Cal.	8/6/13 CK

	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	1	2	(%) Dry Weight	Comments
1	ARC1538	SED-DA-033 (0.5-~~0.1~~ 1.0) CK 8/1	1.32	3.14	2.74	2.74	78.02	
2	ARC1539	SED-DA-033 (1.0-1.5)	1.31	3.62	3.13	3.13	78.79	
3	ARC1541	SED-DA-034 (0.5-1.0)	1.31	3.05	2.57	2.57	72.41	
4	ARC1542	SED-DA-034 (1.0-1.5)	1.30	2.72	2.40	2.39	76.76	
5	ARC1544	SED-DA-035 (0.5-1.0)	1.29	3.59	2.79	2.79	65.22	
6	ARC1545	SED-DA-035 (1.0-1.5)	1.30	3.27	2.77	2.76	74.11	
7	ARC1550	SED-DA-036 (0.5-1.0)	1.30	2.97	2.51	2.50	71.86	
8	ARC1551	SED-DA-036 (1.0-1.5)	1.28	2.58	2.31	2.31	79.23	
9	ARC1553	SED-DA-037 (0.5-1.0)	1.28	~~2.52~~ CK 8/2	1.84	1.83	39.42	266
10	ARC1554	SED-DA-037 (1.0-1.5)	1.31	3.33	2.72	2.72	69.80	
11	ARC1556	SED-DA-038 (0.5-1.0)	1.33	2.93	2.15	2.14	50.63	
12	ARC1557	SED-DA-038 (1.0-1.5)	1.29	2.97	2.55	2.53	73.81	
13	ARC1559	SED-DA-032 (0.5-1.0)	1.32	2.60	2.18	2.18	67.19	
14	ARC1560	SED-DA-032 (1.0-1.5)	1.31	3.34	2.87	2.88	77.34	
15	ARC1562	SED-DA-031 (0.5-1.0)	1.32	2.52	1.78	1.76	36.67	
16	ARC1563	SED-DA-031 (1.0-1.5)	1.30	2.64	2.07	2.07	57.46	

DRY 1352

					Beaker + Dry Smpl (g) Date/Init: 8/5/13 HA ☑ Bal. Cal.	Beaker + Dry Smpl (g) Date/Init: 8/6/13 HA ☑ Bal. Cal.	Date/Init: 8/6/13 CK	
	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	1	2	(%) Dry Weight	Comments
17	ARC1559 Dup	Duplicate	1.30	2.66	2.21	2.21	66.91	
18								
19								
20								
21								
22								
23								
24								

$$\% \text{ Dry Weight} = \frac{[\text{Beaker + Dry SMPL (g)}] - [\text{Beaker Weight (g)}] \times 100}{[\text{Beaker + Wet SMPL (g)}] - [\text{Beaker Weight (g)}]}$$

$$\text{RPD} = \frac{[\text{Original \% Dry Weight Value} - \text{Duplicate \% Dry Weight Value}] \times 100}{[\text{Original \% Dry Weight Value} + \text{Duplicate \% Dry Weight Value}] \times 0.5}$$

The Relative Percent Difference (RPD) between duplicates must be ≤ 25%.

Date / Init.	RPD
8/6/13 CK	0.411 %
Sample # ARC1559	
Duplicate # ARC1559 Dup	

DRY 1352

B&B LABORATORIES % DRY WEIGHT LOGBOOK

MATRIX
- ☐ OTHER
- ☒ SEDIMENT
- ☐ TISSUE Type

Job #: J13034 SDG #: 13073101

Client: Arcadis- Mayflower AR

General comments:

Lab Mananger Date:	Lab Mananger Init:	Date/Init: ☑ Bal. Cal.	Beaker + Dry Smpl (g) Date/Init: ☑ Bal. Cal.	Beaker + Dry Smpl (g) Date/Init: ☑ Bal. Cal.	Date/Init:
8/6/13		8/2/13 CK	8/5/13 HA	8/6/13 HA	8/6/13 CK

	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	1	2	(%) Dry Weight	Comments
1	ARC1567	SED-DA-029 (0.5-1.0)	1.30	3.10	2.34	2.34	57.78	
2	ARC1568	SED-DA-029 (1.0-1.5)	1.30	3.36	2.80	2.78	71.84	
3	ARC1572	SED-DA-030 (0.5-1.0)	1.30	2.75	2.35	2.35	72.41	
4	ARC1573	SED-DA-030 (1.0-1.5)	1.29	3.24	2.83	2.82	78.46	
5	ARC1577	SED-DA-028 (0.5-1.0)	1.34	3.02	2.27	2.27	55.36	
6	ARC1578	SED-DA-028 (1.0-1.5)	1.34	2.45	2.09	2.08	66.67	
7	ARC1580	SED-DA-027 (0.5-1.0)	1.31	2.36	1.59	1.58	25.71	
8	ARC1581	SED-DA-027 (1.0-1.5)	1.30	2.88	2.17	2.17	55.06	
9	ARC1586	SED-DA-026 (0.5-1.0)	1.30	2.87	1.79	1.78	30.57	
10	ARC1587	SED-DA-026 (1.0-1.5)	1.28	2.89	1.82	1.82	33.54	
11	ARC1592	SED-DA-025 (0.5-1.0)	1.30	2.89	2.09	2.09	49.69	
12	ARC1593	SED-DA-025 (1.0-1.5)	1.28	3.34	2.76	2.75	71.36	
13	ARC1595	SED-DA-024 (0.5-1.0)	1.34	3.51	2.84	2.83	68.66	
14	ARC1596	SED-DA-024 (1.0-1.5)	1.30	2.33	1.52	1.52	21.36	
15	ARC1600	SED-DA-020 (0.5-1.0)	1.32	2.84	1.74	1.74	27.63	
16	ARC1601	SED-DA-020 (1.0-1.5)	1.30	2.74	2.18	2.17	60.42	

DRY 1353

B&B LABORATORIES % DRY WEIGHT LOGBOOK

					Beaker + Dry Smpl (g) Date/Init: 8/5/15 HA ☑Bal. Cal.	Beaker + Dry Smpl (g) Date/Init: 8/6/13 HA ☑Bal. Cal.	Date/Init: 8/6/13 CK	
	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	1	2	(%) Dry Weight	Comments
17	ARC1601 Dup	Duplicate	1.29	2.80	2.17	2.17	58.28	
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
8/6/13 CK	3.603%
Sample # ARC1601	
Duplicate # ARC1601 Dup	

DRY 1353

B&B LABORATORIES EOM LOGBOOK

MATRIX: OTHER / SEDIMENT / WATER

Job #: J13034 SDG #: 13073001, 13073101

Client: Arcadis - Mayflower AR

General comments:

Lab Manager Date/Int: 8/12/13 CK

Transferred by Date/Int: 8/12/13 CK From ENV Pg: ENV3076 1353 From DRY Pg: 1350, 1351, 1352,

Date/Int: 8/9/13 HH Bal. Cal. ✓

Date/Int: 8/12/13 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	ENV3076A	Procedural Blank	—	—	3	24.494	24.495	0.001	—	—	
2	ENV3076B	SRM 1941b	4.01	97.61	3	22.623	22.745	0.122	891	913	
3	ENV3076C	Matrix Spike (ARC1575)	15.06	14.88	3	23.727	26.450	~~2.723~~	807	5424	
4	ENV3076D	Matrix Spike Dup (ARC1575)	15.02	14.88	3	22.927	25.617	2.690	799	5373	
5	ENV3076E	Duplicate (ARC1560)	15.04	77.34	3	23.835	23.870	0.035	54	70	
6	ARC1558	SED-DA-032 (0-0.5)	15.11	32.30	3	22.969	24.027	1.058	678	2101	
7	ARC1559	SED-DA-032 (0.5-1.0)	15.13	67.19	3	24.041	24.349	0.308	410	611	
8	ARC1560	SED-DA-032 (1.0-1.5)	15.05	77.34	3	23.007	23.045	0.038	59	76	
9	ARC1561	SED-DA-031 (0-0.5)	15.04	26.32	3	22.730	23.463	0.733	385	1462	
10	ARC1562	SED-DA-031 ~~(1.0-1.5)~~ 0.5-1.0 CK	15.05	36.67	3	22.963	23.644	0.681	498	1357	
11	ARC1563	SED-DA-031 (1.0-1.5)	15.05	57.46	3	23.744	24.177	0.433	496	863	
12	ARC1566	SED-DA-029 (0-0.5)	15.04	33.33	3	21.853	22.732	0.879	584	1753	

EOM 1016

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	ARC1567	SED-DA-029 (0.5-1.0)	15.20	57.78	3	24.098	24.315	0.217	247	428	
14	ARC1568	SED-DA-029(1.0-1.5)	15.19	71.84	3	24.400	24.553	0.153	217	302	
15	ARC1569	SED-DA-029(1.5-2.0)	15.11	69.78	3	22.638	22.690	0.052	72	103	
16	ARC1570	SED-DA-029(2.0-3.0)	15.14	62.18	3	23.706	23.892	0.186	229	369	
17	ARC1571	SED-DA-030(0-0.5)	15.06	19.59	3	24.362	25.805	1.443	563	2875	
18	ARC1572	SED-DA-030(0.5-1.0)	15.03	72.41	3	23.218	23.294	0.076	110	152	
19	ARC1573	SED-DA-030(1.0-1.5)	15.02	78.46	3	24.267	24.320	0.053	83	106	
20	ARC1574	SED-DA-028(0-0.5)	15.02	14.12	3	22.894	25.007	2.113	596	4220	
21	ARC1577	SED-DA-028(0.5-1.0)	15.23	55.36	3	23.596	24.022	0.426	465	839	
22	ARC1578	SED-DA-028(1.0-1.5)	15.16	66.67	3	22.283	22.377	0.094	124	186	
23	ARC1579	SED-DA-027(0-0.5)	15.02	43.13	3	24.049	24.742	0.693	597	1384	
24	ARC1580	SED-DA-027(0.5-1.0)	15.02	25.71	3	23.862	25.362	1.500	770	2996	

$$EOM = \frac{(EOM\ Wt.\ (mg))\ (Final\ Extract\ Vol.\ (ml))}{(Smpl\ Wt/Vol.\ (g/L))\ (0.10\ ml)} \times 1000$$

$$\%RPD = \frac{(EOM_1 - EOM_2)}{(EOM_1 + EOM_2) \times 0.5} \times 100\%$$

	Initial Filter Wt (mg)	Filter & Sample Wt (mg)	Wt. of 100 µl Lipid Wt. (mg)
Solvent Blank	23.835	23.835	0.000
EOM Standard	23.137	33.132	9.995

The Relative Percent Difference (RPD) between duplicates must be ≤ 25%.

Date/Int:	RPD
8/12/13 CK	8.153%
Sample: ARC1560	
Duplicate: ENV3076E	

EOM 1016

Last Page