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

Arcadis
Mayflower AR Project
(Contract # B0086003.1302)
August 12, 2013 and August 13, 2013
Collection Dates

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

(QC Batch ENV 3095)

September 24, 2013

Technical Report 13-3115

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Table of Contents
B&B Laboratories
September 24, 2013

Heading Page Number

Narrative

Technical Report 13-3115
Arcadis
Mayflower AR Project
(Contract # B0086003.1302)
Sediment Samples
August 12, 2013 and August 13, 2013 Collection Dates

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Introduction

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

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

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

Cooler Number	Temperature	Samples Received
1	0.9°C 0.9°C (Temp Blank)	Twenty-one (21) soils in 8oz or 4oz jars Two (2) 1L water samples in B/R amber bottles.

The water and sediment/soil samples were collected between August 9, 2013 and August 13, 2013 in support of the Mayflower AR, Project (Arcadis-US Contract # B0086003.1302). The water samples were logged in according to B&B Laboratories standard operating procedure (B&B 1009) and were stored in an access-controlled refrigerator (4.0°C) prior to analysis. The sediment/soil samples were logged in according to B&B Laboratories standard operating procedure (B&B 1009) and were stored in an access-controlled freezer (<-16.0°C) prior to analysis. Selected sediment/soil samples were analyzed for Total Petroleum Hydrocarbons (TPH) and C_9 to C_{40} Aliphatic Hydrocarbons (ALI) by GC/FID, Polycyclic Aromatic Hydrocarbons (PAH) by GC/MS-SIM, and selected biological markers by GC/MS-SIM.

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, hopane's, and TAS are listed in Table 1.

Table 1. Standard Operating Procedures for each analytical test.

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

Table 3. Data Qualifier Definitions.

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

Table 4. Method Detection Limits.

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

Table 4. Continued. Method Detection Limits.

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

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

Quality Assurance/Quality Control – Sediment/soil

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

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

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

Polycyclic Aromatic Hydrocarbons (PAH)

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

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

Quality Assurance/Quality Control Variances – Sediment/soil

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

Initial Calibration (Six Point)

Observation

- No variances were observed.

Initial Calibration Verification

Observation

- No variances were observed.

Mass Discrimination Ratio

Observation

- No variances were observed.

Internal Standard Area Response

Observation

- No variances were observed.

Continuing Calibration Checks

Observation

- No variances were observed.

Surrogate Recoveries

Observation

- No variances were observed.

Procedural Blank

Observation

- No variances were observed.

Matrix Spike/Matrix Spike Duplicate

Observation

- Eighteen (18) analytes were detected outside of the QC %recovery limits of 40% to 120% in ENV3095C MS (SED-DA-048 (0-0.5) MS)). Eighteen (18) analytes were detected outside of the QC %recovery limits of 40% to 120% in ENV3095D MSD (SED-DA-048 (0-0.5) MSD)).

Comment

- These eighteen (18) analytes are invalid spikes due to high native concentrations of petroleum hydrocarbons in the samples. These peaks are qualified with a "Y".

Laboratory Duplicate

Observation

- No variances were observed.

Laboratory Control Standard (Petroleum)

Observation

- No variances were observed.

Additional QC Batch Information

Observation

- No variances were observed.

Polycyclic Aromatic Hydrocarbons (PAH)

Initial Calibration (Six Point)

Observation

- No variances were observed.

Initial Calibration Verification

Observation

- No variances were observed.

Mass Discrimination Ratio

Observation

- No variances were observed.

Internal Standard Area Response

Observation

- No variances were observed.

Continuing Calibration Checks

Observation

- No variances were observed.

Surrogate Recoveries

Observation

- d12-Perylene was detected outside of the QC% recovery limits of 10 to 120% in three (3) client submitted samples ARC1842 (SO-DA-003 (0.5-1.0)), ARC1843 (SO-DA-003 (1.0-1.5)), and ARC1845 (SO-DA-004 (0.5-1.0)).

- Three (3) client submitted samples ARC1810 (SED-DA-048-(0-0.5)), ARC1815 (SED-DA-DUP-07-081213)), ARC1841 (SED-DA-003 (0-0.5)) and two (2) internal QC sample (client submitted samples) ENV3095C (SED-DA-048 (0-0.5) MS) and ENV3095D (SED-DA-048 (0-0.5) MSD) required a dilution prior to analysis due to high concentrations of PAHs in the sample

Comment

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

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

Procedural Blank

Observation

- No variances were observed.

Matrix Spike/Matrix Spike Duplicate

Observation

- Thirty-six (36) analytes were either detected outside of the QC %recovery limits of 40% to 120% or are considered invalid spike peaks due to dilution of the extract prior to analysis and the high concentration of PAHs in the samples in ENV3095C MS (SED-DA-048 (0-0.5) MS)) and ENV3095D MSD (SED-DA-048 (0-0.5) MSD)).

Comment

- These analytes are invalid spikes due to high native concentrations of PAHs in the samples and the dilution of the original sample and the MS and MSD samples. These peaks are qualified with a "Y".

Laboratory Duplicate

Observation

- No variances were observed.

Laboratory Control Standard (Solution, Sediment, and Petroleum)

Observation

- Pyrene was detected outside of the certified concentration limits of ±20% in MS70063K (AR-SRM2779-WK-4.0-002).

Comment

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

Additional QC Batch Information

Observation

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

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

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

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

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

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

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

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

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

Juan A. Ramirez
Environmental Laboratory Manager

Donell S. Frank
Project Quality Manager

Sample/Analyses Description

B&B Laboratories
Project J13034
Report 13-3115

Arcadis - Mayflower AR
Sample Inventory

Client Project #B0086003.1302

#	File Number	Client Identification	Collection Date	Received Date	Analysis	Matrix	Comments	B&B SDG	Client Project #
1	ARC1807	SED-DA-047 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	Sediment		13081301	B0086003.1302
2	ARC1810	SED-DA-048 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	Sediment		13081301	B0086003.1302
3	ARC1811	SED-DA-048 (0-0.5) MS	08/12/13	08/13/13	PAH, TPH, ALI	Sediment	MS	13081301	B0086003.1302
4	ARC1812	SED-DA-048 (0-0.5) MSD	08/12/13	08/13/13	PAH, TPH, ALI	Sediment	MSD	13081301	B0086003.1302
5	ARC1814	SED-DA-048 (1.0-1.5)	08/12/13	08/13/13	PAH	Sediment	44 analytes	13081301	B0086003.1302
6	ARC1815	SED-DA-DUP-07-081213	08/12/13	08/13/13	PAH, TPH, ALI	Sediment		13081301	B0086003.1302
7	ARC1841	SO-DA-003 (0-0.5)	08/13/13	08/14/13	PAH	Soil	44 analytes	13081401	B0086003.1302
8	ARC1842	SO-DA-003 (0.5-1.0)	08/13/13	08/14/13	PAH	Soil	44 analytes	13081401	B0086003.1302
9	ARC1843	SO-DA-003 (1.0-1.5)	08/13/13	08/14/13	PAH	Soil	44 analytes	13081401	B0086003.1302
10	ARC1844	SO-DA-004 (0-0.5)	08/13/13	08/14/13	PAH	Soil	44 analytes	13081401	B0086003.1302
11	ARC1845	SO-DA-004 (0.5-1.0)	08/13/13	08/14/13	PAH	Soil	44 analytes	13081401	B0086003.1302
12	ARC1846	SO-DA-004 (1.0-1.5)	08/13/13	08/14/13	PAH	Soil	44 analytes	13081401	B0086003.1302

Sediment/Soil Samples

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

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

Sample Name	ARC1807.D	ARC1810.D	ARC1815.D
Client Name	SED-DA-047 (0-0.5)	SED-DA-048 (0-0.5)	SED-DA-DUP-07-081213
Matrix	Sediment	Sediment	Sediment
Collection Date	08/12/13	08/12/13	08/12/13
Received Date	08/13/13	08/13/13	08/13/13
Extraction Date	08/26/13	08/26/13	08/26/13
Extraction Batch	ENV 3095	ENV 3095	ENV 3095
Date Acquired	29-Aug-2013, 08:50:31	29-Aug-2013, 10:01:08	29-Aug-2013, 11:11:36
Method	ALI2012.M	ALI2012.M	ALI2012.M
Sample Dry Weight (g)	15.00	15.06	15.03
Sample Wet Weight (g)	24.8	32.7	23.6
% Dry	60	46	64
% Moisture	40	54	36
% Lipid (dry)	NA	NA	NA
% Lipid (wet)	NA	NA	NA
Dilution	1X	1X	1X

Target Compounds	Su. Corrected Conc. (µg/dry g)	Q	Su. Corrected Conc. (µg/dry g)	Q	Su. Corrected Conc. (µg/dry g)	Q
n-C9	<0.012	U	<0.012	U	<0.012	U
n-C10	<0.021	U	0.023		0.033	
n-C11	0.013	J	0.061		0.046	
n-C12	0.016	J	0.179		0.152	
n-C13	0.019	J	0.503		0.631	
i-C15	0.118		0.909		1.089	
n-C14	0.071		1.101		1.178	
i-C16	0.173		1.547		1.594	
n-C15	0.133		1.900		1.877	
n-C16	0.126		2.024		1.790	
i-C18	0.270		1.755		1.572	
n-C17	0.058		1.610		1.248	
Pristane	0.652		2.508		2.143	
n-C18	0.578		2.181		1.468	
Phytane	0.802		2.827		2.449	
n-C19	0.342		2.356		1.558	
n-C20	0.208		1.502		1.165	
n-C21	0.421		3.198		1.353	
n-C22	0.278		1.480		1.022	
n-C23	0.773		3.770		1.492	
n-C24	0.237		1.176		0.774	
n-C25	0.810		2.950		1.210	
n-C26	0.252		0.791		0.614	
n-C27	2.832		4.027		2.450	
n-C28	0.732		1.206		0.815	
n-C29	6.666		7.555		5.476	
n-C30	0.797		1.038		0.394	
n-C31	5.552		9.252		5.221	
n-C32	0.943		1.300		0.628	
n-C33	9.624		7.724		4.878	
n-C34	0.824		0.756		0.458	
n-C35	5.724		3.293		1.979	
n-C36	0.335		0.426		0.385	
n-C37	1.159		1.788		1.137	
n-C38	0.122		0.279		0.119	
n-C39	0.193		0.539		0.240	
n-C40	<0.019	U	0.075		<0.019	U
Total Alkanes	41.9		75.6		50.6	
Total Petroleum Hydrocarbons	1807		2714		2723	
Total Resolved Hydrocarbons	325		590		375	
Unresolved Complex Mixture	1482		2124		2348	
EOM (µg/dry g)	4196		7418		7876	

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)	Su Recovery (%)
n-dodecane-d26	93	90	97
n-eicosane-d42	93	89	97
n-triacontane-d62	90	85	89

Sample Name	ENV3095A.D
Client Name	Procedural Blank
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	08/26/13
Extraction Batch	ENV 3095
Date Acquired	29-Aug-2013, 02:57:26
Method	ALI2012.M
Sample Dry Weight (g)	15.00
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	96
n-triacontane-d62	96

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

Sample Name	ARC1810.D	ENV3095C.D	ENV3095D.D
Client Name	SED-DA-048 (0-0.5)	MS (SED-DA-048 (0-0.5))	MSD (SED-DA-048 (0-0.5))
Matrix	Sediment	Sediment	Sediment
Collection Date	08/12/13	08/12/13	08/12/13
Received Date	08/13/13	08/13/13	08/13/13
Extraction Date	08/26/13	08/26/13	08/26/13
Extraction Batch	ENV 3095	ENV 3095	ENV 3095
Date Acquired	29-Aug-2013, 10:01:08	29-Aug-2013, 04:08:04	29-Aug-2013, 05:18:38
Method	ALI2012.M	ALI2012.M	ALI2012.M
Sample Dry Weight (g)	15.06	15.01	15.04
Sample Wet Weight (g)	32.7	32.3	29.8
% Dry	46	46	51
% Moisture	54	54	49
% Lipid (dry)	NA	NA	NA
% Lipid (wet)	NA	NA	NA
Dilution	1X	1X	1X

Target Compounds	Su. Corrected Conc. (µg/dry g)	Q	Su. Corrected Conc. (µg/dry g)	Q	Recovery (%)	Q	Q	Su. Corrected Conc. (µg/dry g)	Q	Recovery (%)	Q	Q	RPD (%)	Q	Spike Amount (µg)
n-C9	<0.012	U	0.568		86			0.613		93			8		9.95
n-C10	0.023		0.711		103			0.732		107			3		10.0
n-C11	0.061		0.754		105			0.818		115			8		9.90
n-C12	0.179		0.883		105			0.966		118			9		10.0
n-C13	0.503		1.260		114			1.273		116			1		10.0
i-C15	0.909		NA					NA							
n-C14	1.101		1.747		98			1.649		83			6		9.86
i-C16	1.547		NA					NA							
n-C15	1.900		3.259			Y		3.034			Y		7		9.98
n-C16	2.024		3.375			Y		3.056			Y		10		10.0
i-C18	1.755		NA					NA							
n-C17	1.610		2.421			Y		2.568			Y		6		9.94
Pristane	2.508		3.302			Y		3.452			Y		4		9.90
n-C18	2.181		3.169			Y		3.046			Y		4		10.0
Phytane	2.827		3.471			Y		3.805			Y		9		9.91
n-C19	2.356		3.281			Y		3.394			Y		3		10.0
n-C20	1.502		2.199			Y		2.367			Y		7		10.0
n-C21	3.198		4.244			Y		3.734			Y		13		10.0
n-C22	1.480		2.728			Y		2.472			Y		10		9.95
n-C23	3.770		4.362			Y		4.313			Y		1		9.91
n-C24	1.176		1.924		112			1.895		108			2		10.0
n-C25	2.950		3.516			Y		3.115			Y		12		10.0
n-C26	0.791		1.541		113			1.460		101			5		10.0
n-C27	4.027		4.427			Y		4.040			Y		9		9.89
n-C28	1.206		1.669		69			1.718		76			3		10.0
n-C29	7.555		8.511			Y		8.225			Y		3		10.0
n-C30	1.038		1.770		110			1.678		96			5		10.0
n-C31	9.252		10.62			Y		9.832			Y		8		10.0
n-C32	1.300		1.748		66			1.785		72			2		10.0
n-C33	7.724		27.87			Y		29.14			Y		4		10.0
n-C34	0.756		1.187		64			1.260		75			6		10.0
n-C35	3.293		11.29			Y		11.30			Y		0		10.0
n-C36	0.426		1.188		115			1.159		111			3		9.90
n-C37	1.788		2.503			Y		2.518			Y		1		10.0
n-C38	0.279		0.740		69			0.835		84			12		10.0
n-C39	0.539		1.191		97			1.329		118			11		10.0
n-C40	0.075		0.721		97			0.794		108			10		10.0
Average %Recovery					95					99					

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)	Su Recovery (%)
n-dodecane-d26	90	97	88
n-eicosane-d42	89	88	85
n-triacontane-d62	85	77	98

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

Sample Name	ARC1807.D	ENV3095E.D
Client Name	SED-DA-047 (0-0.5)	Dupl (SED-DA-047 (0-0.5))
Matrix	Sediment	Sediment
Collection Date	08/12/13	08/12/13
Received Date	08/13/13	08/13/13
Extraction Date	08/26/13	08/26/13
Extraction Batch	ENV 3095	ENV 3095
Date Acquired	29-Aug-2013, 08:50:31	29-Aug-2013, 06:29:14
Method	ALI2012.M	ALI2012.M
Sample Dry Weight (g)	15.00	15.00
Sample Wet Weight (g)	24.8	24.8
% Dry	60	60
% Moisture	40	40
% Lipid (dry)	NA	NA
% Lipid (wet)	NA	NA
Dilution	1X	1X

Target Compounds	Su. Corrected Conc. (µg/dry g)	Q	Su. Corrected Conc. (µg/dry g)	Q	RPD (%)	Q	Q	MDL (µg/dry g)	3X MDL (µg/dry g)
n-C9	<0.012	U	<0.012	U	0			0.012	0.037
n-C10	<0.021	U	0.012	J	0		X	0.021	0.064
n-C11	0.013	J	0.013	J	0		X	0.016	0.049
n-C12	0.016	J	0.016	J	0		X	0.019	0.056
n-C13	0.019	J	0.020	J	5		X	0.045	0.134
i-C15	0.118		0.113		4			0.016	0.049
n-C14	0.071		0.070		1			0.013	0.039
i-C16	0.173		0.166		4			0.004	0.013
n-C15	0.133		0.139		4			0.016	0.049
n-C16	0.126		0.118		7			0.004	0.013
i-C18	0.270		0.279		3			0.004	0.011
n-C17	0.058		0.052		11			0.003	0.010
Pristane	0.652		0.582		11			0.003	0.008
n-C18	0.578		0.615		6			0.004	0.011
Phytane	0.802		0.749		7			0.006	0.018
n-C19	0.342		0.380		11			0.005	0.015
n-C20	0.208		0.179		15			0.012	0.037
n-C21	0.421		0.397		6			0.004	0.012
n-C22	0.278		0.278		0			0.003	0.010
n-C23	0.773		0.674		14			0.008	0.024
n-C24	0.237		0.216		9			0.005	0.016
n-C25	0.810		0.830		2			0.007	0.021
n-C26	0.252		0.273		8			0.008	0.023
n-C27	2.832		2.781		2			0.011	0.032
n-C28	0.732		0.684		7			0.011	0.033
n-C29	6.666		5.946		11			0.021	0.064
n-C30	0.797		0.844		6			0.013	0.038
n-C31	5.552		4.860		13			0.015	0.044
n-C32	0.943		0.991		5			0.012	0.035
n-C33	9.624		9.809		2			0.021	0.064
n-C34	0.824		0.777		6			0.016	0.049
n-C35	5.724		5.132		11			0.015	0.044
n-C36	0.335		0.305		9			0.016	0.047
n-C37	1.159		1.082		7			0.017	0.052
n-C38	0.122		0.127		4			0.019	0.057
n-C39	0.193		0.178		8			0.019	0.056
n-C40	<0.019	U	<0.019	U	0			0.019	0.056
Total Alkanes	41.9		39.7		5				
Total Petroleum Hydrocarbons	1807		1777		2			1.40	4.20
Total Resolved Hydrocarbons	325		323		1			1.40	4.20
Unresolved Complex Mixture	1482		1454		2			1.40	4.20
EOM (µg/dry g)	4196		3932		6				

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)
n-dodecane-d26	93	94
n-eicosane-d42	93	96
n-triacontane-d62	90	96

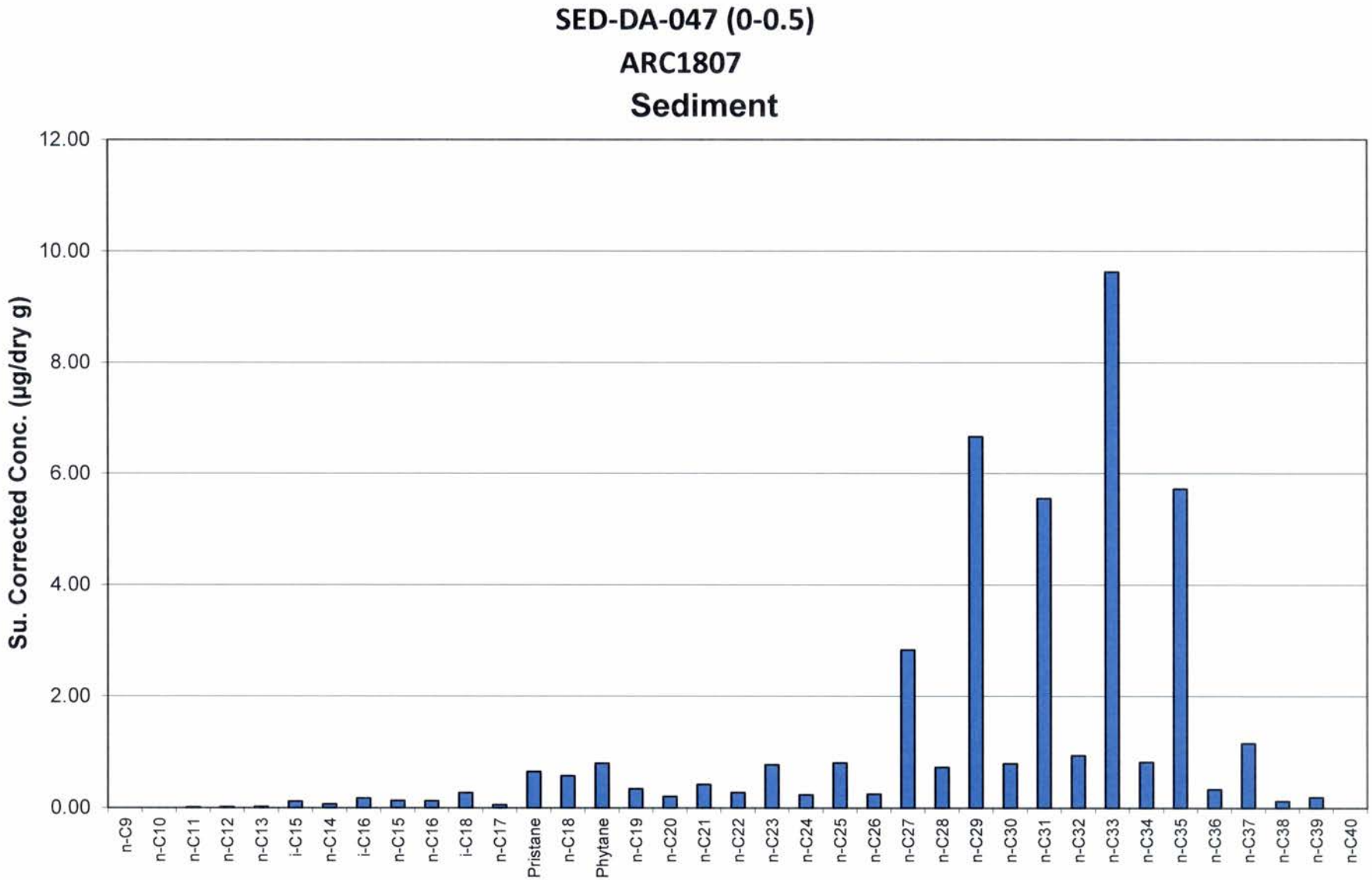
Arcadis-Mayflower AR
Aliphatic Hydrocarbon and Total Petroleum Hydrocarbon Data
Standard Reference Material Report

Sample Name	FID30053C.D
Client Name	AL-SRM2779-20-01
Matrix	Reference Oil
Collection Date	NA
Received Date	NA
Extraction Date	08/26/13
Extraction Batch	ENV 3095
Date Acquired	28-Aug-2013, 22:15:39
Method	ALI2012.M
Sample Dry Weight (mg)	20.0
Sample Wet Weight (mg)	NA
% Dry	NA
% Moisture	NA
% Lipid (dry)	NA
% Lipid (wet)	NA
Dilution	1X

Target Compounds	Su. Corrected Conc. (µg/mg)	Q	Q	RPD (%)	B&B Average	-20% Conc. (µg/mg)	+20% Conc. (µg/mg)
n-C9	15.2			12	13.5	10.8	16.2
n-C10	13.1			9	12.0	9.60	14.4
n-C11	12.0			11	10.8	8.64	13.0
n-C12	10.8			9	9.82	7.86	11.8
n-C13	8.55			2	8.41	6.73	10.1
i-C15	1.97			1	1.95	1.56	2.34
n-C14	7.80			1	7.70	6.16	9.24
i-C16	3.23			9	2.95	2.36	3.54
n-C15	8.15			12	7.23	5.78	8.68
n-C16	6.00			3	6.15	4.92	7.38
i-C18	1.47			6	1.56	1.25	1.87
n-C17	5.04			7	4.69	3.75	5.63
Pristane	2.67			10	2.42	1.94	2.90
n-C18	4.43			14	3.84	3.07	4.61
Phytane	1.67			10	1.51	1.21	1.81
n-C19	3.31			5	3.47	2.78	4.16
n-C20	2.92			3	2.84	2.27	3.41
n-C21	2.56			8	2.37	1.90	2.84
n-C22	2.19			7	2.04	1.63	2.45
n-C23	1.97			7	1.84	1.47	2.21
n-C24	1.77			6	1.66	1.33	1.99
n-C25	1.29			6	1.37	1.10	1.64
n-C26	1.19			6	1.13	0.904	1.36
n-C27	0.979			9	0.892	0.714	1.07
n-C28	0.844			8	0.776	0.621	0.931
n-C29	0.788			6	0.739	0.591	0.887
n-C30	0.695	J		4	0.666	0.533	0.799
n-C31	0.587	J		9	0.539	0.431	0.647
n-C32	0.490	J		10	0.443	0.354	0.532
n-C33	0.471	J		1	0.467	0.374	0.560
n-C34	0.472	J		10	0.428	0.342	0.514
n-C35	0.365	J		7	0.342	0.274	0.410
n-C36	0.221	J		5	0.211	0.169	0.253
n-C37	0.202	J		2	0.206	0.165	0.247
n-C38	0.165	J		4	0.172	0.138	0.206
n-C39	0.159	J		6	0.169	0.135	0.203
n-C40	0.156	J		12	0.176	0.141	0.211
Total Petroleum Hydrocarbons	604			0	607	484	726

Surrogate (Su)	Su Recovery (%)
n-dodecane-d26	100
n-eicosane-d42	99
n-triacontane-d62	97

Aliphatic Hydrocarbon Histograms


SED-DA-047 (0-0.5)
ARC1807
Sediment
Su. Corrected Conc. (µg/dry g)
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
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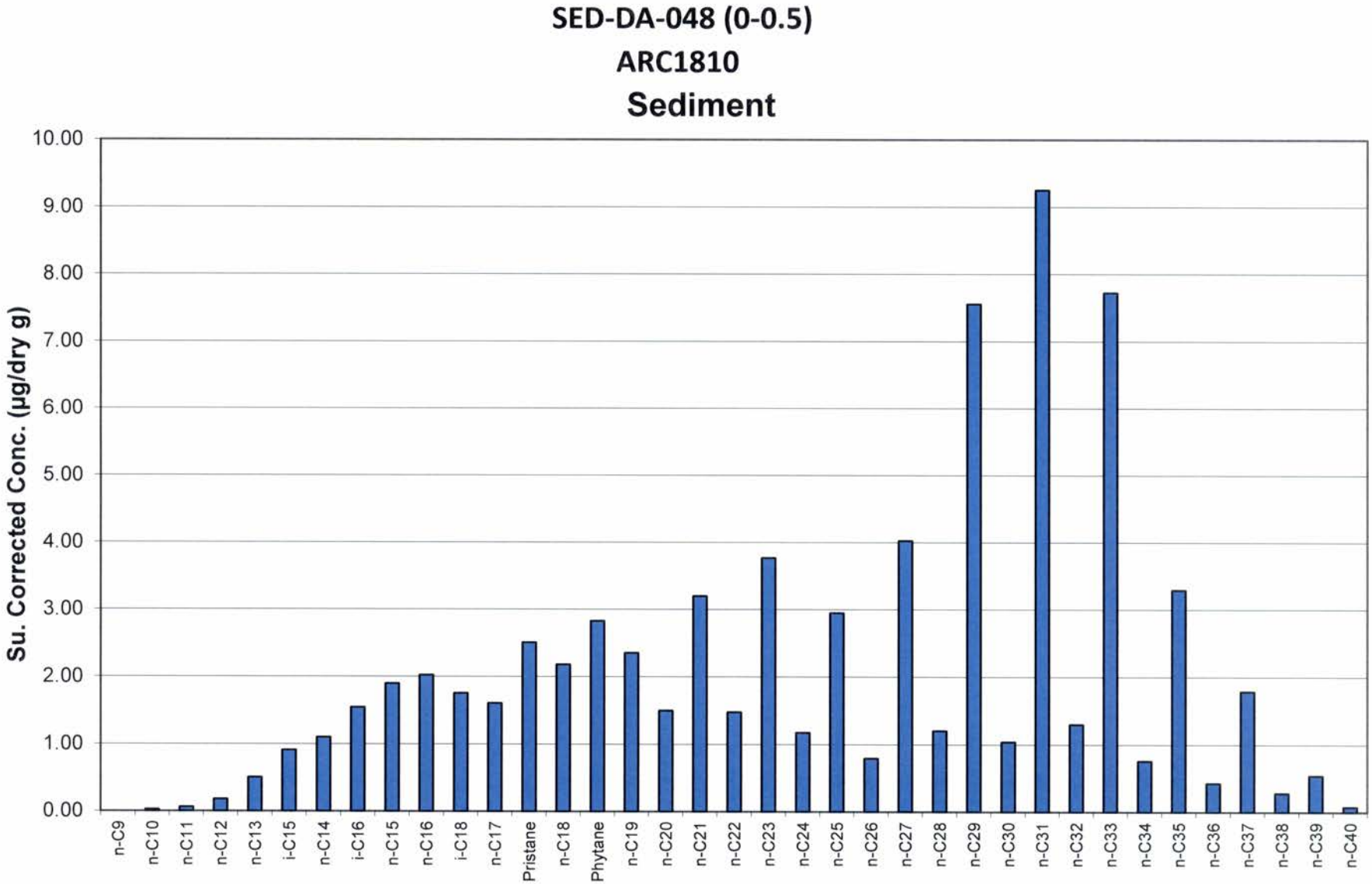
n-C36
n-C37
n-C38
n-C39
n-C40


SED-DA-048 (0-0.5)
ARC1810
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
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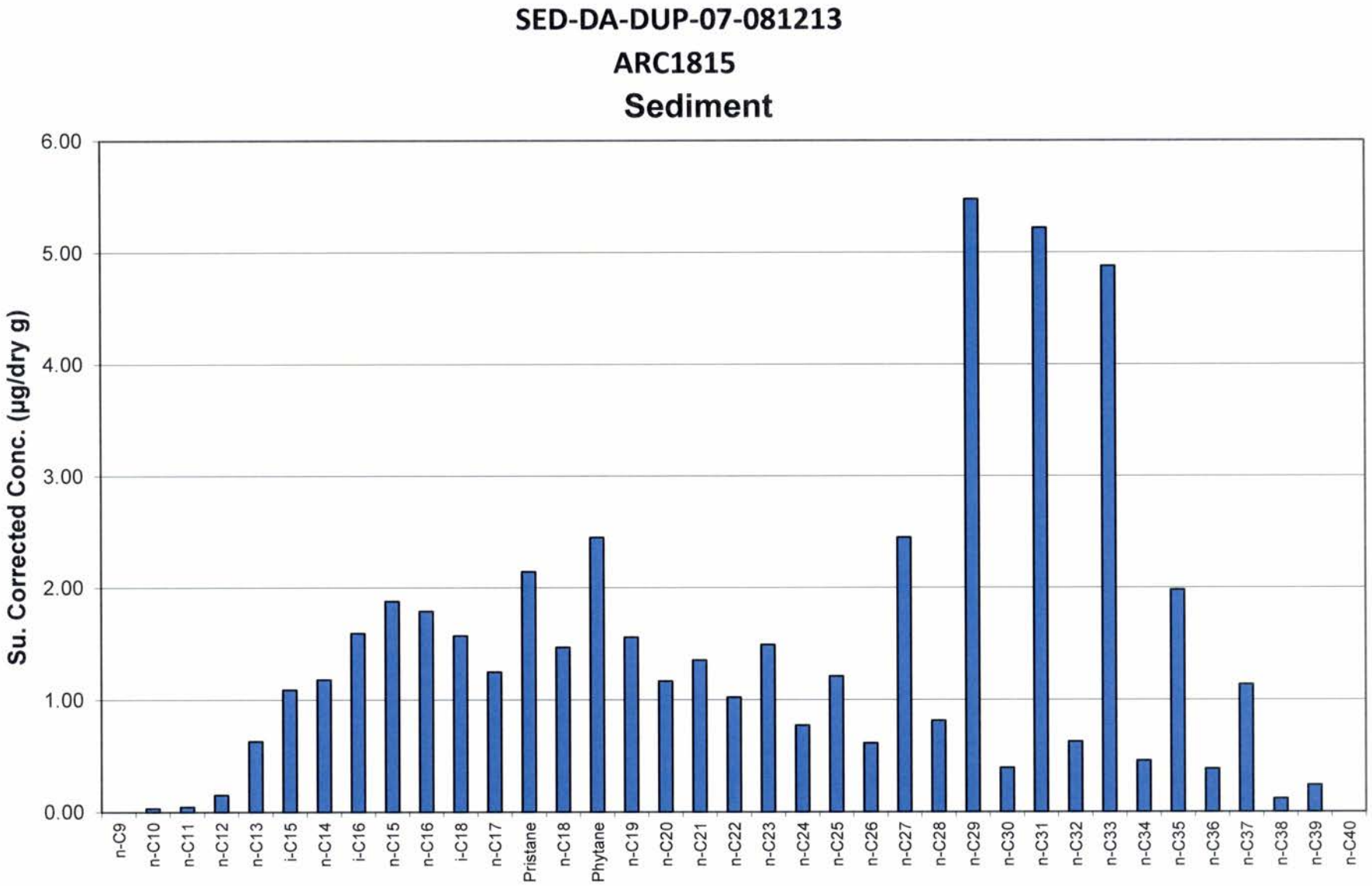
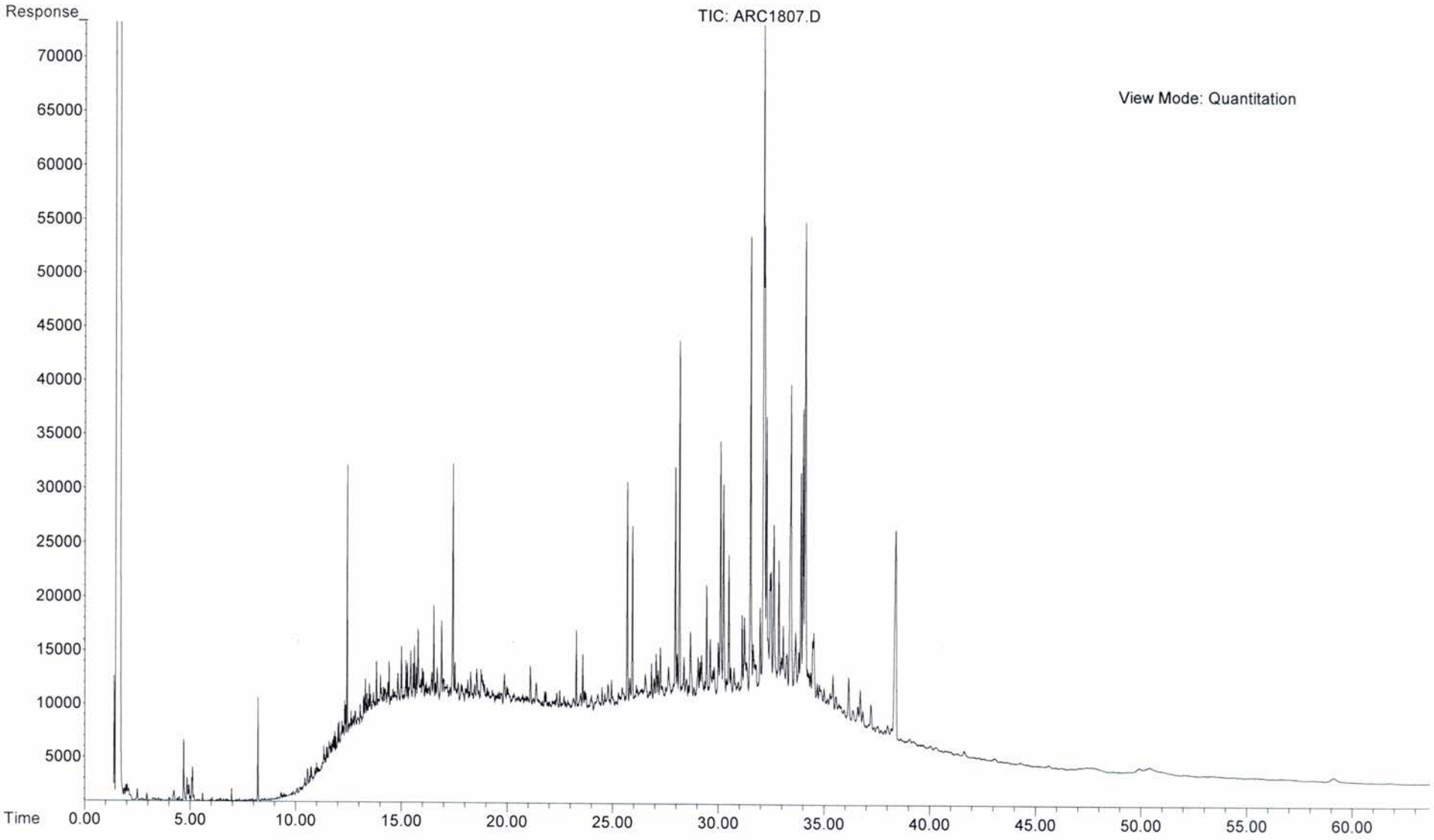
n-C36
n-C37
n-C38
n-C39
n-C40

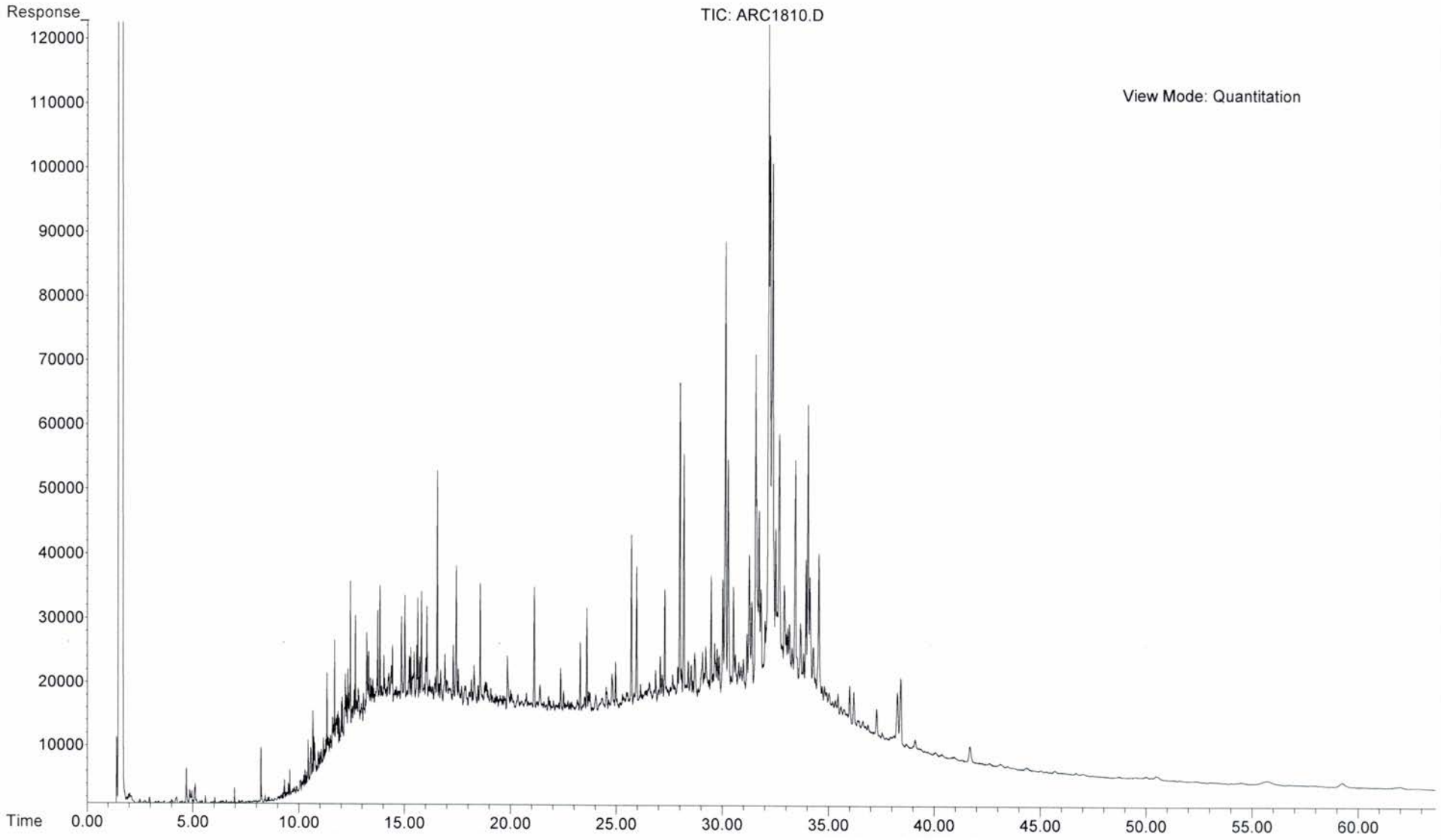

SED-DA-DUP-07-081213
ARC1815
Sediment
Su. Corrected Conc. (µg/dry g)
6.00
5.00
4.00
3.00
2.00
1.00
0.00
n-C9
n-C10
n-C11
n-C12
n-C13
i-C15
n-C14
i-C16
n-C15
n-C16
i-C18
n-C17
Pristane
n-C18
Phytane
n-C19
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C34
n-C35
n-C36
n-C37
n-C38
n-C39
n-C40

Total Petroleum Hydrocarbons Chromatograms

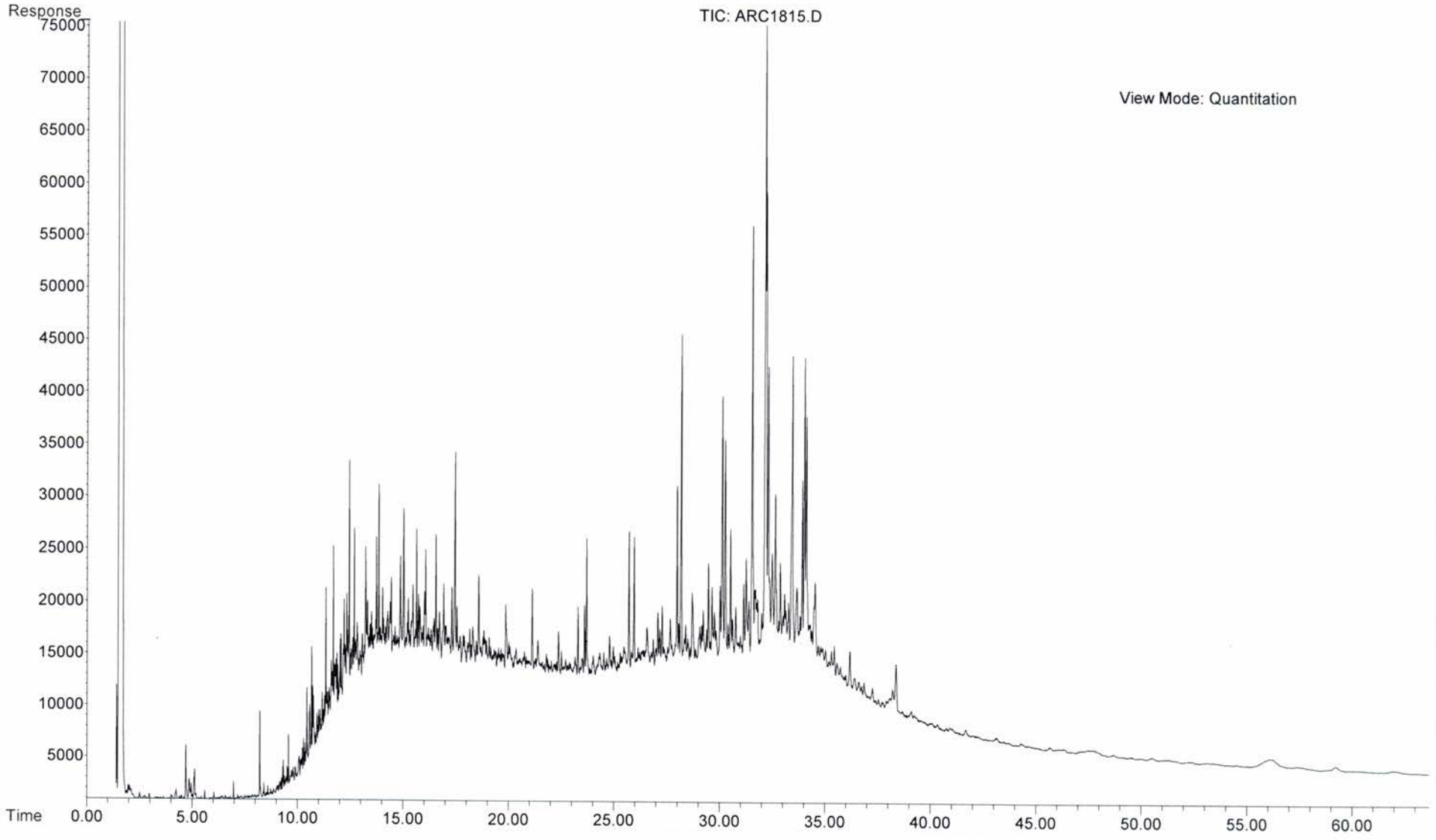
File :P:\2013\J13034\Aliphatics\ENV 3095\FID30053\ARC1807.D
Operator : Meghan Dailey
Acquired : 29-Aug-2013, 08:50 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: SED-DA-047 (0-0.5)
Misc Info :
Vial Number: 61



File :P:\2013\J13034\Aliphatics\ENV 3095\FID30053\ARC1810.D
Operator : Meghan Dailey
Acquired : 29-Aug-2013, 10:01 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: SED-DA-048 (0-0.5)
Misc Info :
Vial Number: 62



File :P:\2013\J13034\Aliphatics\ENV 3095\FID30053\ARC1815.D
Operator : Meghan Dailey
Acquired : 29-Aug-2013, 11:11 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: SED-DA-DUP-07-081213
Misc Info :
Vial Number: 63



Polycyclic Aromatic Hydrocarbon Concentration

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1807.D	ARC1810.D	ARC1814.D	ARC1815.D	ARC1841.D
Client Name	SED-DA-047 (0-0.5)	SED-DA-048 (0-0.5)	SED-DA-048 (1.0-1.5)	SED-DA-DUP-07-081213	SO-DA-003 (0-0.5)
Matrix	Sediment	Sediment	Sediment	Sediment	Soil
Collection Date	08/12/13	08/12/13	08/12/13	08/12/13	08/13/13
Received Date	08/13/13	08/13/13	08/13/13	08/13/13	08/14/13
Extraction Date	08/26/13	08/26/13	08/26/13	08/26/13	08/26/13
Extraction Batch	ENV 3095	ENV 3095	ENV 3095	ENV 3095	ENV 3095
Date Acquired	9/5/13 13:50	9/5/13 14:59	9/5/13 17:16	9/5/13 18:25	9/5/13 19:33
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.1	15.1	15.0	15.0
% Dry	60	46	75	64	77
% Moisture	40	54	25	36	23
Dilution	1X	5X	1X	5X	5X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q
cis/trans Decalin	3.10		4.15		NA		5.13		NA	
C1-Decalins	2.58		7.16		NA		10.8		NA	
C2-Decalins	11.2		32.0		NA		45.3		NA	
C3-Decalins	60.8		216		NA		253		NA	
C4-Decalins	172		366		NA		382		NA	
Naphthalene	5.56		23.6		4.75		20.4		12.9	
C1-Naphthalenes	30.1		196		3.99		207		21.2	
C2-Naphthalenes	226		<3.4	U	6.25		960		74.4	
C3-Naphthalenes	504		1541		9.10		1463		196	
C4-Naphthalenes	671		1393		3.22		1530		350	
Benzothiophene	1.04		3.26		NA		3.06		NA	
C1-Benzothiophenes	9.24		43.5		NA		35.8		NA	
C2-Benzothiophenes	44.6		169		NA		188		NA	
C3-Benzothiophenes	110		450		NA		494		NA	
C4-Benzothiophenes	253		647		NA		704		NA	
Biphenyl	7.73		33.5		NA		33.6		NA	
Acenaphthylene	4.18		14.6		0.12		12.0		<0.2	U
Acenaphthene	<0.1	U	14.9		0.35		14.4		<0.5	U
Dibenzofuran	11.4		33.3		NA		32.2		NA	
Fluorene	13.4		83.2		4.07		82.5		7.88	
C1-Fluorenes	69.0		312		1.64		319		38.1	
C2-Fluorenes	299		795		<0.4	U	632		<1.8	U
C3-Fluorenes	439		800		<0.4	U	690		<1.8	U
Carbazole	<0.1	U	10.8		NA		<0.7	U	NA	
Anthracene	3.72		11.4		<0.1	U	16.7		1.84	
Phenanthrene	152		238		<0.2	U	236		20.2	
C1-Phenanthrenes/Anthracenes	628		800		<0.1	U	799		114	
C2-Phenanthrenes/Anthracenes	1105		1245		<0.3	U	1282		290	
C3-Phenanthrenes/Anthracenes	1454		1271		<0.3	U	1432		445	
C4-Phenanthrenes/Anthracenes	853		961		<0.3	U	997		430	
Dibenzothiophene	170		291		<0.1	U	260		18.6	
C1-Dibenzothiophenes	783		869		<0.1	U	886		126	
C2-Dibenzothiophenes	1491		1598		0.67		1649		416	
C3-Dibenzothiophenes	1144		1924		0.72		1674		418	
C4-Dibenzothiophenes	1156		1349		<0.2	U	1362		438	
Fluoranthene	50.3		64.1		0.93		53.3		47.3	
Pyrene	77.5		81.3		0.47		73.9		68.2	
C1-Fluoranthenes/Pyrenes	315		343		0.37	J	394		182	
C2-Fluoranthenes/Pyrenes	421		530		<0.5	U	462		318	
C3-Fluoranthenes/Pyrenes	417		526		<0.5	U	502		254	
C4-Fluoranthenes/Pyrenes	368		499		<0.5	U	367		261	
Naphthobenzothiophene	257		277		NA		272		NA	
C1-Naphthobenzothiophenes	691		659		NA		648		NA	
C2-Naphthobenzothiophenes	1002		1052		NA		916		NA	
C3-Naphthobenzothiophenes	681		871		NA		719		NA	
C4-Naphthobenzothiophenes	339		442		NA		261		NA	
Benz(a)anthracene	23.6		34.1		<0.2	U	29.8		36.5	
Chrysene/Triphenylene	116		108		<0.1	U	103		94.6	
C1-Chrysenes	251		294		<0.2	U	296		168	
C2-Chrysenes	346		445		<0.2	U	375		235	
C3-Chrysenes	224		303		<0.2	U	307		183	
C4-Chrysenes	139		176		<0.2	U	138		107	
Benzo(b)fluoranthene	42.0		59.0		0.37		48.2		61.8	
Benzo(k,j)fluoranthene	13.2		14.6		0.06	J	17.3		26.0	
Benzo(a)fluoranthene	<0.1	U	<0.5	U	NA		<0.5	U	NA	
Benzo(e)pyrene	50.9		58.5		<0.2	U	55.5		77.9	
Benzo(a)pyrene	17.4		28.9		<0.1	U	26.0		43.7	
Perylene	59.7		114		238		34.8		20.8	
Indeno(1,2,3-c,d)pyrene	14.5		23.2		<0.1	U	18.3		26.4	
Dibenzo(a,h)anthracene	8.17		10.8		<0.1	U	10.1		10.9	
Benzo(g,h,i)perylene	36.4		54.9		0.22		44.9		59.0	
Total PAHs	17848		24812		275		24882		5700	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1807.D	ARC1810.D	ARC1814.D	ARC1815.D	ARC1841.D
Client Name	SED-DA-047 (0-0.5)	SED-DA-048 (0-0.5)	SED-DA-048 (1.0-1.5)	SED-DA-DUP-07-081213	SO-DA-003 (0-0.5)
Matrix	Sediment	Sediment	Sediment	Sediment	Soil
Collection Date	08/12/13	08/12/13	08/12/13	08/12/13	08/13/13
Received Date	08/13/13	08/13/13	08/13/13	08/13/13	08/14/13
Extraction Date	08/26/13	08/26/13	08/26/13	08/26/13	08/26/13
Extraction Batch	ENV 3095	ENV 3095	ENV 3095	ENV 3095	ENV 3095
Date Acquired	9/5/13 13:50	9/5/13 14:59	9/5/13 17:16	9/5/13 18:25	9/5/13 19:33
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.1	15.1	15.0	15.0
% Dry	60	46	75	64	77
% Moisture	40	54	25	36	23
Dilution	1X	5X	1X	5X	5X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q
Individual Alkyl Isomers and Hopanes										
2-Methylnaphthalene	26.1		171		4.00		184		22.9	
1-Methylnaphthalene	19.8		127		2.05		131		9.15	
2,6-Dimethylnaphthalene	93.5		369		NA		409		NA	
1,6,7-Trimethylnaphthalene	78.8		208		NA		219		NA	
1-Methylfluorene	44.3		212		NA		216		NA	
4-Methyldibenzothiophene	417		434		NA		445		NA	
2/3-Methyldibenzothiophene	317		351		NA		361		NA	
1-Methyldibenzothiophene	216		270		NA		270		NA	
3-Methylphenanthrene	202		232		NA		239		NA	
2-Methylphenanthrene	247		339		NA		335		NA	
2-Methylanthracene	13.3		28.6		NA		27.2		NA	
4/9-Methylphenanthrene	335		420		NA		423		NA	
1-Methylphenanthrene	181		225		NA		219		NA	
3,6-Dimethylphenanthrene	96.8		127		NA		124		NA	
Retene	103		94.2		NA		97.3		NA	
2-Methylfluoranthene	25.1		24.1		NA		25.3		NA	
Benzo(b)fluorene	12.1		39.5		NA		37.4		NA	
C29-Hopane	810		910		NA		966		NA	
18a-Oleanane	<0.6	U	<2.9	U	NA		<2.9	U	NA	
C30-Hopane	1098		1135		NA		1177		NA	
C20-TAS	<0.6	U	42.8		NA		<2.9	U	NA	
C21-TAS	<0.6	U	60.5		NA		<2.9	U	NA	
C26(20S)-TAS	<0.6	U	50.4		NA		<2.9	U	NA	
C26(20R)/C27(20S)-TAS	<0.6	U	166		NA		<2.9	U	NA	
C28(20S)-TAS	<0.6	U	138		NA		<2.9	U	NA	
C27(20R)-TAS	<0.6	U	106		NA		<2.9	U	NA	
C28(20R)-TAS	<0.6	U	128		NA		<2.9	U	NA	
Surrogate Recovery										
Naphthalene-d8	65		81	D	80		81	D	92	D
Acenaphthene-d10	65		91	D	86		98	D	95	D
Phenanthrene-d10	90		94	D	90		91	D	95	D
Chrysene-d12	117		101	D	86		103	D	108	D
Perylene-d12	88		86	D	18		89	D	88	D

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1842.D	ARC1843.D	ARC1844.D	ARC1845.D	ARC1846.D
Client Name	SO-DA-003 (0.5-1.0)	SO-DA-003 (1.0-1.5)	SO-DA-004 (0-0.5)	SO-DA-004 (0.5-1.0)	SO-DA-004 (1.0-1.5)
Matrix	Soil	Soil	Soil	Soil	Soil
Collection Date	08/13/13	08/13/13	08/13/13	08/13/13	08/13/13
Received Date	08/14/13	08/14/13	08/14/13	08/14/13	08/14/13
Extraction Date	08/26/13	08/26/13	08/26/13	08/26/13	08/26/13
Extraction Batch	ENV 3095	ENV 3095	ENV 3095	ENV 3095	ENV 3095
Date Acquired	9/5/13 20:42	9/5/13 21:50	9/5/13 22:59	9/6/13 0:07	9/6/13 1:16
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.0	15.0	15.1	15.2
% Dry	83	84	75	85	79
% Moisture	17	16	25	15	21
Dilution	1X	1X	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q
cis/trans Decalin	NA		NA		NA		NA		NA	
C1-Decalins	NA		NA		NA		NA		NA	
C2-Decalins	NA		NA		NA		NA		NA	
C3-Decalins	NA		NA		NA		NA		NA	
C4-Decalins	NA		NA		NA		NA		NA	
Naphthalene	20.0		8.84		3.34		27.7		21.8	
C1-Naphthalenes	18.2		7.64		4.99		29.8		20.1	
C2-Naphthalenes	23.6		8.25		10.8		42.5		29.0	
C3-Naphthalenes	14.6		4.32		35.5		28.8		21.5	
C4-Naphthalenes	19.0		<0.7	U	105		22.7		15.0	
Benzothiophene	NA		NA		NA		NA		NA	
C1-Benzothiophenes	NA		NA		NA		NA		NA	
C2-Benzothiophenes	NA		NA		NA		NA		NA	
C3-Benzothiophenes	NA		NA		NA		NA		NA	
C4-Benzothiophenes	NA		NA		NA		NA		NA	
Biphenyl	NA		NA		NA		NA		NA	
Acenaphthylene	3.41		0.310		2.43		2.95		3.82	
Acenaphthene	9.50		0.321		<0.1	U	0.641		2.19	
Dibenzofuran	NA		NA		NA		NA		NA	
Fluorene	17.2		5.52		2.53		9.83		6.96	
C1-Fluorenes	9.73		2.22		12.1		5.67		4.72	
C2-Fluorenes	13.6		<0.4	U	44.9		18.2		12.1	
C3-Fluorenes	14.3		<0.4	U	77.0		26.7		20.8	
Carbazole	NA		NA		NA		NA		NA	
Anthracene	17.2		<0.1	U	3.65		4.37		7.48	
Phenanthrene	169		13.90		7.32		48.7		58.6	
C1-Phenanthrenes/Anthracenes	60.8		6.46		30.5		37.7		33.2	
C2-Phenanthrenes/Anthracenes	39.3		6.84		144		34.4		25.2	
C3-Phenanthrenes/Anthracenes	20.4		3.59		293		24.3		16.5	
C4-Phenanthrenes/Anthracenes	23.7		2.95		242		26.5		14.4	
Dibenzothiophene	9.12		0.933		4.14		4.18		4.79	
C1-Dibenzothiophenes	7.44		1.20		27.9		6.13		5.93	
C2-Dibenzothiophenes	8.95		1.94		150		7.34		6.46	
C3-Dibenzothiophenes	11.2		1.92		289		7.35		5.93	
C4-Dibenzothiophenes	12.2		2.04		324		6.81		5.64	
Fluoranthene	179		2.89		12.6		18.7		53.4	
Pyrene	127		1.50		21.7		11.1		39.0	
C1-Fluoranthenes/Pyrenes	66.0		2.61		85.1		17.2		27.6	
C2-Fluoranthenes/Pyrenes	71.0		4.86		118		36.6		38.3	
C3-Fluoranthenes/Pyrenes	22.1		2.44		102		22.0		21.5	
C4-Fluoranthenes/Pyrenes	29.7		<0.5	U	122		32.5		31.2	
Naphthobenzothiophene	NA		NA		NA		NA		NA	
C1-Naphthobenzothiophenes	NA		NA		NA		NA		NA	
C2-Naphthobenzothiophenes	NA		NA		NA		NA		NA	
C3-Naphthobenzothiophenes	NA		NA		NA		NA		NA	
C4-Naphthobenzothiophenes	NA		NA		NA		NA		NA	
Benz(a)anthracene	68.5		0.904		9.69		8.50		22.9	
Chrysene/Triphenylene	84.2		2.29		31.4		20.0		36.2	
C1-Chrysenes	38.3		3.05		70.3		19.7		23.2	
C2-Chrysenes	26.2		3.13		107		21.2		22.6	
C3-Chrysenes	15.6		1.91		81.3		14.5		17.2	
C4-Chrysenes	6.01		<0.2	U	46.2		5.92		6.78	
Benzo(b)fluoranthene	87.6		2.11		26.7		21.1		39.6	
Benzo(k,j)fluoranthene	42.8		0.611		9.16		7.06		17.7	
Benzo(a)fluoranthene	NA		NA		NA		NA		NA	
Benzo(e)pyrene	45.4		1.53		27.0		12.1		21.5	
Benzo(a)pyrene	37.9		0.496		9.51		4.47		18.0	
Perylene	7.90		0.252	J	5.12		0.737	J	4.30	
Indeno(1,2,3-c,d)pyrene	30.4		0.705		7.93		5.02		12.3	
Dibenzo(a,h)anthracene	10.8		0.382		3.90		2.26		4.46	
Benzo(g,h,i)perylene	26.9		0.87		18.2		5.26		13.2	
Total PAHs	1565		112		2730		709		813	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1842.D	ARC1843.D	ARC1844.D	ARC1845.D	ARC1846.D
Client Name	SO-DA-003 (0.5-1.0)	SO-DA-003 (1.0-1.5)	SO-DA-004 (0-0.5)	SO-DA-004 (0.5-1.0)	SO-DA-004 (1.0-1.5)
Matrix	Soil	Soil	Soil	Soil	Soil
Collection Date	08/13/13	08/13/13	08/13/13	08/13/13	08/13/13
Received Date	08/14/13	08/14/13	08/14/13	08/14/13	08/14/13
Extraction Date	08/26/13	08/26/13	08/26/13	08/26/13	08/26/13
Extraction Batch	ENV 3095	ENV 3095	ENV 3095	ENV 3095	ENV 3095
Date Acquired	9/5/13 20:42	9/5/13 21:50	9/5/13 22:59	9/6/13 0:07	9/6/13 1:16
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.0	15.0	15.1	15.2
% Dry	83	84	75	85	79
% Moisture	17	16	25	15	21
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	17.6		7.63		5.28		27.5		18.6	
1-Methylnaphthalene	9.99		3.95		2.27		17.8		12.0	
2,6-Dimethylnaphthalene	NA		NA		NA		NA		NA	
1,6,7-Trimethylnaphthalene	NA		NA		NA		NA		NA	
1-Methylfluorene	NA		NA		NA		NA		NA	
4-Methyldibenzothiophene	NA		NA		NA		NA		NA	
2/3-Methyldibenzothiophene	NA		NA		NA		NA		NA	
1-Methyldibenzothiophene	NA		NA		NA		NA		NA	
3-Methylphenanthrene	NA		NA		NA		NA		NA	
2-Methylphenanthrene	NA		NA		NA		NA		NA	
2-Methylanthracene	NA		NA		NA		NA		NA	
4/9-Methylphenanthrene	NA		NA		NA		NA		NA	
1-Methylphenanthrene	NA		NA		NA		NA		NA	
3,6-Dimethylphenanthrene	NA		NA		NA		NA		NA	
Retene	NA		NA		NA		NA		NA	
2-Methylfluoranthene	NA		NA		NA		NA		NA	
Benzo(b)fluorene	NA		NA		NA		NA		NA	
C29-Hopane	NA		NA		NA		NA		NA	
18a-Oleanane	NA		NA		NA		NA		NA	
C30-Hopane	NA		NA		NA		NA		NA	
C20-TAS	NA		NA		NA		NA		NA	
C21-TAS	NA		NA		NA		NA		NA	
C26(20S)-TAS	NA		NA		NA		NA		NA	
C26(20R)/C27(20S)-TAS	NA		NA		NA		NA		NA	
C28(20S)-TAS	NA		NA		NA		NA		NA	
C27(20R)-TAS	NA		NA		NA		NA		NA	
C28(20R)-TAS	NA		NA		NA		NA		NA	
Surrogate Recovery										
Naphthalene-d8	79		76		89		78		82	
Acenaphthene-d10	77		78		90		75		82	
Phenanthrene-d10	90		91		90		89		88	
Chrysene-d12	89		84		95		79		79	
Perylene-d12	2	L	5	L	90		1	L	18	

Sample Name	ENV3095A.D
Client Name	Procedural Blank
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	08/26/13
Extraction Batch	ENV 3095
Date Acquired	9/5/13 8:07
Method	PAH-2012.M
Sample Dry Weight (g)	15.0
% Dry	NA
% Moisture	NA
Dilution	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	3X MDL	Actual MDL
cis/trans Decalin	<0.1	U	0.395	0.132
C1-Decalins	<0.3	U	0.790	0.263
C2-Decalins	<0.3	U	0.790	0.263
C3-Decalins	<0.3	U	0.790	0.263
C4-Decalins	<0.3	U	0.790	0.263
Naphthalene	<0.3	U	1.03	0.342
C1-Naphthalenes	<1	U	3.09	1.03
C2-Naphthalenes	<0.7	U	2.05	0.684
C3-Naphthalenes	<0.7	U	2.05	0.684
C4-Naphthalenes	<0.7	U	2.05	0.684
Benzothiophene	<0.1	U	0.270	0.090
C1-Benzothiophenes	<0.2	U	0.540	0.180
C2-Benzothiophenes	<0.2	U	0.540	0.180
C3-Benzothiophenes	<0.2	U	0.540	0.180
C4-Benzothiophenes	<0.2	U	0.540	0.180
Biphenyl	0.102	J	0.881	0.294
Acenaphthylene	<0	U	0.122	0.041
Acenaphthene	<0.1	U	0.308	0.103
Dibenzofuran	<0.2	U	0.613	0.204
Fluorene	<0.2	U	0.550	0.183
C1-Fluorenes	<0.4	U	1.10	0.367
C2-Fluorenes	<0.4	U	1.10	0.367
C3-Fluorenes	<0.4	U	1.10	0.367
Carbazole	<0.1	U	0.449	0.150
Anthracene	<0.1	U	0.346	0.115
Phenanthrene	<0.2	U	0.624	0.208
C1-Phenanthrenes/Anthracenes	<0.1	U	0.232	0.077
C2-Phenanthrenes/Anthracenes	<0.3	U	0.855	0.285
C3-Phenanthrenes/Anthracenes	<0.3	U	0.855	0.285
C4-Phenanthrenes/Anthracenes	<0.3	U	0.855	0.285
Dibenzothiophene	<0.1	U	0.348	0.116
C1-Dibenzothiophenes	<0.1	U	0.191	0.064
C2-Dibenzothiophenes	<0.2	U	0.696	0.232
C3-Dibenzothiophenes	<0.2	U	0.696	0.232
C4-Dibenzothiophenes	<0.2	U	0.696	0.232
Fluoranthene	<0.3	U	1.00	0.333
Pyrene	<0.1	U	0.408	0.136
C1-Fluoranthenes/Pyrenes	<0.5	U	1.41	0.469
C2-Fluoranthenes/Pyrenes	<0.5	U	1.41	0.469
C3-Fluoranthenes/Pyrenes	<0.5	U	1.41	0.469
C4-Fluoranthenes/Pyrenes	<0.5	U	1.41	0.469
Naphthobenzothiophene	<0.1	U	0.383	0.128
C1-Naphthobenzothiophenes	<0.3	U	0.767	0.256
C2-Naphthobenzothiophenes	<0.3	U	0.767	0.256
C3-Naphthobenzothiophenes	<0.3	U	0.767	0.256
C4-Naphthobenzothiophenes	<0.3	U	0.767	0.256
Benz(a)anthracene	<0.2	U	0.577	0.192
Chrysene/Triphenylene	<0.1	U	0.347	0.116
C1-Chrysenes	<0.2	U	0.695	0.232
C2-Chrysenes	<0.2	U	0.695	0.232
C3-Chrysenes	<0.2	U	0.695	0.232
C4-Chrysenes	<0.2	U	0.695	0.232
Benzo(b)fluoranthene	<0.2	U	0.609	0.203
Benzo(k,j)fluoranthene	<0.1	U	0.294	0.098
Benzo(a)fluoranthene	<0.1	U	0.294	0.098
Benzo(e)pyrene	<0.2	U	0.530	0.177
Benzo(a)pyrene	<0.1	U	0.304	0.101
Perylene	<1.3	U	3.80	1.27
Indeno(1,2,3-c,d)pyrene	<0.1	U	0.151	0.050
Dibenzo(a,h)anthracene	<0.1	U	0.193	0.064
Benzo(g,h,i)perylene	<0.1	U	0.264	0.088
Total PAHs	0.102			

Sample Name	ENV3095A.D
Client Name	Procedural Blank
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	08/26/13
Extraction Batch	ENV 3095
Date Acquired	9/5/13 8:07
Method	PAH-2012.M
Sample Dry Weight (g)	15.0
% Dry	NA
% Moisture	NA
Dilution	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	3X MDL	Actual MDL
Individual Alkyl Isomers and Hopanes				
2-Methylnaphthalene	<1.3	U	3.89	1.30
1-Methylnaphthalene	<0.5	U	1.64	0.546
2,6-Dimethylnaphthalene	<0.3	U	0.782	0.261
1,6,7-Trimethylnaphthalene	<0.1	U	0.382	0.127
1-Methylfluorene	<0.2	U	0.574	0.191
4-Methyldibenzothiophene	<0.1	U	0.274	0.091
2/3-Methyldibenzothiophene	<0.1	U	0.274	0.091
1-Methyldibenzothiophene	<0.1	U	0.274	0.091
3-Methylphenanthrene	<0.1	U	0.291	0.097
2-Methylphenanthrene	<0.1	U	0.291	0.097
2-Methylanthracene	<0.1	U	0.291	0.097
4/9-Methylphenanthrene	<0.1	U	0.291	0.097
1-Methylphenanthrene	<0.1	U	0.291	0.097
3,6-Dimethylphenanthrene	<0.1	U	0.329	0.110
Retene	<0.2	U	0.694	0.231
2-Methylfluoranthene	<0.2	U	0.668	0.223
Benzo(b)fluorene	<0.1	U	0.374	0.125
C29-Hopane	<0.6	U	1.72	0.575
18a-Oleanane	<0.6	U	1.72	0.575
C30-Hopane	<0.6	U	1.72	0.575
C20-TAS	<0.6	U	1.72	0.575
C21-TAS	<0.6	U	1.72	0.575
C26(20S)-TAS	<0.6	U	1.72	0.575
C26(20R)/C27(20S)-TAS	<0.6	U	1.72	0.575
C28(20S)-TAS	<0.6	U	1.72	0.575
C27(20R)-TAS	<0.6	U	1.72	0.575
C28(20R)-TAS	<0.6	U	1.72	0.575

Surrogate Recovery	
Naphthalene-d8	87
Acenaphthene-d10	90
Phenanthrene-d10	77
Chrysene-d12	76
Perylene-d12	91

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Matrix Spike Report

Sample Name	ARC1810.D	ENV3095C.D	ENV3095D.D
Client Name	SED-DA-048 (0-0.5)	SED-DA-048 (0-0.5) MS	SED-DA-048 (0-0.5) MSD
Matrix	Sediment	Sediment	Sediment
Collection Date	08/12/13	08/12/13	08/12/13
Received Date	08/13/13	08/13/13	08/13/13
Extraction Date	08/26/13	08/26/13	08/26/13
Extraction Batch	ENV 3095	ENV 3095	ENV 3095
Date Acquired	9/5/13 14:59	9/5/13 10:24	9/5/13 11:33
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.0	15.0
% Dry	46	46	51
% Moisture	54	54	49
Dilution	5X	5X	5X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Recovery (%)	Q	Q1	Su. Corrected Conc. (ng/dry g)	Q	Recovery (%)	Q	Q1	RPD (%)	Q	Spike Amount (ng)
cis/trans Decalin	4.15		9.82		86		Y	10.4		95		Y	6		98.9
C1-Decalins	7.16		NA					NA							
C2-Decalins	32.0		NA					NA							
C3-Decalins	216		NA					NA							
C4-Decalins	366		NA					NA							
Naphthalene	23.6		31.6		119		Y	33.9		155		Y	7		100
C1-Naphthalenes	196		NA					NA							
C2-Naphthalenes	<3.4	U	NA					NA							
C3-Naphthalenes	1541		NA					NA							
C4-Naphthalenes	1393		NA					NA							
Benzothiophene	3.3		7.55		65		Y	8.47		79		Y	12		99.4
C1-Benzothiophenes	43.5		NA					NA							
C2-Benzothiophenes	169		NA					NA							
C3-Benzothiophenes	450		NA					NA							
C4-Benzothiophenes	647		NA					NA							
Biphenyl	33.5		40.5		104		Y	41.3		117		Y	2		99.1
Acenaphthylene	14.6		15.9		19		Y	18.5		60		Y	16		99.2
Acenaphthene	14.9		23.9		135		Y	26.1		169		Y	9		100
Dibenzofuran	33.3		41.1		116		Y	40.1		102		Y	3		100
Fluorene	83.2		95.3		177		Y	92.8		141		Y	3		100
C1-Fluorenes	312		NA					NA							
C2-Fluorenes	795		NA					NA							
C3-Fluorenes	800		NA					NA							
Carbazole	10.8		15.9		77		Y	13.8		45		Y	14		99.1
Anthracene	11.4		14.2		42		Y	15.0		54		Y	5		100
Phenanthrene	238		323		1266		Y	264		389		Y	20		99.1
C1-Phenanthrenes/Anthracenes	800		NA					NA							
C2-Phenanthrenes/Anthracenes	1245		NA					NA							
C3-Phenanthrenes/Anthracenes	1271		NA					NA							
C4-Phenanthrenes/Anthracenes	961		NA					NA							
Dibenzothiophene	291		310		282		Y	269		-338		Y	14		98.6
C1-Dibenzothiophenes	869		NA					NA							
C2-Dibenzothiophenes	1598		NA					NA							
C3-Dibenzothiophenes	1924		NA					NA							
C4-Dibenzothiophenes	1349		NA					NA							
Fluoranthene	64.1		77.2		194		Y	66.9		42		Y	14		100
Pyrene	81.3		93.9		184		Y	82.0		9		Y	13		100
C1-Fluoranthenes/Pyrenes	343		NA					NA							
C2-Fluoranthenes/Pyrenes	530		NA					NA							
C3-Fluoranthenes/Pyrenes	526		NA					NA							
C4-Fluoranthenes/Pyrenes	499		NA					NA							
Naphthobenzothiophene	277		NA					NA							
C1-Naphthobenzothiophenes	659		NA					NA							
C2-Naphthobenzothiophenes	1052		NA					NA							
C3-Naphthobenzothiophenes	871		NA					NA							
C4-Naphthobenzothiophenes	442		NA					NA							
Benz(a)anthracene	34.1		38.9		70		Y	37.9		57		Y	2		100
Chrysene/Triphenylene	108		136		425		Y	123		221		Y	11		99.4
C1-Chrysenes	294		NA					NA							
C2-Chrysenes	445		NA					NA							
C3-Chrysenes	303		NA					NA							
C4-Chrysenes	176		NA					NA							
Benzo(b)fluoranthene	59.0		70.0		162		Y	61.1		30		Y	14		100
Benzo(k,j)fluoranthene	14.6		31.8		258		Y	28.8		214		Y	10		100
Benzo(a)fluoranthene	<0.5	U	NA					NA							
Benzo(e)pyrene	58.5		74.3		235		Y	68.7		152		Y	8		100
Benzo(a)pyrene	28.9		37.9		134		Y	33.1		62		Y	14		100
Perylene	114		105		-143		Y	103		-168		Y	2		100
Indeno(1,2,3-c,d)pyrene	23.2		37.4		216		Y	36.2		199		Y	3		98.3
Dibenzo(a,h)anthracene	10.8		20.5		146		Y	20.6		148		Y	0		99.1
Benzo(g,h,i)perylene	54.9		85.1		455		Y	78.6		358		Y	8		99.1
Average % Recovery					262	*				131	*				

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Matrix Spike Report

Sample Name	ARC1810.D	ENV3095C.D	ENV3095D.D
Client Name	SED-DA-048 (0-0.5)	SED-DA-048 (0-0.5) MS	SED-DA-048 (0-0.5) MSD
Matrix	Sediment	Sediment	Sediment
Collection Date	08/12/13	08/12/13	08/12/13
Received Date	08/13/13	08/13/13	08/13/13
Extraction Date	08/26/13	08/26/13	08/26/13
Extraction Batch	ENV 3095	ENV 3095	ENV 3095
Date Acquired	9/5/13 14:59	9/5/13 10:24	9/5/13 11:33
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.1	15.0	15.0
% Dry	46	46	51
% Moisture	54	54	49
Dilution	5X	5X	5X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Recovery (%)	Q	Q1	Su. Corrected Conc. (ng/dry g)	Q	Recovery (%)	Q	Q1	RPD (%)	Q	Spike Amount (ng)
Individual Alkyl Isomers and Hopanes															
2-Methylnaphthalene	171		191		300	Y		203		474	Y		6		100
1-Methylnaphthalene	127		141		202	Y		149		324	Y		5		100
2,6-Dimethylnaphthalene	369		393		342	Y		401		465	Y		2		100
1,6,7-Trimethylnaphthalene	208		226		269	Y		218		157	Y		4		100
1-Methylfluorene	212		271		868	Y		257		679	Y		5		101
4-Methyldibenzothiophene	434		536		1486	Y		457		323	Y		16		101
2/3-Methyldibenzothiophene	351		NA					NA							
1-Methyldibenzothiophene	270		NA					NA							
3-Methylphenanthrene	232		NA					NA							
2-Methylphenanthrene	339		NA					NA							
2-Methylanthracene	28.6		NA					NA							
4/9-Methylphenanthrene	420		NA					NA							
1-Methylphenanthrene	225		208		-280	Y		191		-531	Y		8		98.9
3,6-Dimethylphenanthrene	127		142		220	Y		120		-104	Y		17		100
Retene	94.2		129		572	Y		106		204	Y		19		89
2-Methylfluoranthene	24.1		32.6		126	Y		28.0		58	Y		15		101
Benzo(b)fluorene	39.5		51.7		180	Y		44.4		73	Y		15		101
C29-Hopane	910		NA					NA							
18a-Oleanane	<2.9	U	NA					NA							
C30-Hopane	1135		NA					NA							
C20-TAS	42.8		NA					NA							
C21-TAS	60.5		NA					NA							
C26(20S)-TAS	50.4		NA					NA							
C26(20R)/C27(20S)-TAS	166		189		325	Y		181		218	Y		4		100
C28(20S)-TAS	138		NA					NA							
C27(20R)-TAS	106		NA					NA							
C28(20R)-TAS	128		NA					NA							

Surrogate Recovery					
Naphthalene-d8	81	D	78	D	82	D
Acenaphthene-d10	91	D	74	D	77	D
Phenanthrene-d10	94	D	92	D	91	D
Chrysene-d12	101	D	105	D	101	D
Perylene-d12	86	D	88	D	89	D

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Duplicate Report

Sample Name	ARC1807.D	ENV3095E.D
Client Name	SED-DA-047 (0-0.5)	Dupl. (SED-DA-047 (0-0.5))
Matrix	Sediment	Sediment
Collection Date	08/12/13	08/12/13
Received Date	08/13/13	08/13/13
Extraction Date	08/26/13	08/26/13
Extraction Batch	ENV 3095	ENV 3095
Date Acquired	9/5/13 13:50	9/5/13 12:42
Method	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.0
% Dry	60	60
% Moisture	40	40
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	3.10		3.38		9		0.395	0.132
C1-Decalins	2.58		2.68		4		0.790	0.263
C2-Decalins	11.2		9.33		18		0.790	0.263
C3-Decalins	60.8		55.6		9		0.790	0.263
C4-Decalins	172		164		5		0.790	0.263
Naphthalene	5.6		5.44		2		1.03	0.342
C1-Naphthalenes	30.1		28.5		5		3.09	1.03
C2-Naphthalenes	226		220		2		2.05	0.684
C3-Naphthalenes	504		490		3		2.05	0.684
C4-Naphthalenes	671		656		2		2.05	0.684
Benzothiophene	1.04		1.01		3		0.270	0.090
C1-Benzothiophenes	9.24		9.08		2		0.540	0.180
C2-Benzothiophenes	44.6		40.5		10		0.540	0.180
C3-Benzothiophenes	110		135		20		0.540	0.180
C4-Benzothiophenes	253		251		1		0.540	0.180
Biphenyl	7.73		7.24		7		0.881	0.294
Acenaphthylene	4.18		3.96		6		0.122	0.041
Acenaphthene	<0.1	U	<0.1	U			0.308	0.103
Dibenzofuran	11.4		10.5		8		0.613	0.204
Fluorene	13.4		13.8		3		0.55	0.183
C1-Fluorenes	69.0		77.6		12		1.10	0.367
C2-Fluorenes	299		333		11		1.10	0.367
C3-Fluorenes	439		491		11		1.10	0.367
Carbazole	<0.1	U	<0.1	U			0.449	0.150
Anthracene	3.72		3.29		12		0.346	0.115
Phenanthrene	152		138		10		0.624	0.208
C1-Phenanthrenes/Anthracenes	628		540		15		0.232	0.077
C2-Phenanthrenes/Anthracenes	1105		1010		9		0.855	0.285
C3-Phenanthrenes/Anthracenes	1454		1179		21		0.855	0.285
C4-Phenanthrenes/Anthracenes	853		835		2		0.855	0.285
Dibenzothiophene	170		150		13		0.348	0.116
C1-Dibenzothiophenes	783		670		16		0.191	0.064
C2-Dibenzothiophenes	1491		1236		19		0.696	0.232
C3-Dibenzothiophenes	1144		1431		22		0.696	0.232
C4-Dibenzothiophenes	1156		999		15		0.696	0.232
Fluoranthene	50.3		44.7		12		1.00	0.333
Pyrene	77.5		66.7		15		0.408	0.136
C1-Fluoranthenes/Pyrenes	315		275		14		1.41	0.469
C2-Fluoranthenes/Pyrenes	421		402		5		1.41	0.469
C3-Fluoranthenes/Pyrenes	417		360		15		1.41	0.469
C4-Fluoranthenes/Pyrenes	368		366		1		1.41	0.469
Naphthobenzothiophene	257		232		10		0.383	0.128
C1-Naphthobenzothiophenes	691		591		16		0.767	0.256
C2-Naphthobenzothiophenes	1002		868		14		0.767	0.256
C3-Naphthobenzothiophenes	681		661		3		0.767	0.256
C4-Naphthobenzothiophenes	339		376		10		0.767	0.256
Benz(a)anthracene	23.6		21.1		11		0.577	0.192
Chrysene/Triphenylene	116		101		15		0.347	0.116
C1-Chrysenes	251		214		16		0.695	0.232
C2-Chrysenes	346		324		7		0.695	0.232
C3-Chrysenes	224		257		14		0.695	0.232
C4-Chrysenes	139		116		18		0.695	0.232
Benzo(b)fluoranthene	42.0		41.6		1		0.609	0.203
Benzo(k,j)fluoranthene	13.2		15.2		14		0.294	0.098
Benzo(a)fluoranthene	<0.1	U	<0.1	U			0.294	0.098
Benzo(e)pyrene	50.9		46.9		8		0.5302	0.1767
Benzo(a)pyrene	17.4		20.6		17		0.3039	0.1013
Perylene	59.7		59.3		1		3.8003	1.2668
Indeno(1,2,3-c,d)pyrene	14.5		15.1		4		0.1507	0.0502
Dibenzo(a,h)anthracene	8.17		9.21		12		0.193	0.064
Benzo(g,h,i)perylene	36.4		40.8		11		0.264	0.088
Total PAHs	17848		16722		7			

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Duplicate Report

Sample Name	ARC1807.D	ENV3095E.D
Client Name	SED-DA-047 (0-0.5)	Dupl. (SED-DA-047 (0-0.5))
Matrix	Sediment	Sediment
Collection Date	08/12/13	08/12/13
Received Date	08/13/13	08/13/13
Extraction Date	08/26/13	08/26/13
Extraction Batch	ENV 3095	ENV 3095
Date Acquired	9/5/13 13:50	9/5/13 12:42
Method	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.0
% Dry	60	60
% Moisture	40	40
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	26.1		25.2		4		3.89	1.30
1-Methylnaphthalene	19.8		18.3		8		1.64	0.546
2,6-Dimethylnaphthalene	93.5		89.5		4		0.782	0.261
1,6,7-Trimethylnaphthalene	78.8		75.9		4		0.382	0.127
1-Methylfluorene	44.3		44.5		1		0.574	0.191
4-Methyldibenzothiophene	417		363		14		0.274	0.091
2/3-Methyldibenzothiophene	317		249		24		0.274	0.091
1-Methyldibenzothiophene	216		202		7		0.274	0.091
3-Methylphenanthrene	202		182		10		0.291	0.097
2-Methylphenanthrene	247		207		18		0.291	0.097
2-Methylanthracene	13.3		16.3		20		0.291	0.097
4/9-Methylphenanthrene	335		273		20		0.291	0.097
1-Methylphenanthrene	181		163		11		0.291	0.097
3,6-Dimethylphenanthrene	96.8		80.5		18		0.329	0.110
Retene	103		87.8		16		0.694	0.231
2-Methylfluoranthene	25.1		20.6		20		0.668	0.223
Benzo(b)fluorene	12.1		11.8		3		0.374	0.125
C29-Hopane	810		796		2		1.72	0.575
18a-Oleanane	<0.6	U	<0.6	U			1.72	0.575
C30-Hopane	1098		1086		1		1.72	0.575
C20-TAS	<0.6	U	<0.6	U			1.72	0.575
C21-TAS	<0.6	U	<0.6	U			1.72	0.575
C26(20S)-TAS	<0.6	U	<0.6	U			1.72	0.575
C26(20R)/C27(20S)-TAS	<0.6	U	<0.6	U			1.72	0.575
C28(20S)-TAS	<0.6	U	<0.6	U			1.72	0.575
C27(20R)-TAS	<0.6	U	<0.6	U			1.72	0.575
C28(20R)-TAS	<0.6	U	<0.6	U			1.72	0.575

Surrogate Recovery		
Naphthalene-d8	65	74
Acenaphthene-d10	65	63
Phenanthrene-d10	90	90
Chrysene-d12	117	104
Perylene-d12	88	85

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

Sample Name	ENV3095B.D
Client Name	SRM 1941b
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	08/26/13
Extraction Batch	ENV 3095
Date Acquired	9/5/13 9:16
Method	PAH-2012.M
Sample Dry Weight (g)	4.1
% Dry	98
% Moisture	2
Dilution	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	RPD (%)	SRM 1941b Certified Conc. (ng/dry g)	-30% Certified Conc. (ng/dry g)	+30% Certified Conc. (ng/dry g)
cis/trans Decalin	85.4					
C1-Decalins	15.36					
C2-Decalins	20.5					
C3-Decalins	59.6					
C4-Decalins	80.8					
Naphthalene	1185		33	848 ± 95	527	1226
C1-Naphthalenes	347					
C2-Naphthalenes	321					
C3-Naphthalenes	215					
C4-Naphthalenes	122					
Benzothiophene	47.0					
C1-Benzothiophenes	49.9					
C2-Benzothiophenes	31.0					
C3-Benzothiophenes	28.0					
C4-Benzothiophenes	28.8					
Biphenyl	102					
Acenaphthylene	42.8					
Acenaphthene	41.8					
Dibenzofuran	131					
Fluorene	76.2		11	85 ± 15	49.0	130
C1-Fluorenes	76.6					
C2-Fluorenes	230					
C3-Fluorenes	229					
Carbazole	27.1					
Anthracene	232		23	184 ± 18	116	263
Phenanthrene	548		30	406 ± 44	253	585
C1-Phenanthrenes/Anthracenes	366					
C2-Phenanthrenes/Anthracenes	374					
C3-Phenanthrenes/Anthracenes	278					
C4-Phenanthrenes/Anthracenes	152					
Dibenzothiophene	73.4					
C1-Dibenzothiophenes	101					
C2-Dibenzothiophenes	161					
C3-Dibenzothiophenes	164					
C4-Dibenzothiophenes	97.9					
Fluoranthene	530		20	651 ± 50	421	911
Pyrene	778		29	581 ± 39	379	806
C1-Fluoranthenes/Pyrenes	577					
C2-Fluoranthenes/Pyrenes	549					
C3-Fluoranthenes/Pyrenes	254					
C4-Fluoranthenes/Pyrenes	176					
Naphthobenzothiophene	227					
C1-Naphthobenzothiophenes	197					
C2-Naphthobenzothiophenes	193					
C3-Naphthobenzothiophenes	132					
C4-Naphthobenzothiophenes	60.6					
Benz(a)anthracene	435		26	335 ± 25	217	468
Chrysene/Triphenylene	533		29	399 ± 36	254	566
C1-Chrysenes	432					
C2-Chrysenes	216					
C3-Chrysenes	132					
C4-Chrysenes	59.2					
Benzo(b)fluoranthene	586		26	453 ± 21	302	616
Benzo(k,j)fluoranthene	557		23	442 ± 23	293	605
Benzo(a)fluoranthene	109					
Benzo(e)pyrene	454		33	325 ± 25	210	455
Benzo(a)pyrene	376		5	358 ± 17	239	488
Perylene	479		19	397 ± 45	246	575
Indeno(1,2,3-c,d)pyrene	485		35	341 ± 57	199	517
Dibenzo(a,h)anthracene	68.7		26	53 ± 10	30.1	81.9
Benzo(g,h,i)perylene	240		24	307 ± 45	183	458
Total PAHs	14975					

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

Sample Name	ENV3095B.D
Client Name	SRM 1941b
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	08/26/13
Extraction Batch	ENV 3095
Date Acquired	9/5/13 9:16
Method	PAH-2012.M
Sample Dry Weight (g)	4.1
% Dry	98
% Moisture	2
Dilution	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	RPD (%)	SRM 1941b Certified Conc. (ng/dry g)	-30% Certified Conc. (ng/dry g)	+30% Certified Conc. (ng/dry g)
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	371					
1-Methylnaphthalene	154					
2,6-Dimethylnaphthalene	100					
1,6,7-Trimethylnaphthalene	32.1					
1-Methylfluorene	43.1					
4-Methyldibenzothiophene	62.9					
2/3-Methyldibenzothiophene	43.4					
1-Methyldibenzothiophene	16.9					
3-Methylphenanthrene	143		31	105 ± 13	64.4	153
2-Methylphenanthrene	161					
2-Methylanthracene	86.2					
4/9-Methylphenanthrene	78.0					
1-Methylphenanthrene	102		33	73.2 ± 5.9	47.1	103
3,6-Dimethylphenanthrene	33.3					
Retene	59.8					
2-Methylfluoranthene	104					
Benzo(b)fluorene	122					
C29-Hopane	399					
18a-Oleanane	69.5					
C30-Hopane	500					
C20-TAS	16.2					
C21-TAS	11.2					
C26(20S)-TAS	3.15					
C26(20R)/C27(20S)-TAS	12.7					
C28(20S)-TAS	12.2					
C27(20R)-TAS	10.3					
C28(20R)-TAS	7.88					

Surrogate Recovery	
Naphthalene-d8	49
Acenaphthene-d10	51
Phenanthrene-d10	47
Chrysene-d12	42
Perylene-d12	41

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

Sample Name	MS70063K.D
Client Name	AR-SRM2779-WK4.0-002
Matrix	Gulf of Mexico Crude Oil
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3095
Date Acquired	9/5/13 6:58
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	1044						
C2-Decalins	896						
C3-Decalins	863						
C4-Decalins	458						
Naphthalene	762			12	855 ± 46	647	1081
C1-Naphthalenes	1690						
C2-Naphthalenes	1944						
C3-Naphthalenes	1278						
C4-Naphthalenes	700						
Benzothiophene	8.63	J					
C1-Benzothiophenes	31.3						
C2-Benzothiophenes	30.5						
C3-Benzothiophenes	38.7						
C4-Benzothiophenes	30.3						
Biphenyl	166						
Acenaphthylene	9.42	J					
Acenaphthene	10.28						
Dibenzofuran	29.8						
Fluorene	117						
C1-Fluorenes	290						
C2-Fluorenes	409						
C3-Fluorenes	327						
Carbazole	2.9	J					
Anthracene	2.9	J		16	3.42 ± 0.59	2.26	4.81
Phenanthrene	238			8	258 ± 27	185	342
C1-Phenanthrenes/Anthracenes	503						
C2-Phenanthrenes/Anthracenes	520						
C3-Phenanthrenes/Anthracenes	361						
C4-Phenanthrenes/Anthracenes	246						
Dibenzothiophene	45.0			14	51.8 ± 2.1	39.8	64.7
C1-Dibenzothiophenes	127						
C2-Dibenzothiophenes	157						
C3-Dibenzothiophenes	123						
C4-Dibenzothiophenes	64.3						
Fluoranthene	4.59	J		5	4.36 ± 0.40	3.17	5.71
Pyrene	11.4		*	26	14.81 ± 0.39	11.5	18.2
C1-Fluoranthenes/Pyrenes	76.2						
C2-Fluoranthenes/Pyrenes	130						
C3-Fluoranthenes/Pyrenes	130						
C4-Fluoranthenes/Pyrenes	132						
Naphthobenzothiophene	34.5						
C1-Naphthobenzothiophenes	54.9						
C2-Naphthobenzothiophenes	70.8						
C3-Naphthobenzothiophenes	49.0						
C4-Naphthobenzothiophenes	22.8						
Benz(a)anthracene	7.87	J		11	7.03 ± 0.85	4.94	9.5
Chrysene/Triphenylene	42.5			11	47.4 ± 1.7	36.6	58.9
C1-Chrysenes	113						
C2-Chrysenes	133						
C3-Chrysenes	87.2						
C4-Chrysenes	55.1						
Benzo(b)fluoranthene	4.60	J		20	5.62 ± 0.34	4.22	7.15
Benzo(k,j)fluoranthene	0.577	J					
Benzo(a)fluoranthene	<10	U					
Benzo(e)pyrene	8.91	J		19	10.78 ± 0.60	8.14	13.7
Benzo(a)pyrene	1.96	J					
Perylene	0.598	J					
Indeno(1,2,3-c,d)pyrene	0.639	J					
Dibenzo(a,h)anthracene	0.589	J		3	0.574 ± 0.091	0.386	0.798
Benzo(g,h,i)perylene	1.85	J		13	2.11 ± 0.26	1.48	2.84
Total PAHs	15440						

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

Sample Name	MS70063K.D
Client Name	AR-SRM2779-WK4.0-002
Matrix	Gulf of Mexico Crude Oil
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3095
Date Acquired	9/5/13 6:58
Method	PAH-2012.M
Sample Weight (mg)	4.1

Target Compounds	Su. Corrected Conc. (ng/mg)	Q	RPD (%)	SRM 2779 Certified Value (ug/g)	-20% Certified Value (ug/g)	+20% Certified Value (ug/g)
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	1548		5	1630 ± 50	1264	2016
1-Methylnaphthalene	1024		11	1140 ± 20	896	1392
2,6-Dimethylnaphthalene	901					
1,6,7-Trimethylnaphthalene	306					
1-Methylfluorene	224					
4-Methyldibenzothiophene	87.1					
2/3-Methyldibenzothiophene	42.6					
1-Methyldibenzothiophene	25.0					
3-Methylphenanthrene	204		1	206 ± 32	139	286
2-Methylphenanthrene	182		23	230 ± 14	173	293
2-Methylanthracene	18.5					
4/9-Methylphenanthrene	228		2	232 ± 19	170	301
1-Methylphenanthrene	149		12	169 ± 10	127	215
3,6-Dimethylphenanthrene	68.0					
Retene	8.14	J				
2-Methylfluoranthene	5.69	J				
Benzo(b)fluorene	15.2					
C29-Hopane	25.5					
18a-Oleanane	<10	U				
C30-Hopane	43.3					
C20-TAS	5.55	J				
C21-TAS	5.28	J				
C26(20S)-TAS	3.59	J				
C26(20R)/C27(20S)-TAS	11.0					
C28(20S)-TAS	9.41	J				
C27(20R)-TAS	7.16	J				
C28(20R)-TAS	6.91	J				

Surrogate Recovery	
Naphthalene-d8	92
Acenaphthene-d10	94
Phenanthrene-d10	85
Chrysene-d12	87
Perylene-d12	87

Peak Resolution	
4/9-Methylphenanthrene from 1-Methylyphenanthrene (m/z 192)	81%

Sample Name	MS70063J.D
Client Name	AR-WKCC-250-038
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3095
Date Acquired	9/5/13 5:50
Method	PAH-2012.M
Sample Volume (mL)	1.0

Target Compounds	Concentration (ng/mL)	Q	RPD (%)	LCM Certified Conc. (ng/mL)	-15% Certified Conc. (ng/mL)	+15% Certified Conc. (ng/mL)
cis/trans Decalin	242		2.0	247	210	284
C1-Decalins	NA					
C2-Decalins	NA					
C3-Decalins	NA					
C4-Decalins	NA					
Naphthalene	238		4.8	250	213	288
C1-Naphthalenes	NA					
C2-Naphthalenes	NA					
C3-Naphthalenes	NA					
C4-Naphthalenes	NA					
Benzothiophene	238		4.4	249	211	286
C1-Benzothiophenes	NA					
C2-Benzothiophenes	NA					
C3-Benzothiophenes	NA					
C4-Benzothiophenes	NA					
Biphenyl	235		5.4	248	211	285
Acenaphthylene	224		10.1	248	211	285
Acenaphthene	232		7.7	251	213	288
Dibenzofuran	241		3.0	249	211	286
Fluorene	237		5.4	251	213	288
C1-Fluorenes	NA					
C2-Fluorenes	NA					
C3-Fluorenes	NA					
Carbazole	221		11.4	248	211	285
Anthracene	244		2.9	251	213	288
Phenanthrene	247		0.3	248	211	285
C1-Phenanthrenes/Anthracenes	NA					
C2-Phenanthrenes/Anthracenes	NA					
C3-Phenanthrenes/Anthracenes	NA					
C4-Phenanthrenes/Anthracenes	NA					
Dibenzothiophene	235		4.9	247	210	283
C1-Dibenzothiophenes	NA					
C2-Dibenzothiophenes	NA					
C3-Dibenzothiophenes	NA					
C4-Dibenzothiophenes	NA					
Fluoranthene	244		2.6	250	213	288
Pyrene	244		2.5	250	213	288
C1-Fluoranthenes/Pyrenes	NA					
C2-Fluoranthenes/Pyrenes	NA					
C3-Fluoranthenes/Pyrenes	NA					
C4-Fluoranthenes/Pyrenes	NA					
Naphthobenzothiophene	232		8.1	252	214	289
C1-Naphthobenzothiophenes	NA					
C2-Naphthobenzothiophenes	NA					
C3-Naphthobenzothiophenes	NA					
C4-Naphthobenzothiophenes	NA					
Benz(a)anthracene	231		7.8	250	212	287
Chrysene/Triphenylene	217		13.4	249	211	286
C1-Chrysenes	NA					
C2-Chrysenes	NA					
C3-Chrysenes	NA					
C4-Chrysenes	NA					
Benzo(b)fluoranthene	241		3.8	251	213	288
Benzo(k,j)fluoranthene	284		13.0	249	212	286
Benzo(a)fluoranthene	NA					
Benzo(e)pyrene	281		12.2	249	212	286
Benzo(a)pyrene	279		11.2	250	212	287
Perylene	268		6.8	250	213	288
Indeno(1,2,3-c,d)pyrene	239		2.8	246	209	283
Dibenzo(a,h)anthracene	266		7.1	248	211	285
Benzo(g,h,i)perylene	267		7.6	248	211	285

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

Sample Name	MS70063J.D
Client Name	AR-WKCC-250-038
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3095
Date Acquired	9/5/13 5:50
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	239		4.6	250	213	288
1-Methylnaphthalene	235		6.2	250	212	287
2,6-Dimethylnaphthalene	237		5.4	250	213	288
1,6,7-Trimethylnaphthalene	230		8.5	250	213	288
1-Methylfluorene	225		11.3	252	214	290
4-Methyldibenzothiophene	255		1.1	252	214	290
2/3-Methyldibenzothiophene	NA					
1-Methyldibenzothiophene	NA					
3-Methylphenanthrene	NA					
2-Methylphenanthrene	NA					
2-Methylanthracene	NA					
4/9-Methylphenanthrene	NA					
1-Methylphenanthrene	252		1.7	247	210	284
3,6-Dimethylphenanthrene	236		6.1	250	213	288
Retene	192		15.3	223	190	257
2-Methylfluoranthene	224		11.7	252	214	289
Benzo(b)fluorene	222		12.7	252	214	290
C29-Hopane	NA					
18a-Oleanane	NA					
C30-Hopane	261		4.1	250	213	288
C20-TAS	NA					
C21-TAS	NA					
C26(20S)-TAS	NA					
C26(20R)/C27(20S)-TAS	260		3.7	250	213	288
C28(20S)-TAS	NA					
C27(20R)-TAS	NA					
C28(20R)-TAS	NA					

Surrogate Recovery	
Naphthalene-d8	95
Acenaphthene-d10	94
Phenanthrene-d10	93
Chrysene-d12	88
Perylene-d12	106

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

Sample Name	MS70063I.D
Client Name	AR-WKICV-250-004
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3095
Date Acquired	9/5/13 4:41
Method	PAH-2012.M
Sample Volume (mL)	1.0

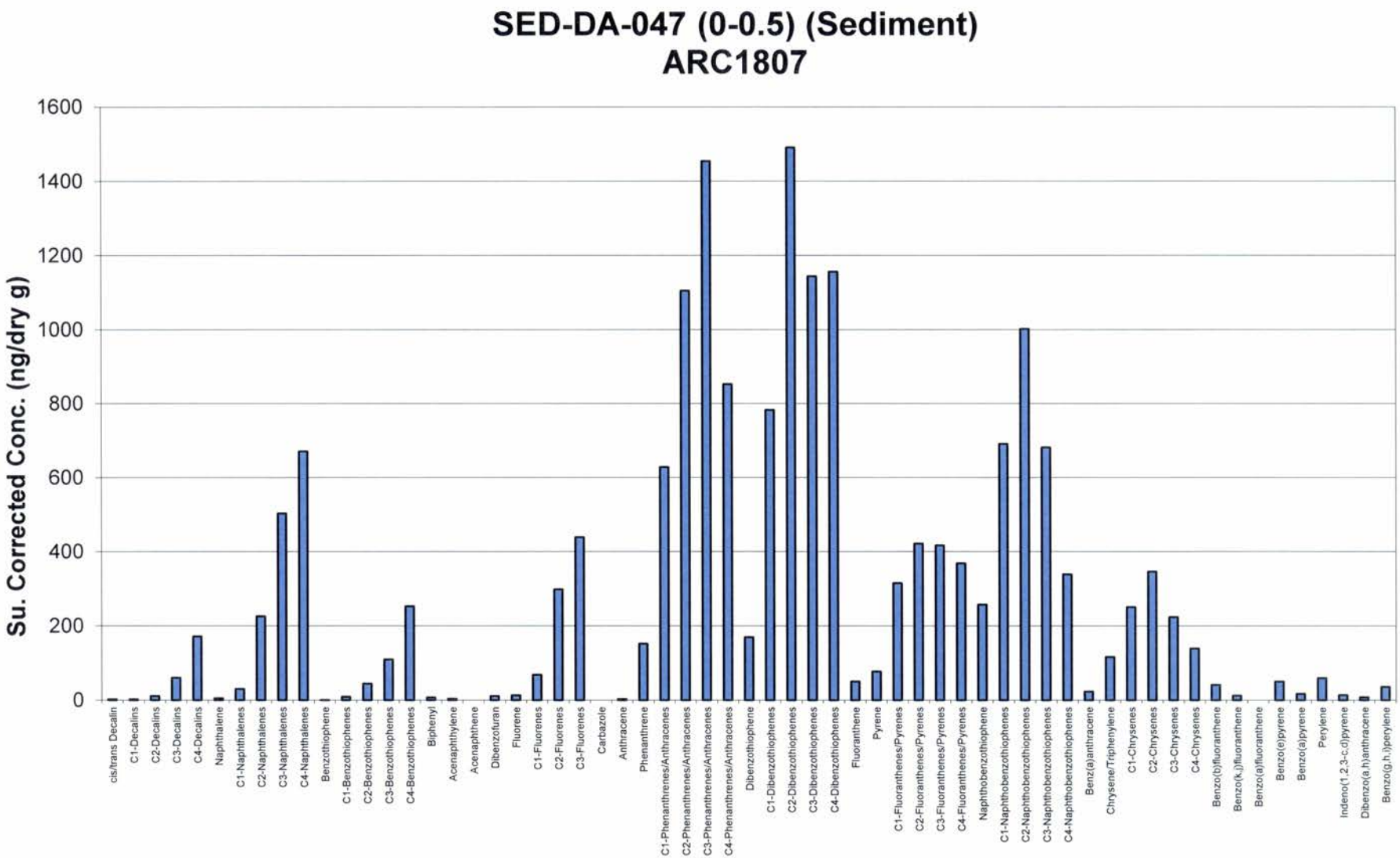
Target Compounds	Concentration (ng/mL)	Q	RPD (%)	ICV Certified Conc. (ng/mL)	-20% Certified Conc. (ng/mL)	+20% Certified Conc. (ng/mL)
cis/trans Decalin	276		9.8	250	200	300
C1-Decalins	NA					
C2-Decalins	NA					
C3-Decalins	NA					
C4-Decalins	NA					
Naphthalene	279		11.0	250	200	300
C1-Naphthalenes	NA					
C2-Naphthalenes	NA					
C3-Naphthalenes	NA					
C4-Naphthalenes	NA					
Benzothiophene	278		10.6	250	200	300
C1-Benzothiophenes	NA					
C2-Benzothiophenes	NA					
C3-Benzothiophenes	NA					
C4-Benzothiophenes	NA					
Biphenyl	284		12.3	251	201	301
Acenaphthylene	274					
Acenaphthene	278		10.4	250	200	300
Dibenzofuran	284		12.7	250	200	300
Fluorene	282		11.8	250	200	300
C1-Fluorenes	NA					
C2-Fluorenes	NA					
C3-Fluorenes	NA					
Carbazole	251		0.3	250	200	300
Anthracene	274		9.2	250	200	300
Phenanthrene	271		8.1	250	200	300
C1-Phenanthrenes/Anthracenes	NA					
C2-Phenanthrenes/Anthracenes	NA					
C3-Phenanthrenes/Anthracenes	NA					
C4-Phenanthrenes/Anthracenes	NA					
Dibenzothiophene	255		1.7	250	200	300
C1-Dibenzothiophenes	NA					
C2-Dibenzothiophenes	NA					
C3-Dibenzothiophenes	NA					
C4-Dibenzothiophenes	NA					
Fluoranthene	275		9.3	250	200	300
Pyrene	275		9.5	250	200	300
C1-Fluoranthenes/Pyrenes	NA					
C2-Fluoranthenes/Pyrenes	NA					
C3-Fluoranthenes/Pyrenes	NA					
C4-Fluoranthenes/Pyrenes	NA					
Naphthobenzothiophene	NA					
C1-Naphthobenzothiophenes	NA					
C2-Naphthobenzothiophenes	NA					
C3-Naphthobenzothiophenes	NA					
C4-Naphthobenzothiophenes	NA					
Benz(a)anthracene	271		8.2	250	200	300
Chrysene/Triphenylene	242		3.3	250	200	300
C1-Chrysenes	NA					
C2-Chrysenes	NA					
C3-Chrysenes	NA					
C4-Chrysenes	NA					
Benzo(b)fluoranthene	256		2.3	250	200	300
Benzo(k,j)fluoranthene	238		5.1	250	200	300
Benzo(a)fluoranthene	NA					
Benzo(e)pyrene	282		11.8	250	200	300
Benzo(a)pyrene	286		13.4	250	200	300
Perylene	280		11.0	251	200	301
Indeno(1,2,3-c,d)pyrene	253		1.2	250	200	300
Dibenzo(a,h)anthracene	298		17.5	250	200	300
Benzo(g,h,i)perylene	286		13.3	250	200	300

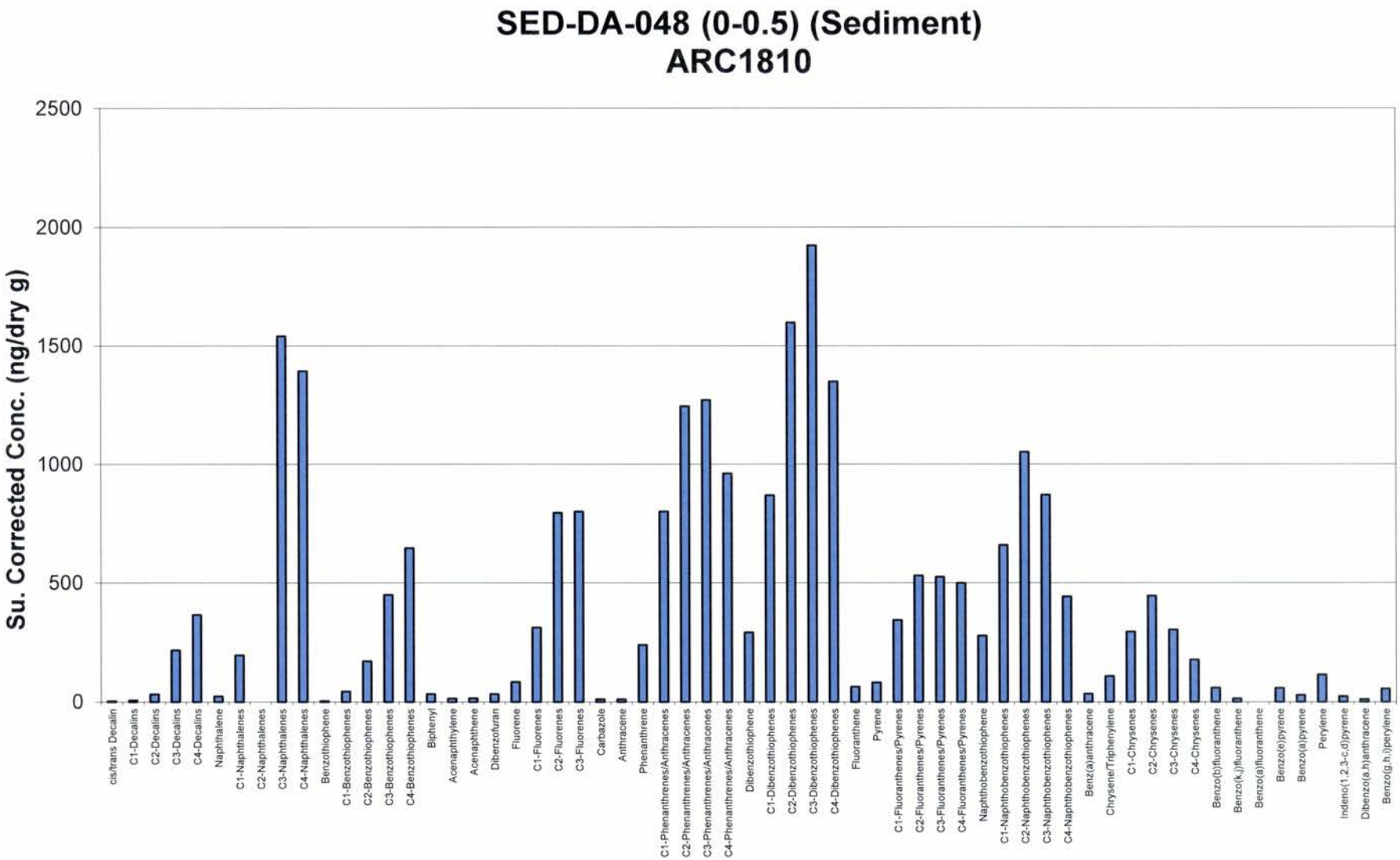
Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Control Material Report

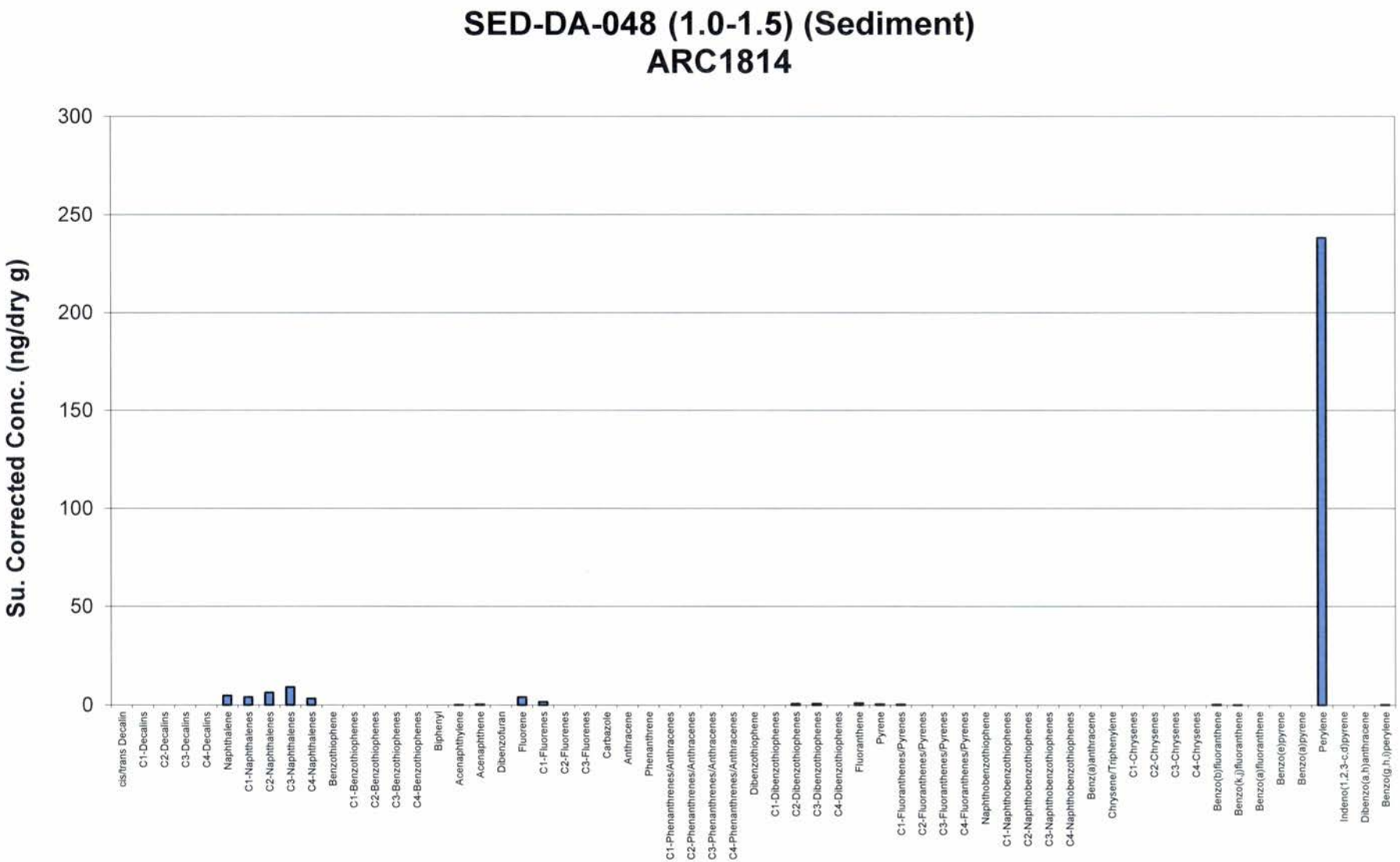
Sample Name	MS70063I.D
Client Name	AR-WKICV-250-004
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3095
Date Acquired	9/5/13 4:41
Method	PAH-2012.M
Sample Volume (mL)	1.0

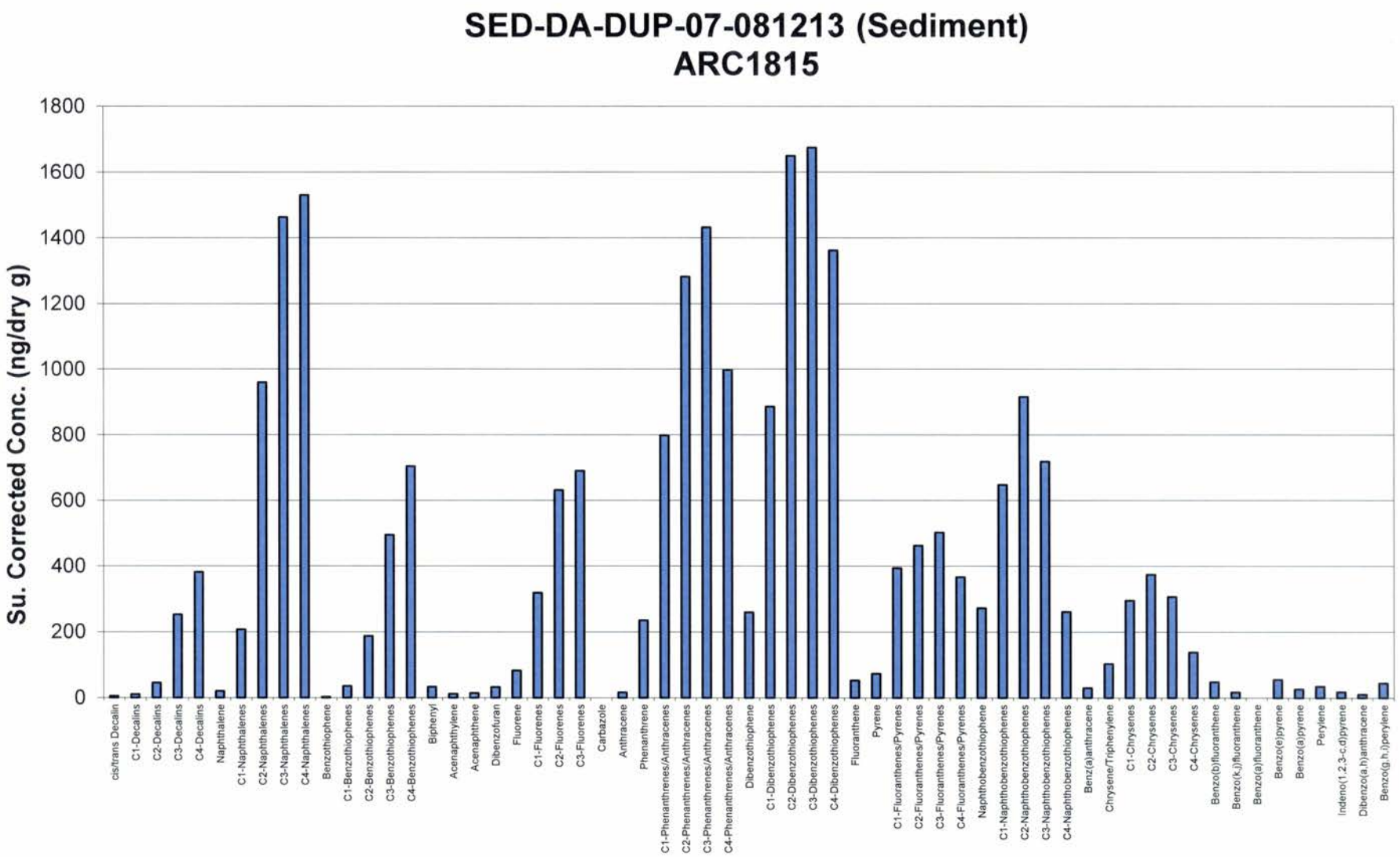
Target Compounds	Concentration (ng/mL)	Q	RPD (%)	ICV Certified Conc. (ng/mL)	-20% Certified Conc. (ng/mL)	+20% Certified Conc. (ng/mL)
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	294		16.1	250	200	301
1-Methylnaphthalene	285		13.0	251	200	301
2,6-Dimethylnaphthalene	284		12.5	250	200	300
1,6,7-Trimethylnaphthalene	284		12.5	250	200	301
1-Methylfluorene	NA					
4-Methyldibenzothiophene	NA					
2/3-Methyldibenzothiophene	NA					
1-Methyldibenzothiophene	NA					
3-Methylphenanthrene	NA					
2-Methylphenanthrene	NA					
2-Methylanthracene	NA					
4/9-Methylphenanthrene	NA					
1-Methylphenanthrene	282		12.1	250	200	300
3,6-Dimethylphenanthrene	NA					
Retene	NA					
2-Methylfluoranthene	NA					
Benzo(b)fluorene	NA					
C29-Hopane	NA					
18a-Oleanane	NA					
C30-Hopane	NA					
C20-TAS	NA					
C21-TAS	NA					
C26(20S)-TAS	NA					
C26(20R)/C27(20S)-TAS	NA					
C28(20S)-TAS	NA					
C27(20R)-TAS	NA					
C28(20R)-TAS	NA					
Surrogate Recovery						
Naphthalene-d8	231		7.8	250	200	300
Acenaphthene-d10	226		10.3	250	200	300
Phenanthrene-d10	212		16.6	250	200	300
Chrysene-d12	201		21.7	250	200	300
Perylene-d12	218		13.5	250	200	300

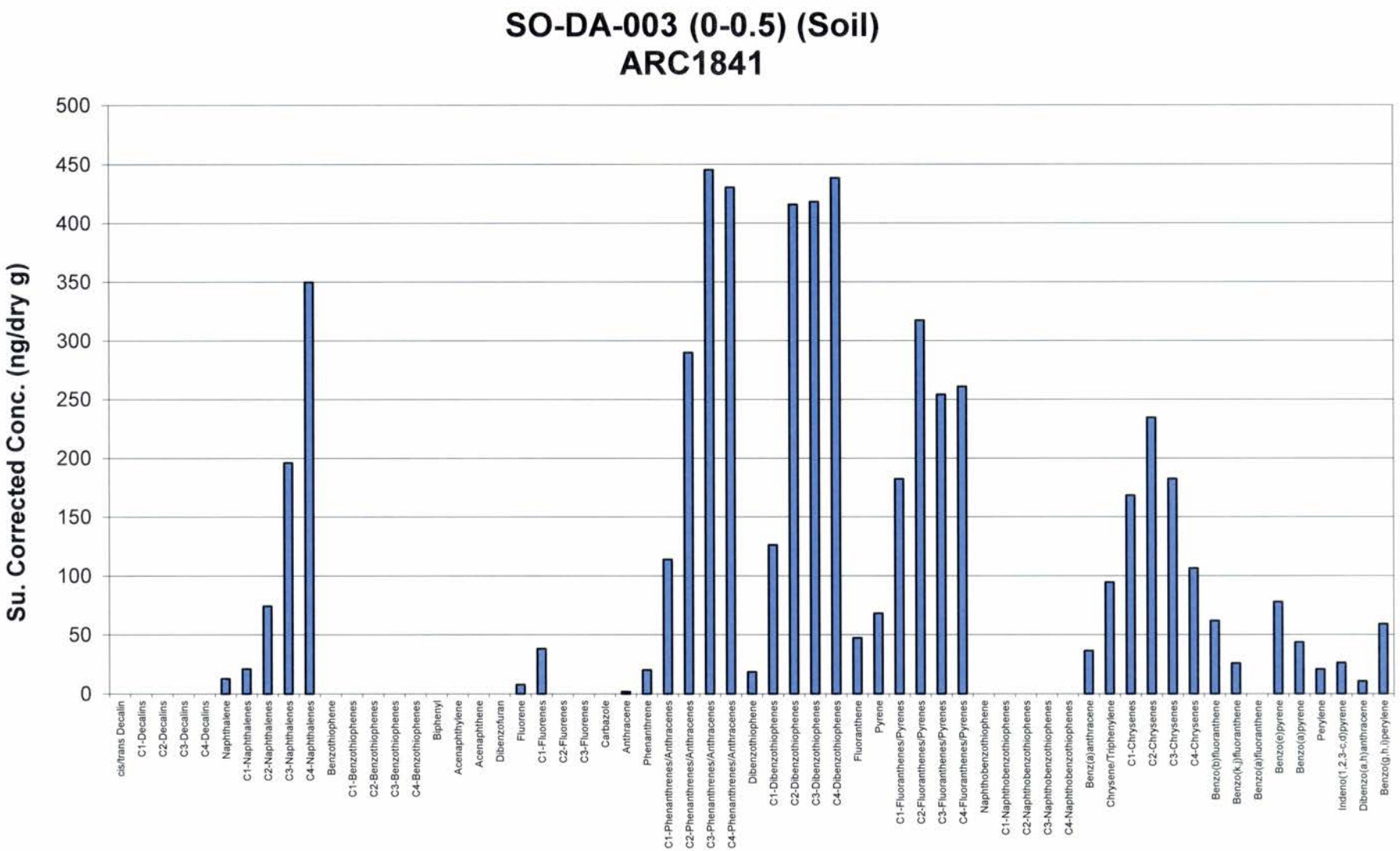
Polycyclic Aromatic Hydrocarbon Histograms

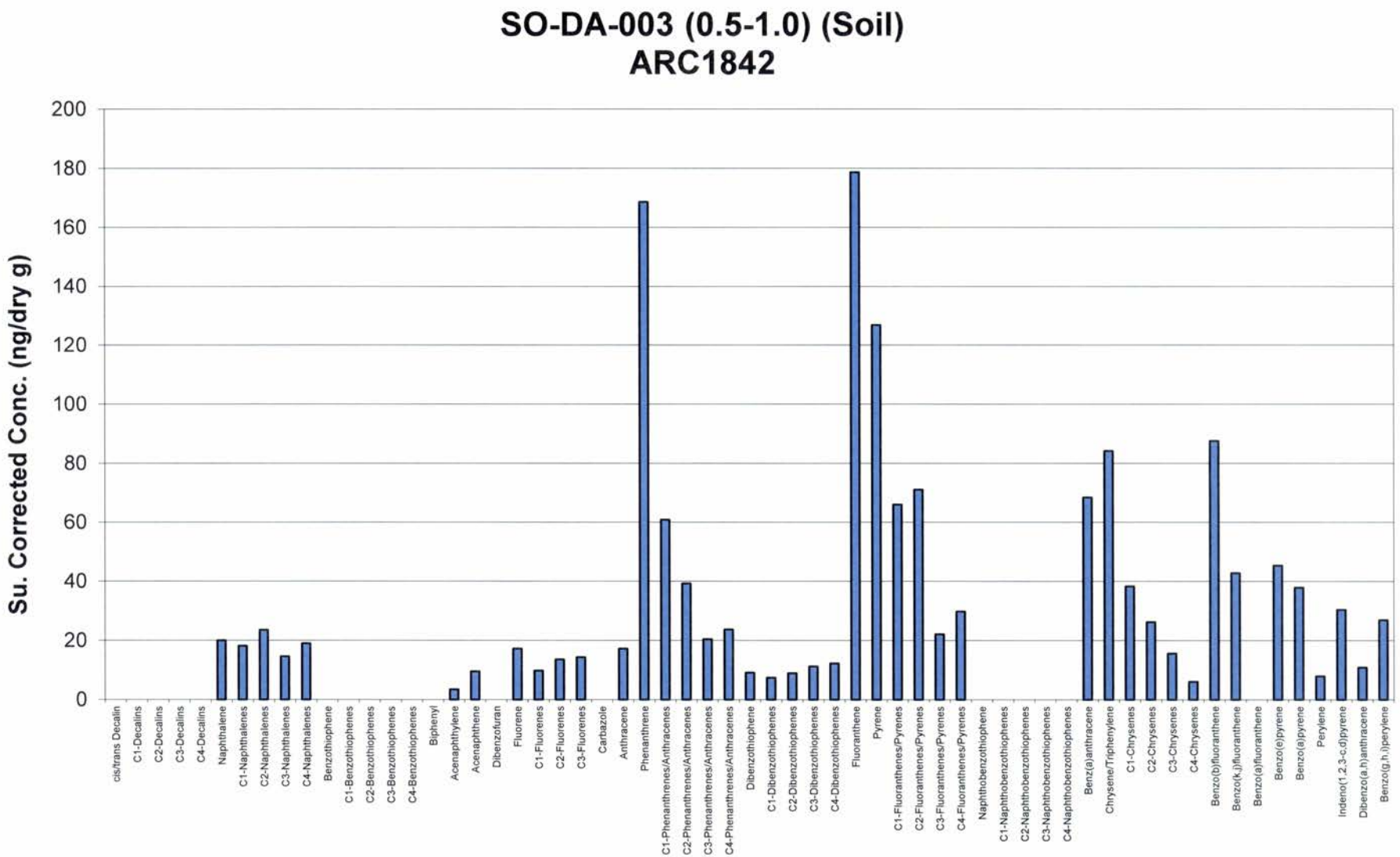

SED-DA-047 (0-0.5) (Sediment)
ARC1807
Su. Corrected Conc. (ng/dry g)
1600
1400
1200
1000
800
600
400
200
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

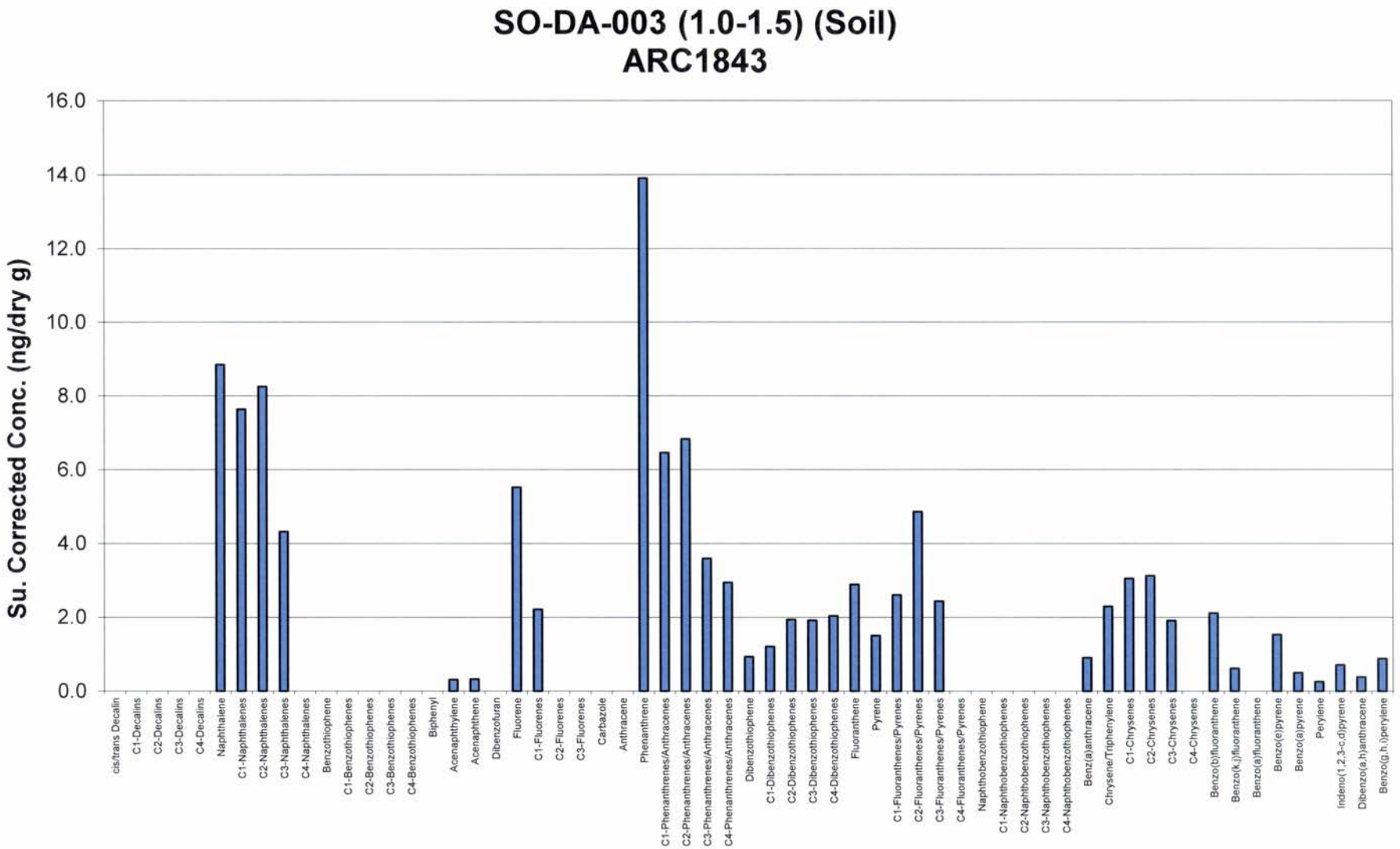

SED-DA-048 (0-0.5) (Sediment)
ARC1810
Su. Corrected Conc. (ng/dry g)
2500
2000
1500
1000
500
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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

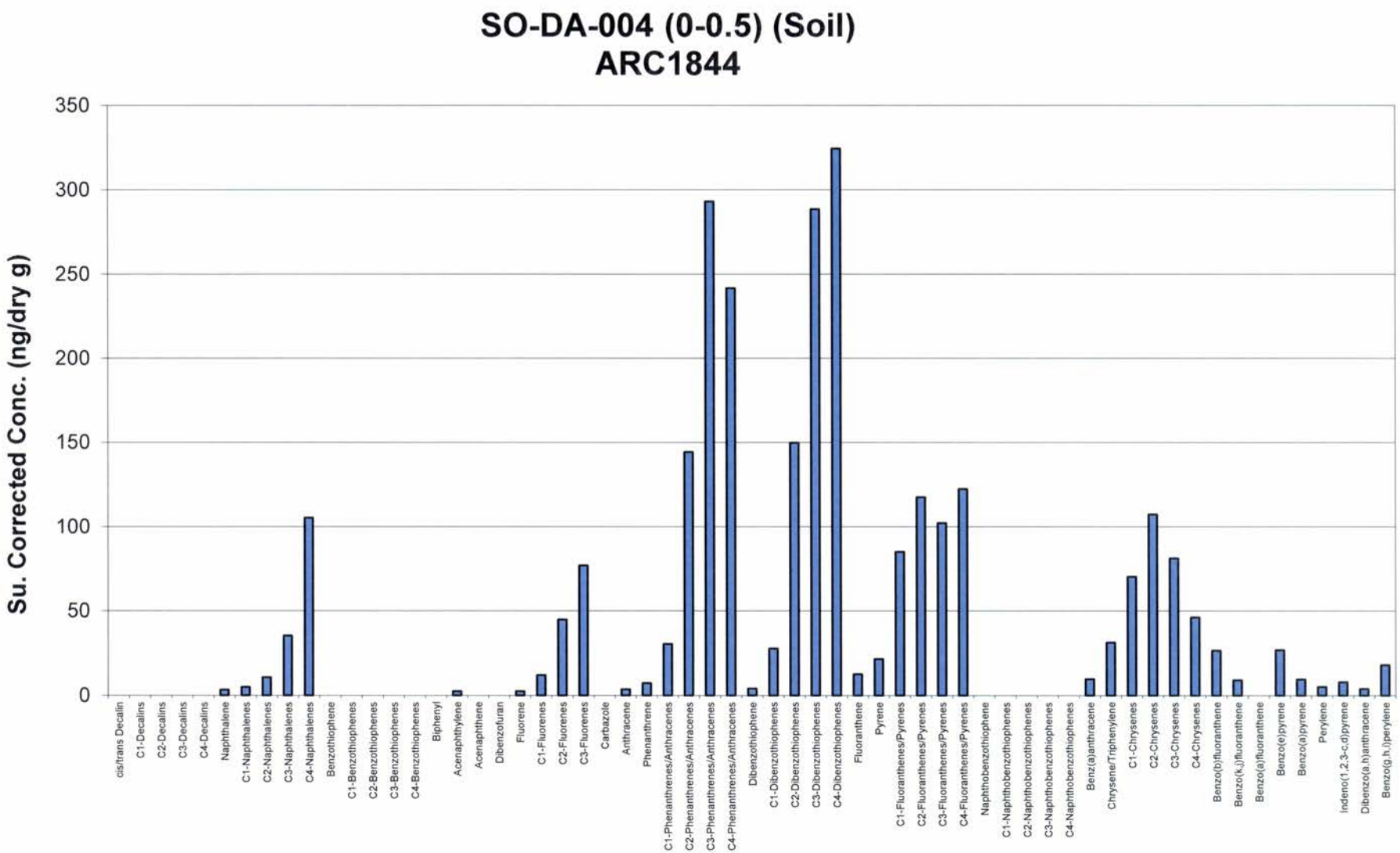

SED-DA-048 (1.0-1.5) (Sediment)
ARC1814
Su. Corrected Conc. (ng/dry g)
300
250
200
150
100
50
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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

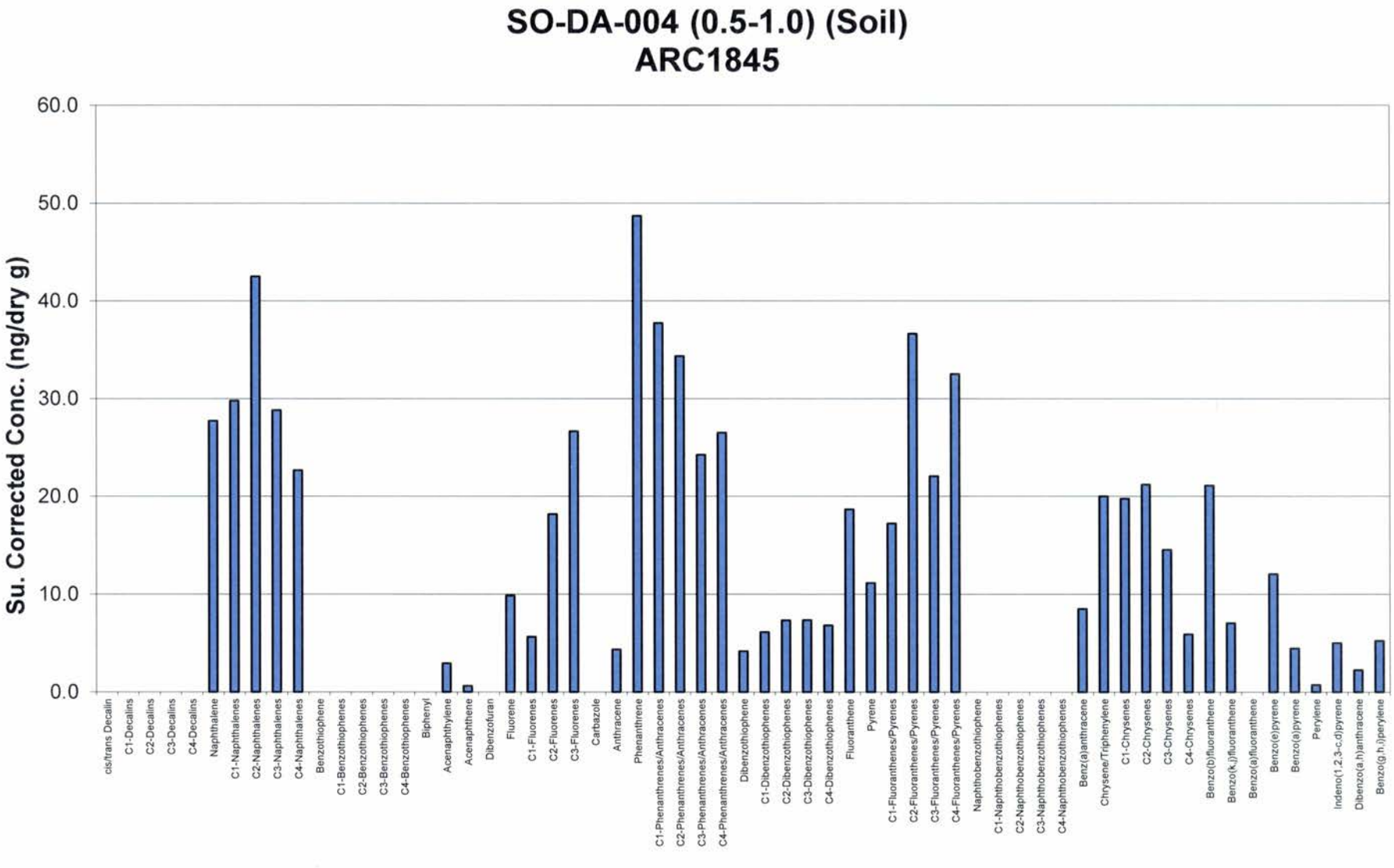

SED-DA-DUP-07-081213 (Sediment)
ARC1815
Su. Corrected Conc. (ng/dry g)
1800
1600
1400
1200
1000
800
600
400
200
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

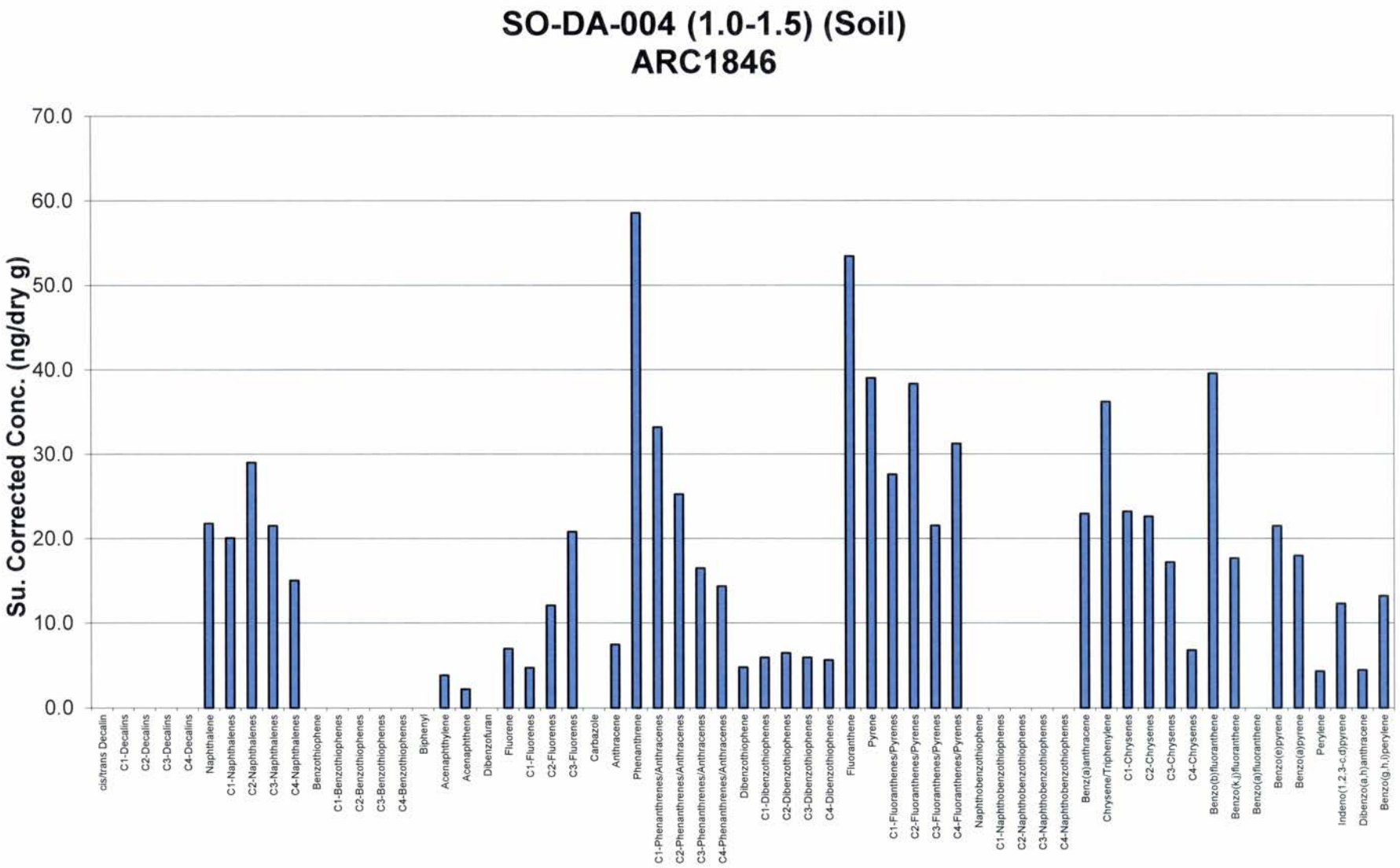

SO-DA-003 (0-0.5) (Soil)
ARC1841
Su. Corrected Conc. (ng/dry g)
500
450
400
350
300
250
200
150
100
50
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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


SO-DA-003 (0.5-1.0) (Soil)
ARC1842
Su. Corrected Conc. (ng/dry g)
200
180
160
140
120
100
80
60
40
20
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene


SO-DA-003 (1.0-1.5) (Soil)
ARC1843
Su. Corrected Conc. (ng/dry g)
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

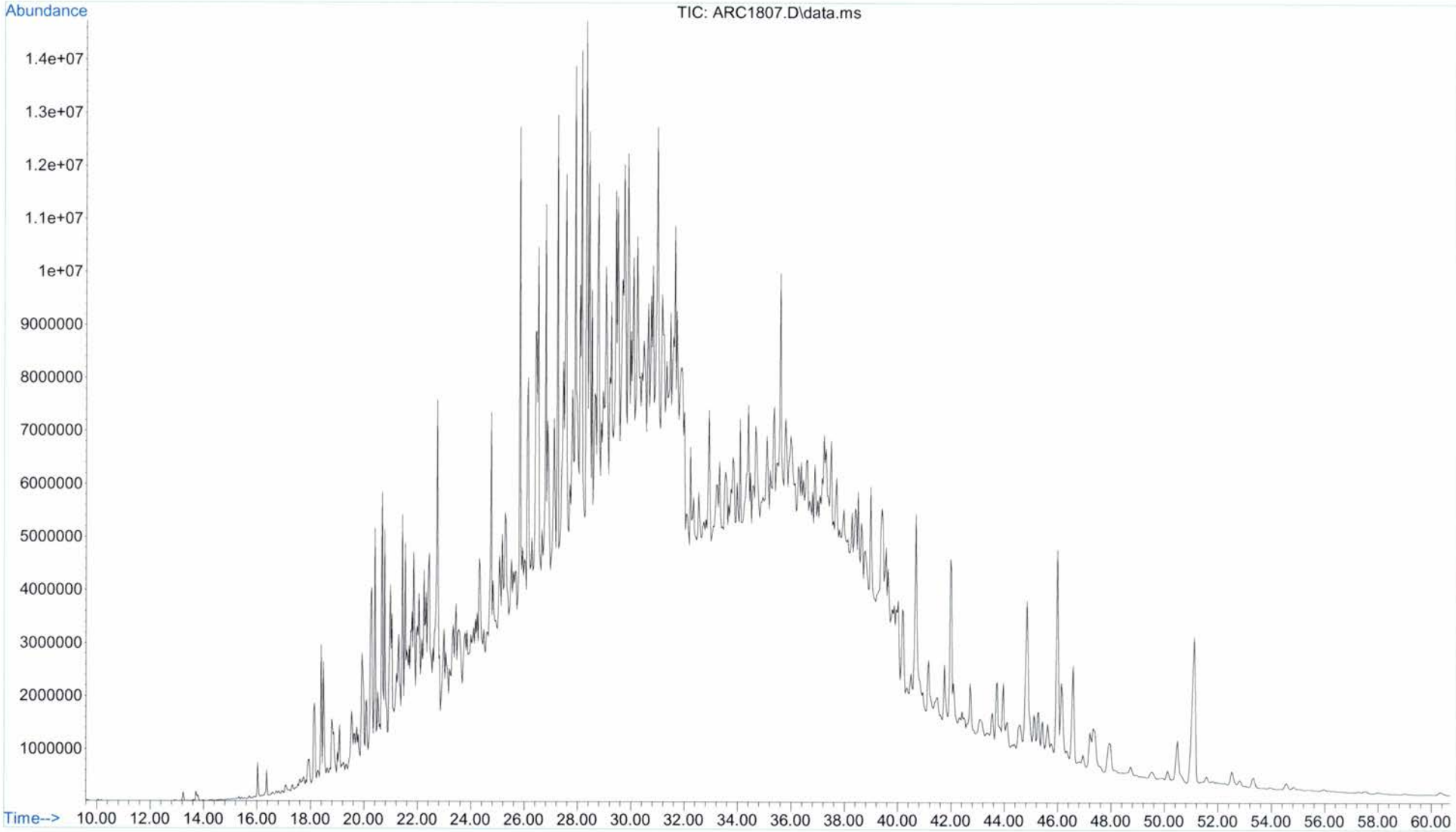

SO-DA-004 (0-0.5) (Soil)
ARC1844
Su. Corrected Conc. (ng/dry g)
350
300
250
200
150
100
50
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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


SO-DA-004 (0.5-1.0) (Soil)
ARC1845
Su. Corrected Conc. (ng/dry g)
60.0
50.0
40.0
30.0
20.0
10.0
0.0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

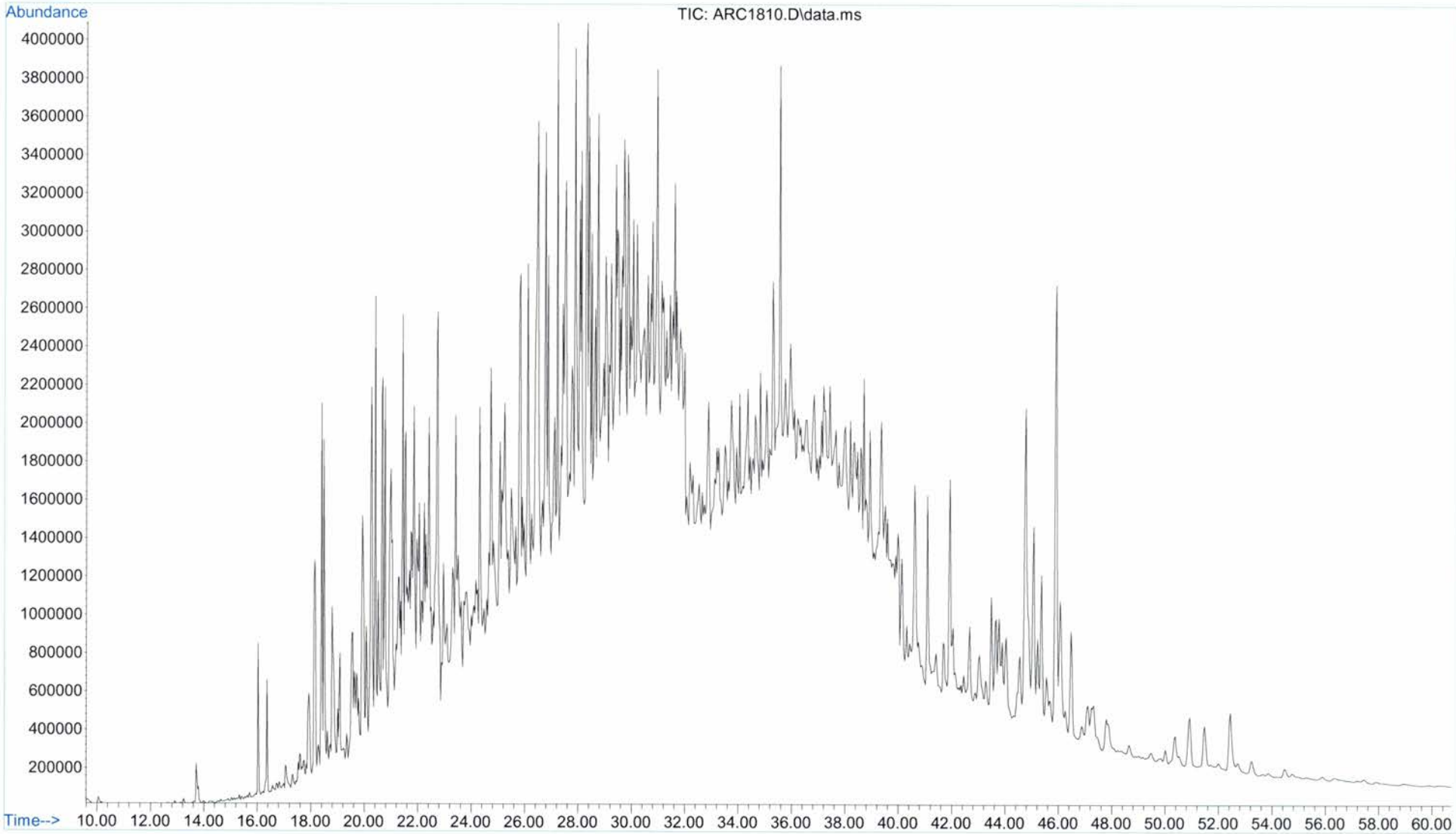

SO-DA-004 (1.0-1.5) (Soil)
ARC1846
Su. Corrected Conc. (ng/dry g)
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
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

Polycyclic Aromatic Hydrocarbon Total Ion Chromatograms

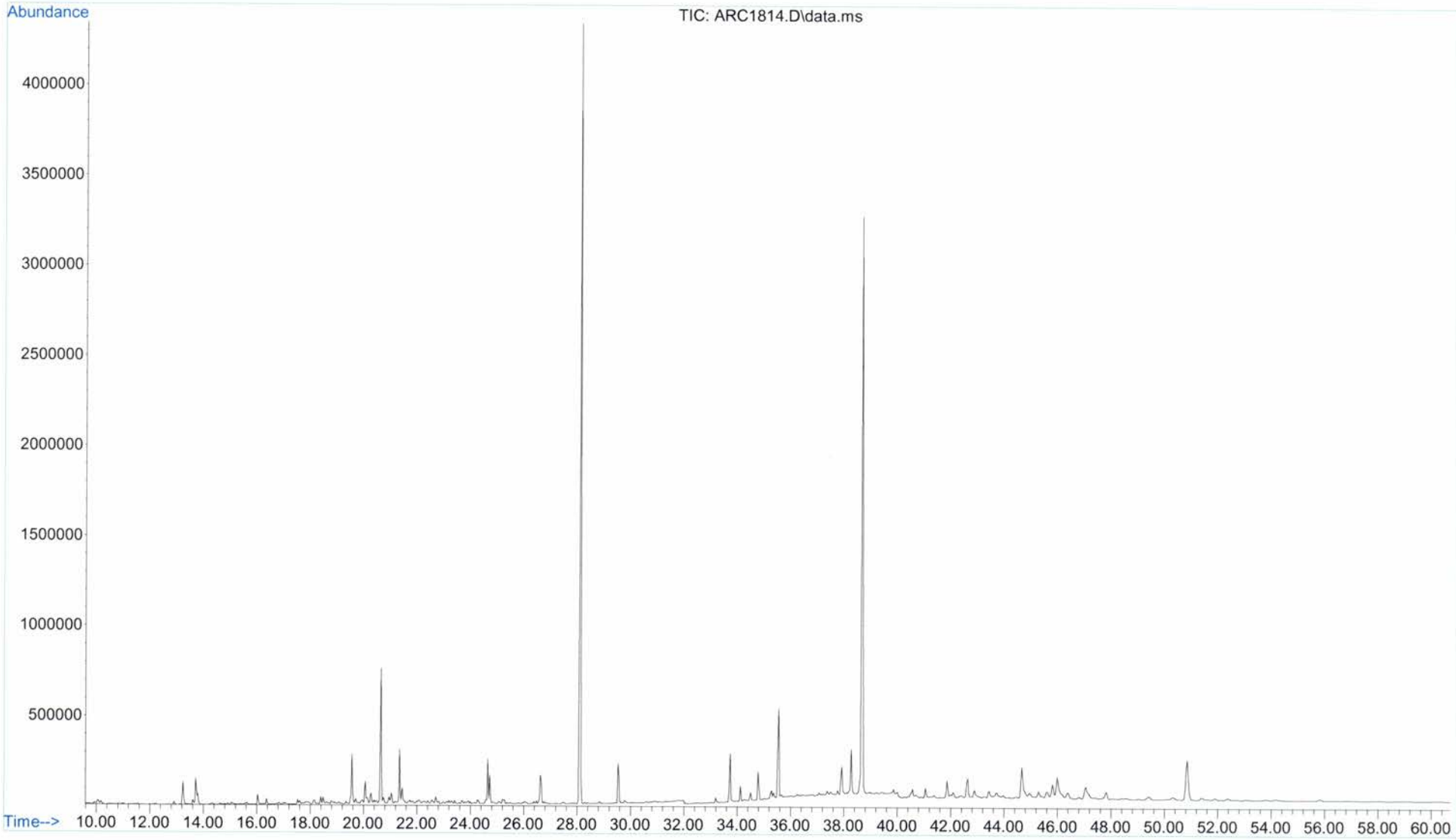
File :C:\GCMS7\MS70063\ARC1807.D
Operator : YM
Acquired : 5 Sep 2013 13:50 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SED-DA-047 (0-0.5)
Misc Info :
Vial Number: 17



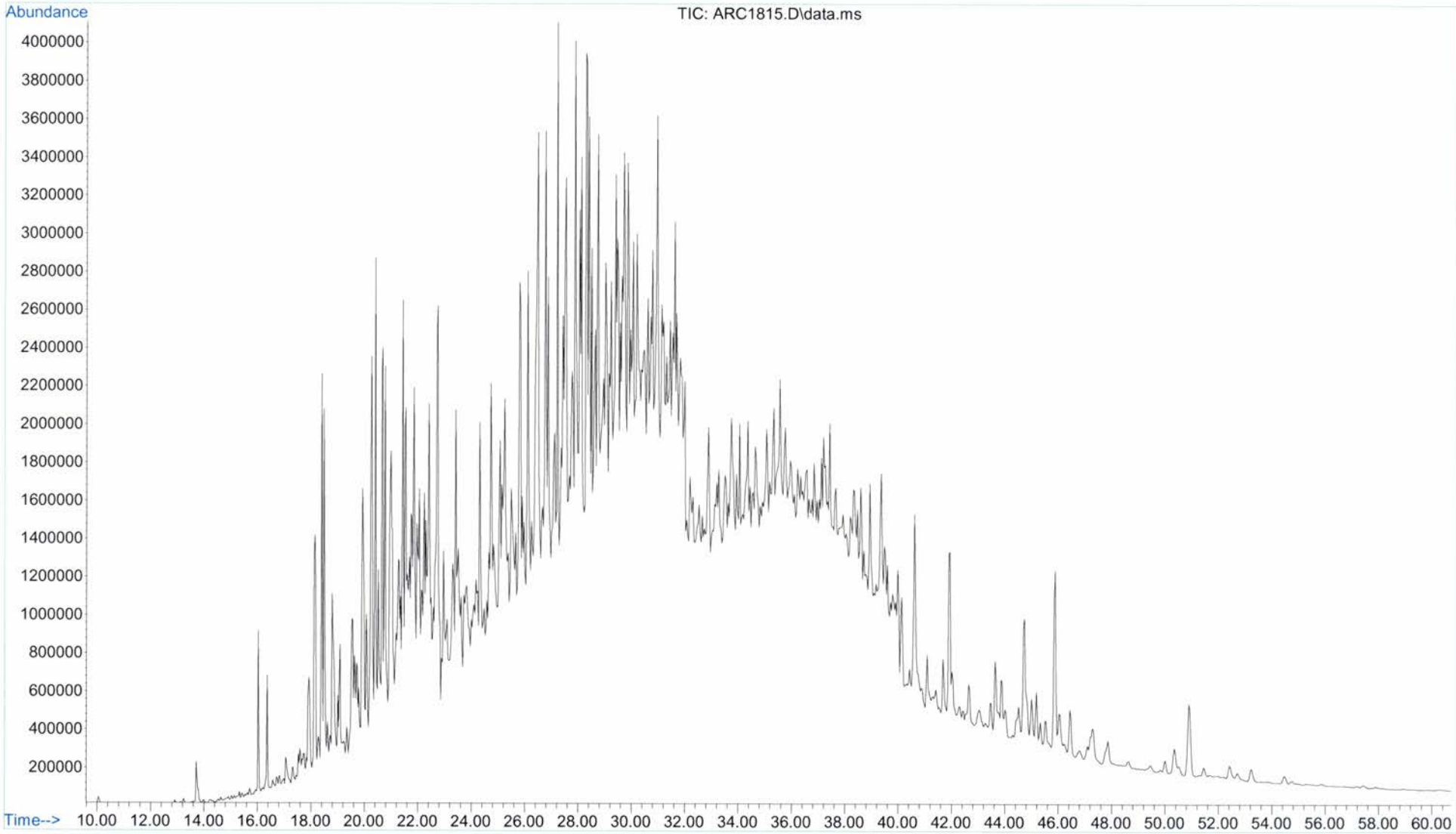
File :C:\GCMS7\MS70063\ARC1810.D
Operator : YM
Acquired : 5 Sep 2013 14:59 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SED-DA-048 (0-0.5)
Misc Info :
Vial Number: 18



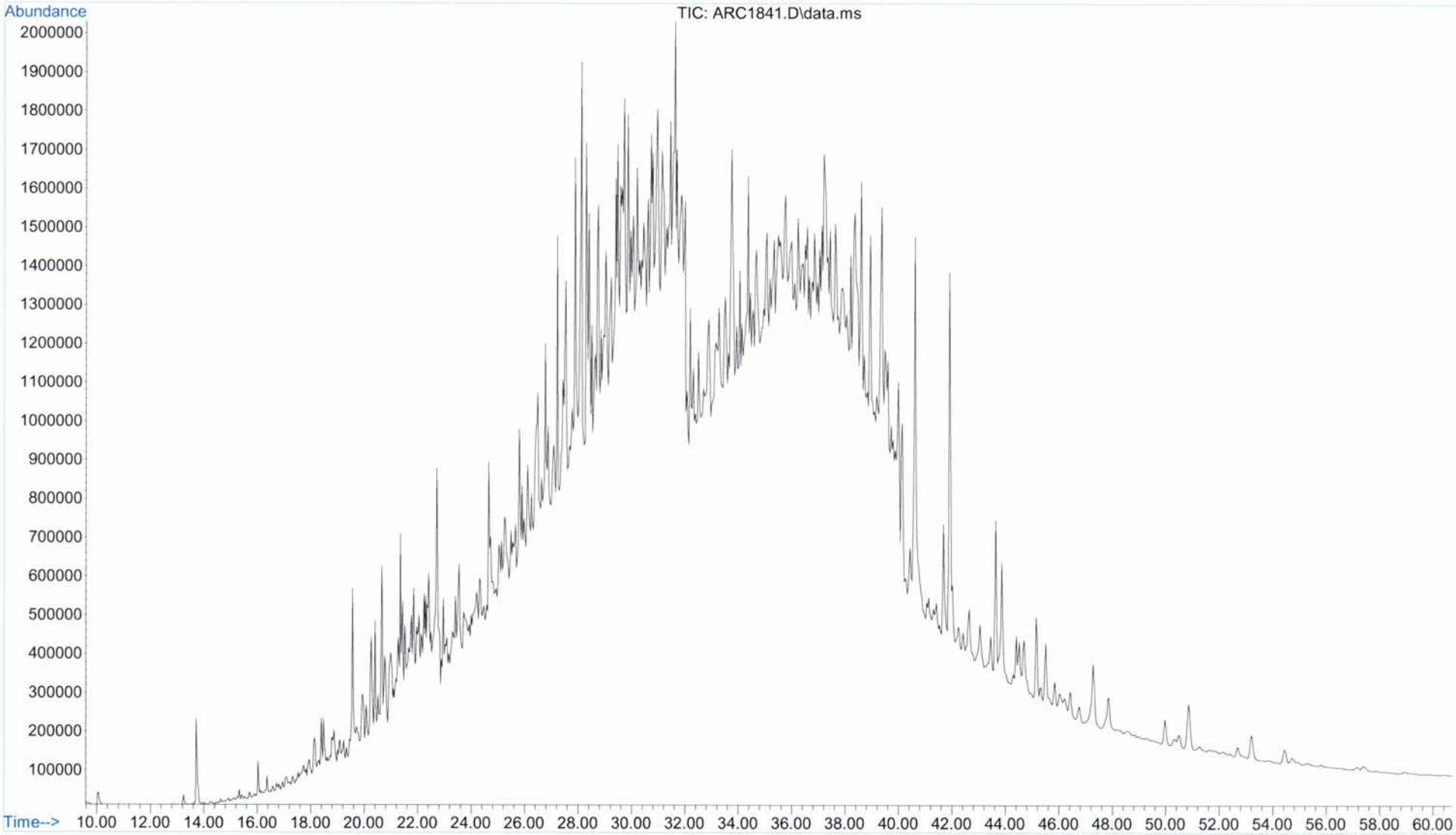
File :C:\GCMS7\MS70063\ARC1814.D
Operator : YM
Acquired : 5 Sep 2013 17:16 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SED-DA-048 (1.0-1.5)
Misc Info :
Vial Number: 20



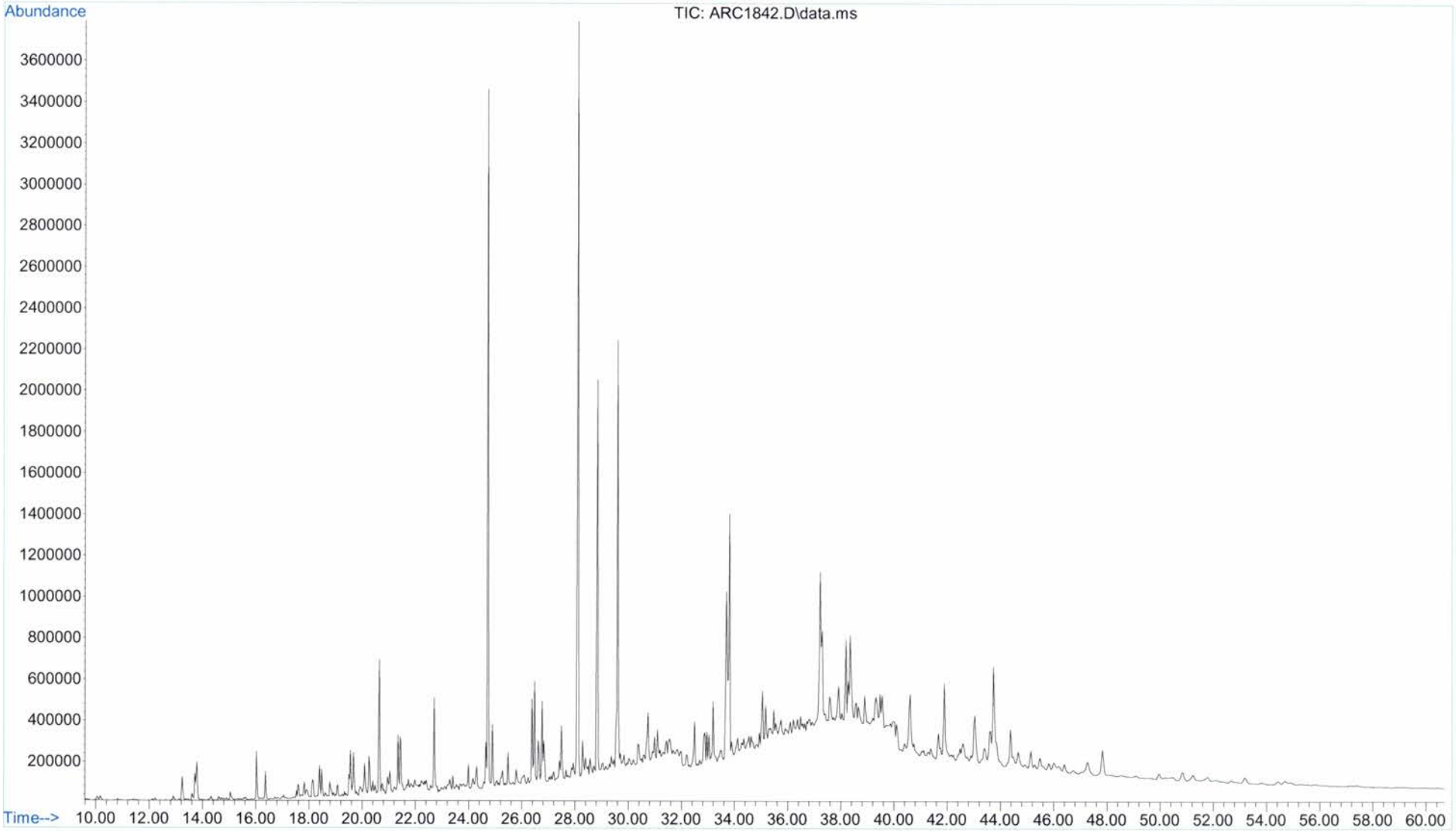
File :C:\GCMS7\MS70063\ARC1815.D
Operator : YM
Acquired : 5 Sep 2013 18:25 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SED-DA-DUP-07-081213
Misc Info :
Vial Number: 21



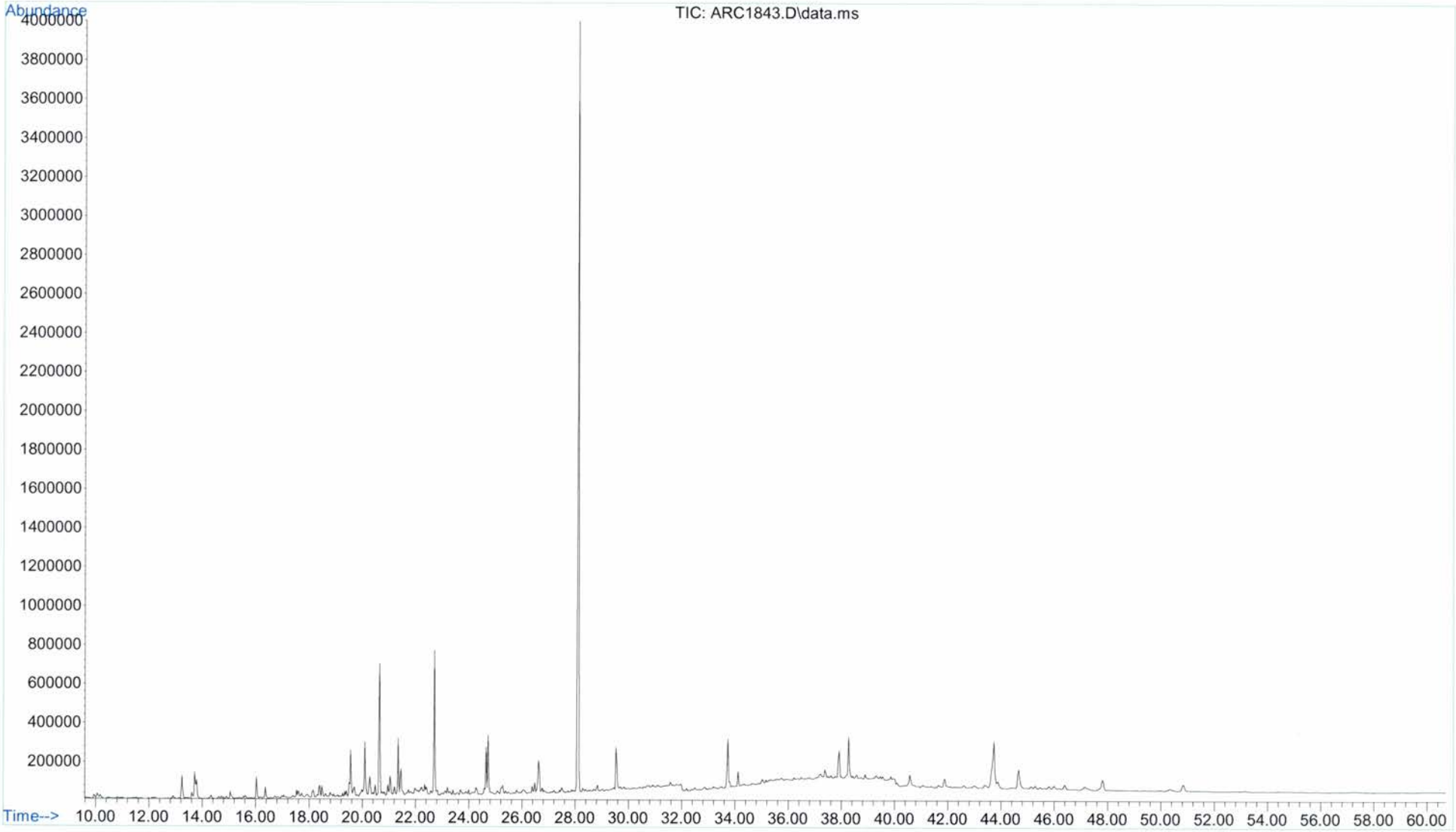
File :C:\GCMS7\MS70063\ARC1841.D
Operator : YM
Acquired : 5 Sep 2013 19:33 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SO-DA-003 (0-0.5)
Misc Info :
Vial Number: 22



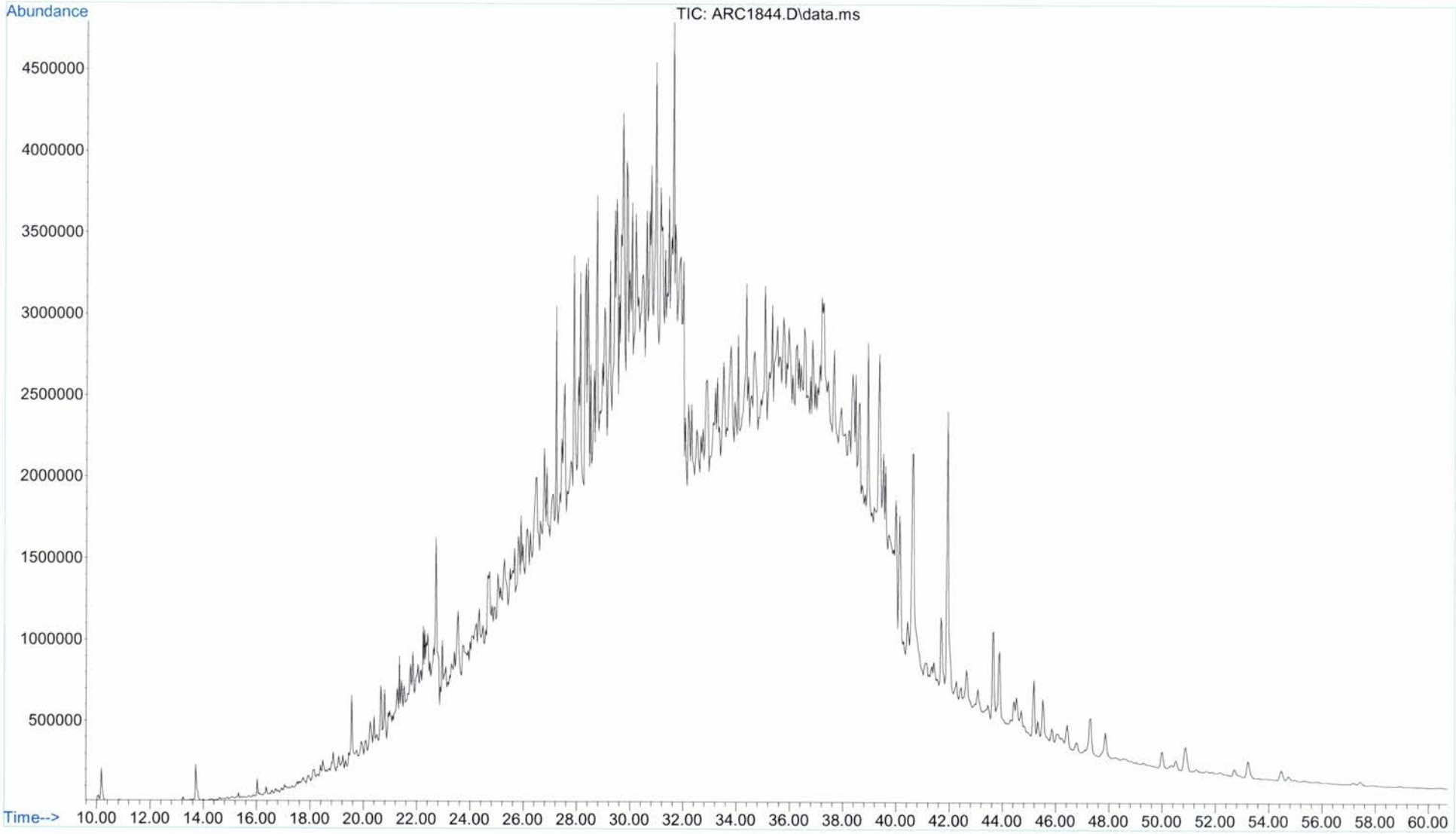
File :C:\GCMS7\MS70063\ARC1842.D
Operator : YM
Acquired : 5 Sep 2013 20:42 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SO-DA-003 (0.5-1.0)
Misc Info :
Vial Number: 23



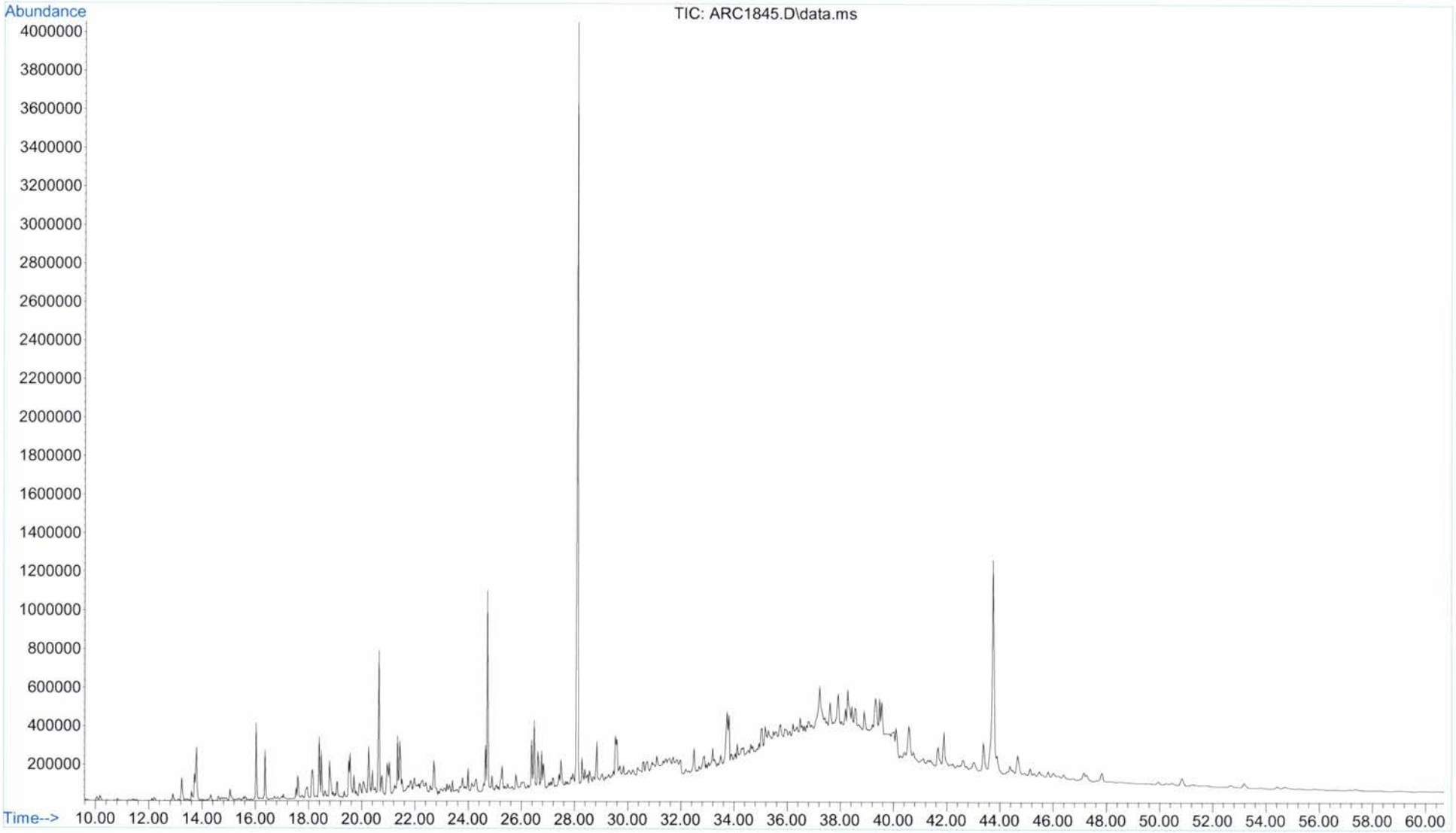
File :C:\GCMS7\MS70063\ARC1843.D
Operator : YM
Acquired : 5 Sep 2013 21:50 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SO-DA-003 (1.0-1.5)
Misc Info :
Vial Number: 24



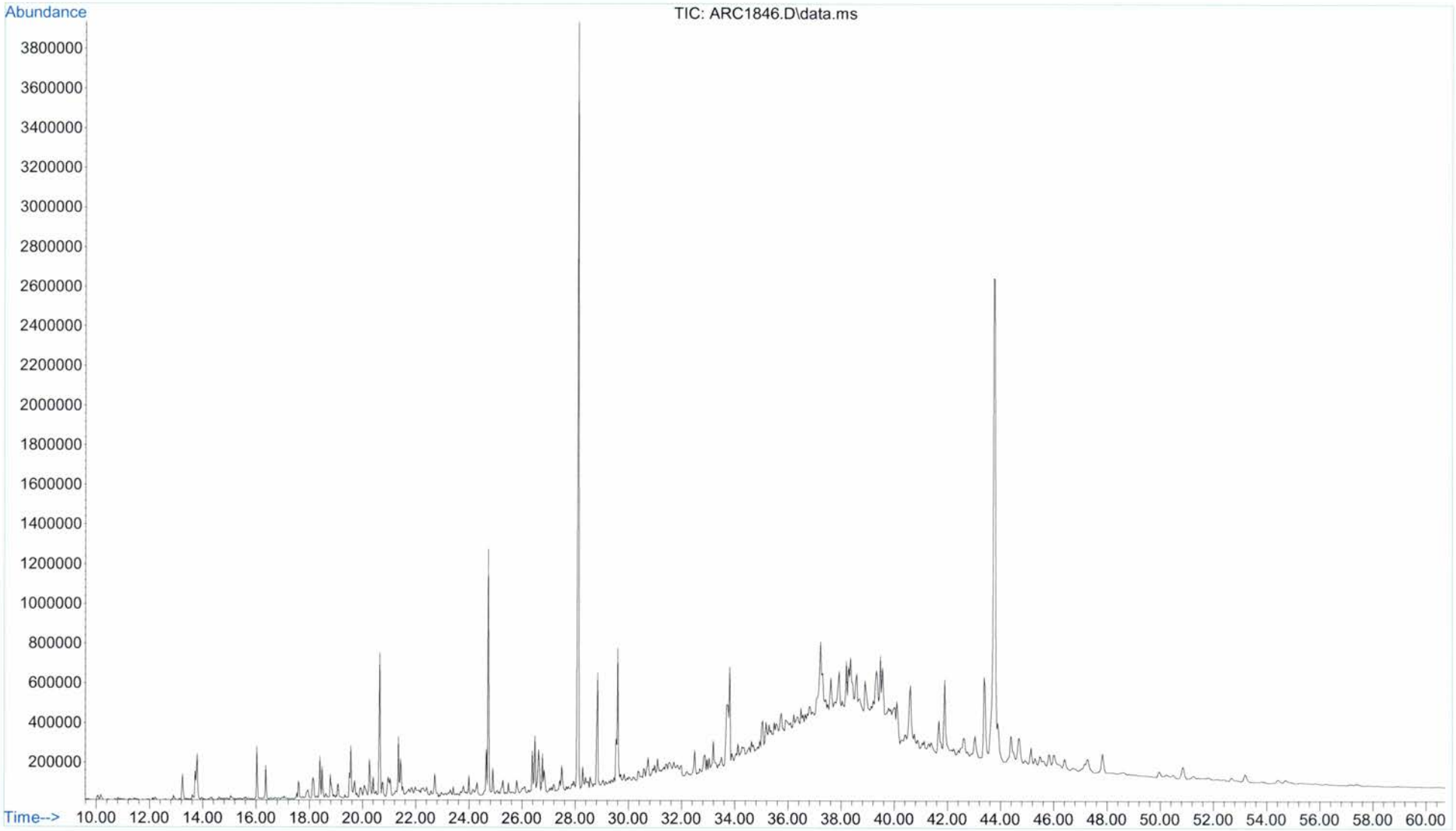
File :C:\GCMS7\MS70063\ARC1844.D
Operator : YM
Acquired : 5 Sep 2013 22:59 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SO-DA-004 (0-0.5)
Misc Info :
Vial Number: 25



File :C:\GCMS7\MS70063\ARC1845.D
Operator : YM
Acquired : 6 Sep 2013 00:07 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SO-DA-004 (0.5-1.0)
Misc Info :
Vial Number: 26



File :C:\GCMS7\MS70063\ARC1846.D
Operator : YM
Acquired : 6 Sep 2013 1:16 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SO-DA-004 (1.0-1.5)
Misc Info :
Vial Number: 27



Total Petroleum Hydrocarbons/ Aliphatic Hydrocarbons Raw Data

B&B LABORATORIES ALIPHATICS/TEH QA FORM

Extraction Page: ENV 3095	Analyst: M. Dailey
Client: Arcadis Mayflower	Date: September 24, 2013
Job: #: J13034	Project Quality Manager: W Juan
SDG #: 13081301 and 13081401	Date: 09/24/13

Initial Calibration: No Failures	ICV No Failures
Surrogate Recoveries: No Failures	
Procedural Blank: No Failures	
Blank Spike: NA	
Blank Spike Duplicate: NA	
Laboratory Duplicate: No Failures	
Matrix Spike:	Eighteen (18) compounds were detected outside of the laboratory %recovery limits of 40-120%, however these compounds are outside of the limits due to high native concentrations of hydrocarbons in the sample. Peaks are qualifed with a "Y" - invalid spike
Matirx Spike Duplicate:	Eighteen (18) compounds were detected outside of the laboratory %recovery limits of 40-120%, however these compounds are outside of the limits due to high native concentrations of hydrocarbons in the sample. Peaks are qualifed with a "Y" - invalid spike
MC-252 Reference Oil No Failures	
Mass Discrimination Check (n-C36/n-C20 >0.7) No Failures	

FID Sequence Summary Report

B&B Laboratories, Inc.

Sequence name: FID30052 2013-08-28 16-20-48

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

Acquired by: Meghan Dailey

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

Line	Location	Sample Name	Datafile	Method	Injection Date
4	Vial 51	Solvent Blank	FID30053A.D	ALI2012.M	08/28/2013 19:55:04
5	Vial 52	AL-WKCC-25-024	FID30053B.D	ALI2012.M	08/28/2013 21:05:37
6	Vial 53	AL-SRM2779-20-01	FID30053C.D	ALI2012.M	08/28/2013 22:15:39
7	Vial 51	Solvent Blank	FID30053D.D	ALI2012.M	08/28/2013 23:26:04
8	Vial 54	AL-RetWin-001	FID30053E.D	ALI2012.M	08/29/2013 00:36:32
9	Vial 55	AL-WKPem-001	FID30053F.D	ALI2012.M	08/29/2013 01:47:02
10	Vial 56		ENV3095A.D	ALI2012.M	08/29/2013 02:57:26
11	Vial 57		ENV3095C.D	ALI2012.M	08/29/2013 04:08:04
12	Vial 58		ENV3095D.D	ALI2012.M	08/29/2013 05:18:38
13	Vial 59		ENV3095E.D	ALI2012.M	08/29/2013 06:29:14
14	Vial 60	AL-WKCC-25-024	FID30053G.D	ALI2012.M	08/29/2013 07:39:52
15	Vial 61		ARC1807.D	ALI2012.M	08/29/2013 08:50:31
16	Vial 62		ARC1810.D	ALI2012.M	08/29/2013 10:01:08
17	Vial 63		ARC1815.D	ALI2012.M	08/29/2013 11:11:36
18	Vial 64	AL-WKCC-25-024	FID30053H.D	ALI2012.M	08/29/2013 12:22:09

Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : FID30053B.D
Signal(s) : FID2B.CH
Acq On : 28-Aug-2013, 21:05:37
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 29 15:24:34 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 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	94	0.00
2		n-C8	1.051	1.040	1.0	93	0.00
3		n-C9	1.105	1.087	1.6	92	0.00
4		n-C10	1.163	1.149	1.2	93	0.00
5		n-C11	1.160	1.149	0.9	93	0.00
6	S	n-dodecane-d26	1.075	1.059	1.5	94	0.00
7		n-C12	1.198	1.191	0.6	94	0.00
10		n-C13	1.185	1.177	0.7	94	0.00
12		n-C14	1.213	1.206	0.6	94	0.00
14		n-C15	1.221	1.212	0.7	94	0.00
15		n-C16	1.227	1.218	0.7	94	0.00
16	I	5a-androstane	1.000	1.000	0.0	94	-0.01
18		n-C17	1.000	1.001	-0.1	94	0.00
19		Pristane	0.995	0.995	0.0	94	0.00
20		n-C18	0.986	0.984	0.2	94	0.00
21		Phytane	1.005	1.003	0.2	94	0.00
22		n-C19	0.984	0.981	0.3	94	0.00
23	S	n-eicosane-d42	0.790	0.782	1.0	94	0.00
24		n-C20	0.991	0.987	0.4	94	0.00
25		n-C21	1.002	0.998	0.4	94	0.00
26		n-C22	1.006	0.998	0.8	94	0.00
27		n-C23	1.011	1.003	0.8	93	0.00
28		n-C24	1.009	1.003	0.6	93	0.00
29		n-C25	1.009	1.001	0.8	93	0.00
30		n-C26	1.004	0.998	0.6	93	0.00
31		n-C27	0.971	0.969	0.2	93	0.00
32		n-C28	0.980	0.975	0.5	93	0.00
33		n-C29	0.971	0.971	0.0	92	0.00
34	S	n-triacontane-d62	0.747	0.745	0.3	93	0.00
35		n-C30	0.961	0.962	-0.1	93	0.00
36		n-C31	0.948	0.946	0.2	93	0.00
37		n-C32	0.935	0.945	-1.1	93	0.00
38		n-C33	0.917	0.924	-0.8	93	0.00
39		n-C34	0.939	0.941	-0.2	92	0.00
40		n-C35	0.929	0.930	-0.1	92	0.00
41		n-C36	1.024	1.008	1.6	91	0.00
42		n-C37	0.941	0.918	2.4	90	0.00
43		n-C38	0.953	0.907	4.8	88	0.00

44	n-C39	0.922	0.862	6.5	86	0.00
45	n-C40	0.870	0.803	7.7	85	0.00

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.019	0.000	100.0#	0#	-8.61#
9	i-14	0.019	0.000	100.0#	0#	-9.30#
11	i-15	0.020	0.000	100.0#	0#	-10.45#
13	i-16	0.020	0.000	100.0#	0#	-11.33#
17	i-18	0.020	0.000	100.0#	0#	-13.21#
46	TPH	0.019	0.000	100.0#	0#	-27.90#
47	TRH1	0.019	0.000	100.0#	0#	-7.44#
48	TRH2	0.019	0.000	100.0#	0#	-15.29#
49	TRH3	0.019	0.000	100.0#	0#	-22.45#
50	TRH4	0.019	0.000	100.0#	0#	-27.27#
51	TRH5	0.019	0.000	100.0#	0#	-32.05#
52	TRH6	0.019	0.000	100.0#	0#	-43.06#
53	GRO	0.019	0.000	100.0#	0#	-5.06#
54	DRO	0.019	0.000	100.0#	0#	-13.74#
55	RRO	0.019	0.000	100.0#	0#	-31.70#

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

FID3C08BACK082713.M Thu Aug 29 15:25:04 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : FID30053B.D
Signal(s) : FID2B.CH
Acq On : 28-Aug-2013, 21:05:37
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 29 15:24:34 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 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	12.431	365422	50.000	ug/mlm
16) I	5a-androstane	17.417	453773	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.211	193510	24.622	ug/mlm
23) S	n-eicosane-d42	16.886	178287	24.914	ug/mlm
34) S	n-triacontane-d62	28.639	169025	24.962	ug/mlm
Target Compounds					
2)	n-C8	3.182	190154	24.750	ug/mlm
3)	n-C9	4.452	198610	24.596	ug/mlm
4)	n-C10	5.835	209865	24.692	ug/mlm
5)	n-C11	7.169	210173	24.801	ug/mlm
7)	n-C12	8.415	213951	24.438	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	9.575	215336	24.854	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.661	219055	24.701	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.682	220409	24.692	ug/mlm
15)	n-C16	12.668	220286	24.562	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.715	223955	24.716	ug/mlm
19)	Pristane	13.826	223510	24.784	ug/mlm
20)	n-C18	14.838	223092	24.966	ug/mlm
21)	Phytane	14.993	226622	24.877	ug/mlm
22)	n-C19	16.031	222091	24.898	ug/mlm
24)	n-C20	17.273	223961	24.932	ug/mlm
25)	n-C21	18.542	224024	24.682	ug/mlm
26)	n-C22	19.820	226331	24.834	ug/mlm
27)	n-C23	21.089	224954	24.552	ug/mlm
28)	n-C24	22.337	224641	24.567	ug/mlm
29)	n-C25	23.559	225904	24.712	ug/mlm
30)	n-C26	24.751	226573	24.914	ug/mlm
31)	n-C27	25.905	219677	24.959	ug/mlm
32)	n-C28	27.027	220897	24.862	ug/mlm
33)	n-C29	28.117	220153	25.006	ug/mlm
35)	n-C30	29.171	217028	24.911	ug/mlm
36)	n-C31	30.193	214371	24.964	ug/mlm
37)	n-C32	31.186	211414	24.942	ug/mlm
38)	n-C33	32.150	209421	25.214	ug/mlm
39)	n-C34	33.088	212762	25.011	ug/mlm
40)	n-C35	34.004	210790	25.036	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : FID30053B.D
Signal(s) : FID2B.CH
Acq On : 28-Aug-2013, 21:05:37
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 29 15:24:34 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.000	223831	24.115	ug/mlm
42)	n-C37	36.143	208238	24.424	ug/mlm
43)	n-C38	37.460	205743	23.810	ug/mlm
44)	n-C39	39.008	195415	23.389	ug/mlm
45)	n-C40	40.827	181551	23.031	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

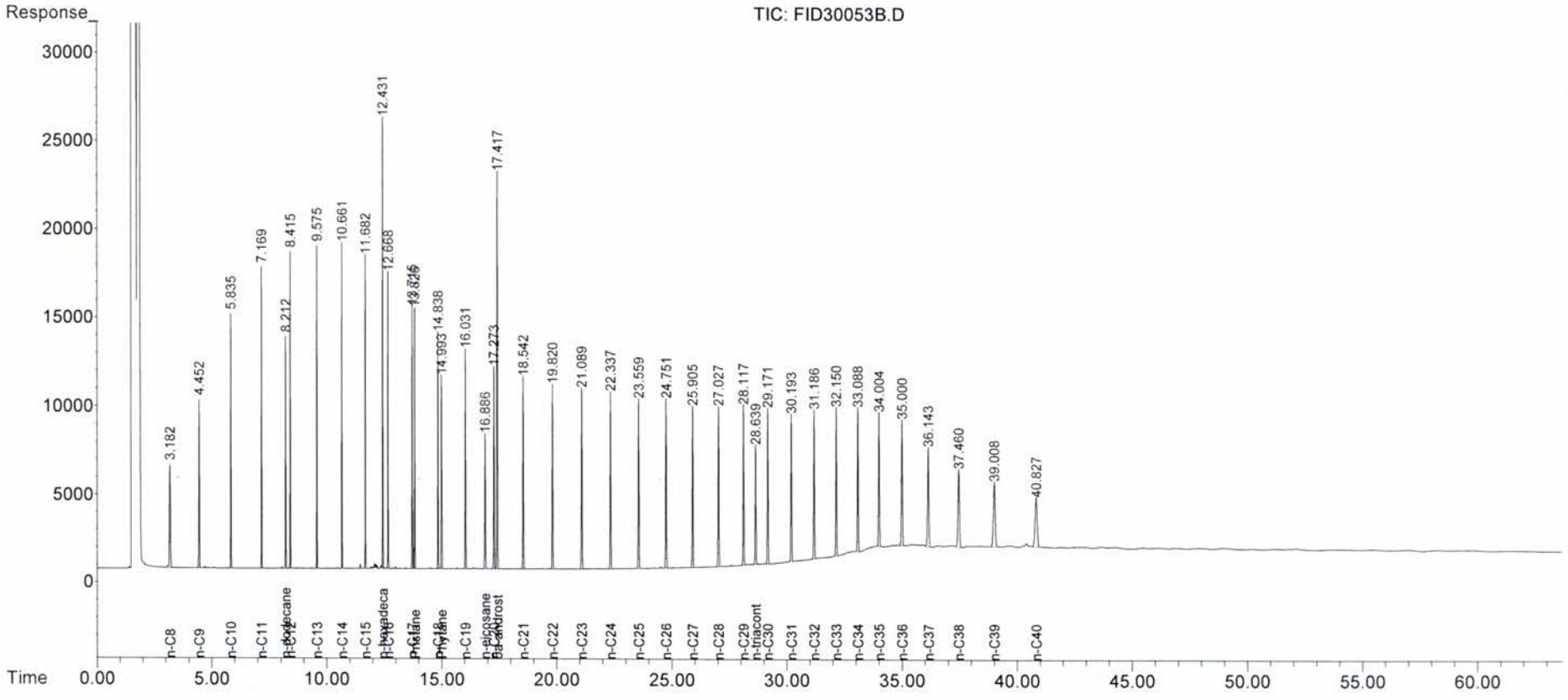
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : FID30053B.D
Signal(s) : FID2B.CH
Acq On : 28-Aug-2013, 21:05:37
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 29 15:24:34 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : FID30053G.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 07:39:52
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 29 15:34:49 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 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	93	0.00
2		n-C8	1.051	1.045	0.6	91	0.00
3		n-C9	1.105	1.099	0.5	91	0.00
4		n-C10	1.163	1.162	0.1	92	0.00
5		n-C11	1.160	1.160	0.0	93	0.00
6	S	n-dodecane-d26	1.075	1.067	0.7	93	0.00
7		n-C12	1.198	1.203	-0.4	93	0.00
10		n-C13	1.185	1.185	0.0	93	0.00
12		n-C14	1.213	1.213	0.0	93	0.00
14		n-C15	1.221	1.216	0.4	93	0.00
15		n-C16	1.227	1.221	0.5	93	0.00
16	I	5a-androstane	1.000	1.000	0.0	92	0.00
18		n-C17	1.000	1.004	-0.4	92	0.00
19		Pristane	0.995	0.998	-0.3	92	0.00
20		n-C18	0.986	0.985	0.1	92	0.00
21		Phytane	1.005	1.004	0.1	92	0.00
22		n-C19	0.984	0.983	0.1	92	0.00
23	S	n-eicosane-d42	0.790	0.777	1.6	92	0.00
24		n-C20	0.991	0.986	0.5	92	0.00
25		n-C21	1.002	0.996	0.6	92	0.00
26		n-C22	1.006	0.991	1.5	91	0.00
27		n-C23	1.011	0.996	1.5	91	0.00
28		n-C24	1.009	0.993	1.6	90	0.00
29		n-C25	1.009	0.992	1.7	90	0.00
30		n-C26	1.004	0.988	1.6	90	0.00
31		n-C27	0.971	0.959	1.2	90	0.00
32		n-C28	0.980	0.967	1.3	90	0.00
33		n-C29	0.971	0.974	-0.3	91	0.00
34	S	n-triacontane-d62	0.747	0.742	0.7	90	0.00
35		n-C30	0.961	0.959	0.2	90	0.00
36		n-C31	0.948	0.956	-0.8	92	0.00
37		n-C32	0.935	0.941	-0.6	91	0.00
38		n-C33	0.917	0.919	-0.2	90	0.00
39		n-C34	0.939	0.947	-0.9	91	0.00
40		n-C35	0.929	0.937	-0.9	91	0.00
41		n-C36	1.024	1.008	1.6	89	0.00
42		n-C37	0.941	0.912	3.1	88	0.00
43		n-C38	0.953	0.879	7.8	84	0.01

44	n-C39	0.922	0.874	5.2	85	0.00
45	n-C40	0.870	0.803	7.7	83	0.02

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.019	0.000	100.0#	0#	-8.61#
9	i-14	0.019	0.000	100.0#	0#	-9.30#
11	i-15	0.020	0.000	100.0#	0#	-10.45#
13	i-16	0.020	0.000	100.0#	0#	-11.33#
17	i-18	0.020	0.000	100.0#	0#	-13.21#
46	TPH	0.019	0.000	100.0#	0#	-27.90#
47	TRH1	0.019	0.000	100.0#	0#	-7.44#
48	TRH2	0.019	0.000	100.0#	0#	-15.29#
49	TRH3	0.019	0.000	100.0#	0#	-22.45#
50	TRH4	0.019	0.000	100.0#	0#	-27.27#
51	TRH5	0.019	0.000	100.0#	0#	-32.05#
52	TRH6	0.019	0.000	100.0#	0#	-43.06#
53	GRO	0.019	0.000	100.0#	0#	-5.06#
54	DRO	0.019	0.000	100.0#	0#	-13.74#
55	RRO	0.019	0.000	100.0#	0#	-31.70#

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

FID3C08BACK082713.M Thu Aug 29 15:34:55 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : FID30053G.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 07:39:52
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 29 15:34:49 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 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	12.432	358395	50.000	ug/mlm
16)	I	5a-androstane	17.423	443935	50.072	ug/mlm
System Monitoring Compounds						
6)	S	n-dodecane-d26	8.212	191260	24.813	ug/mlm
23)	S	n-eicosane-d42	16.889	173334	24.758	ug/mlm
34)	S	n-triacontane-d62	28.646	164568	24.842	ug/mlm
Target Compounds						
2)		n-C8	3.181	187399	24.870	ug/mlm
3)		n-C9	4.453	196927	24.866	ug/mlm
4)		n-C10	5.835	208264	24.984	ug/mlm
5)		n-C11	7.169	208126	25.041	ug/mlm
7)		n-C12	8.416	211881	24.676	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	9.576	212682	25.029	ug/mlm
11)		i-15	0.000	0	N.D.	ug/mld
12)		n-C14	10.662	215993	24.834	ug/mlm
13)		i-16	0.000	0	N.D.	ug/mld
14)		n-C15	11.683	216912	24.777	ug/mlm
15)		n-C16	12.670	216624	24.628	ug/mlm
17)		i-18	0.000	0	N.D.	ug/mld
18)		n-C17	13.717	219972	24.814	ug/mlm
19)		Pristane	13.827	219236	24.848	ug/mlm
20)		n-C18	14.841	218454	24.989	ug/mlm
21)		Phytane	14.994	222080	24.919	ug/mlm
22)		n-C19	16.034	217728	24.949	ug/mlm
24)		n-C20	17.276	218995	24.920	ug/mlm
25)		n-C21	18.547	218766	24.637	ug/mlm
26)		n-C22	19.824	219989	24.673	ug/mlm
27)		n-C23	21.095	218474	24.373	ug/mlm
28)		n-C24	22.342	217637	24.329	ug/mlm
29)		n-C25	23.564	219172	24.507	ug/mlm
30)		n-C26	24.756	219279	24.646	ug/mlm
31)		n-C27	25.912	212557	24.685	ug/mlm
32)		n-C28	27.033	214433	24.669	ug/mlm
33)		n-C29	28.120	216241	25.106	ug/mlm
35)		n-C30	29.177	211698	24.838	ug/mlm
36)		n-C31	30.201	211996	25.234	ug/mlm
37)		n-C32	31.194	205851	24.824	ug/mlm
38)		n-C33	32.157	203658	25.063	ug/mlm
39)		n-C34	33.092	209454	25.168	ug/mlm
40)		n-C35	34.009	207758	25.222	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : FID30053G.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 07:39:52
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 29 15:34:49 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.009	218953	24.112	ug/mlm
42)	n-C37	36.150	202310	24.254	ug/mlm
43)	n-C38	37.476	195055	23.073	ug/mlm
44)	n-C39	39.022	193831	23.713	ug/mlm
45)	n-C40	40.844	177708	23.043	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

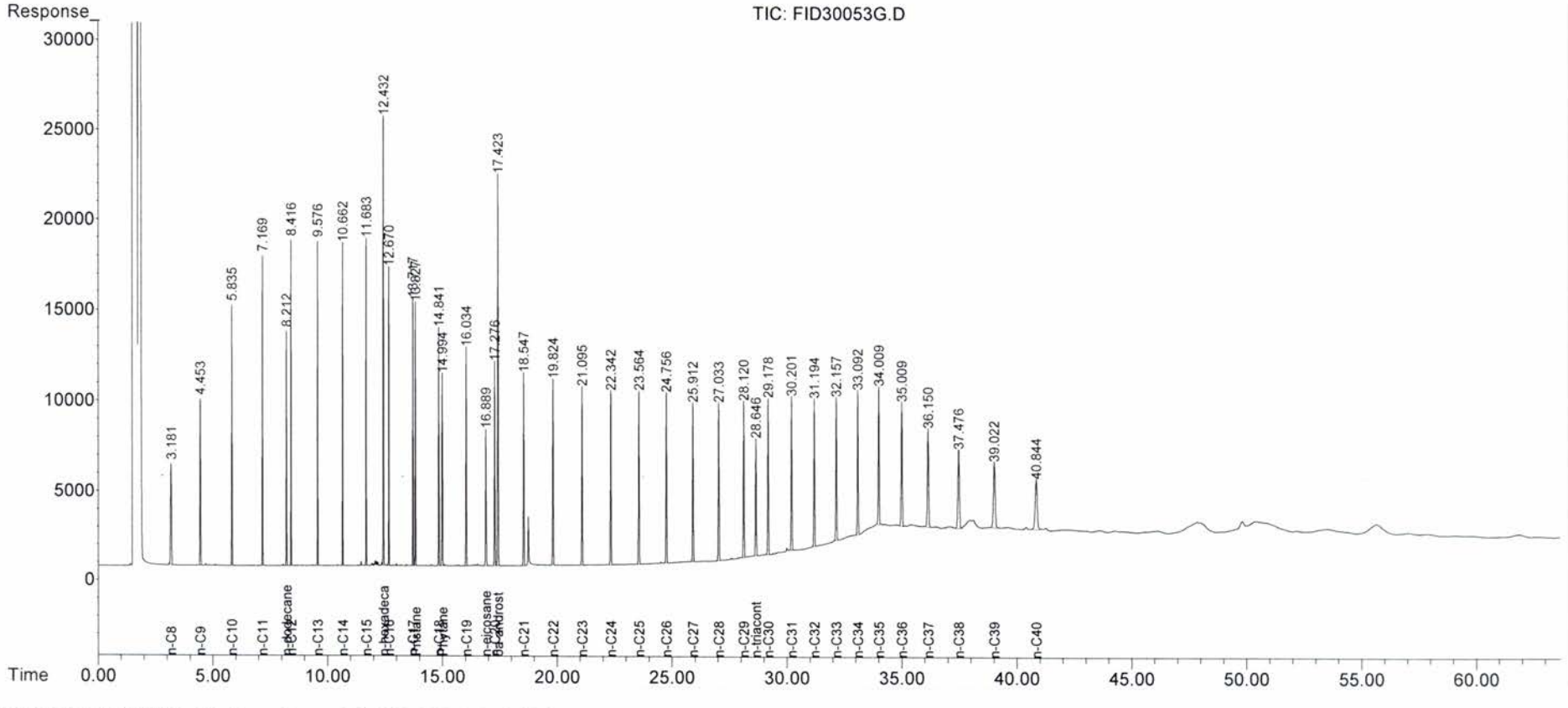
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : FID30053G.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 07:39:52
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 29 15:34:49 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : FID30053H.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 12:22:09
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 64 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 29 15:39:53 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	n-hexadecane-d34	1.000	1.000	0.0	97	0.00
2		n-C8	1.051	1.030	2.0	94	0.00
3		n-C9	1.105	1.092	1.2	94	0.00
4		n-C10	1.163	1.162	0.1	96	0.00
5		n-C11	1.160	1.162	-0.2	97	0.00
6	S	n-dodecane-d26	1.075	1.066	0.8	97	0.00
7		n-C12	1.198	1.204	-0.5	97	0.00
10		n-C13	1.185	1.185	0.0	97	0.00
12		n-C14	1.213	1.213	0.0	97	0.00
14		n-C15	1.221	1.220	0.1	97	0.00
15		n-C16	1.227	1.223	0.3	97	0.00
16	I	5a-androstane	1.000	1.000	0.0	96	0.00
18		n-C17	1.000	1.008	-0.8	97	0.00
19		Pristane	0.995	1.001	-0.6	96	0.00
20		n-C18	0.986	0.988	-0.2	96	0.00
21		Phytane	1.005	1.005	0.0	96	0.00
22		n-C19	0.984	0.983	0.1	96	0.00
23	S	n-eicosane-d42	0.790	0.781	1.1	96	0.00
24		n-C20	0.991	0.987	0.4	96	0.00
25		n-C21	1.002	0.994	0.8	95	0.00
26		n-C22	1.006	0.991	1.5	95	0.00
27		n-C23	1.011	0.994	1.7	94	0.00
28		n-C24	1.009	0.991	1.8	94	0.00
29		n-C25	1.009	0.988	2.1	93	0.01
30		n-C26	1.004	0.987	1.7	93	0.01
31		n-C27	0.971	0.956	1.5	93	0.01
32		n-C28	0.980	0.970	1.0	94	0.01
33		n-C29	0.971	0.969	0.2	94	0.01
34	S	n-triacontane-d62	0.747	0.737	1.3	93	0.00
35		n-C30	0.961	0.959	0.2	94	0.01
36		n-C31	0.948	0.964	-1.7	96	0.01
37		n-C32	0.935	0.945	-1.1	95	0.01
38		n-C33	0.917	0.929	-1.3	95	0.02
39		n-C34	0.939	0.951	-1.3	95	0.01
40		n-C35	0.929	0.944	-1.6	95	0.01
41		n-C36	1.024	1.011	1.3	93	0.02
42		n-C37	0.941	0.927	1.5	93	0.02
43		n-C38	0.953	0.903	5.2	90	0.03

44	n-C39	0.922	0.870	5.6	88	0.03
45	n-C40	0.870	0.791	9.1	85	0.05

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.019	0.000	100.0#	0#	-8.61#
9	i-14	0.019	0.000	100.0#	0#	-9.30#
11	i-15	0.020	0.000	100.0#	0#	-10.45#
13	i-16	0.020	0.000	100.0#	0#	-11.33#
17	i-18	0.020	0.000	100.0#	0#	-13.21#
46	TPH	0.019	0.000	100.0#	0#	-27.90#
47	TRH1	0.019	0.000	100.0#	0#	-7.44#
48	TRH2	0.019	0.000	100.0#	0#	-15.29#
49	TRH3	0.019	0.000	100.0#	0#	-22.45#
50	TRH4	0.019	0.000	100.0#	0#	-27.27#
51	TRH5	0.019	0.000	100.0#	0#	-32.05#
52	TRH6	0.019	0.000	100.0#	0#	-43.06#
53	GRO	0.019	0.000	100.0#	0#	-5.06#
54	DRO	0.019	0.000	100.0#	0#	-13.74#
55	RRO	0.019	0.000	100.0#	0#	-31.70#

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

FID3C08BACK082713.M Thu Aug 29 15:40:01 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : FID30053H.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 12:22:09
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 64 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 29 15:39:53 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 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	12.435	374114	50.000	ug/mlm
16)	I	5a-androstane	17.429	462087	50.072	ug/mlm
System Monitoring Compounds						
6)	S	n-dodecane-d26	8.213	199454	24.789	ug/mlm
23)	S	n-eicosane-d42	16.893	181268	24.875	ug/mlm
34)	S	n-triacontane-d62	28.651	170319	24.701	ug/mlm
Target Compounds						
2)		n-C8	3.181	192849	24.518	ug/mlm
3)		n-C9	4.453	204273	24.710	ug/mlm
4)		n-C10	5.836	217387	24.982	ug/mlm
5)		n-C11	7.171	217664	25.088	ug/mlm
7)		n-C12	8.417	221256	24.685	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	9.578	222016	25.030	ug/mlm
11)		i-15	0.000	0	N.D.	ug/mld
12)		n-C14	10.663	225456	24.832	ug/mlm
13)		i-16	0.000	0	N.D.	ug/mld
14)		n-C15	11.685	227043	24.844	ug/mlm
15)		n-C16	12.672	226483	24.667	ug/mlm
17)		i-18	0.000	0	N.D.	ug/mld
18)		n-C17	13.720	229710	24.895	ug/mlm
19)		Pristane	13.830	229019	24.938	ug/mlm
20)		n-C18	14.844	228208	25.079	ug/mlm
21)		Phytane	14.999	231355	24.940	ug/mlm
22)		n-C19	16.039	226581	24.944	ug/mlm
24)		n-C20	17.280	228015	24.927	ug/mlm
25)		n-C21	18.551	227211	24.583	ug/mlm
26)		n-C22	19.830	228816	24.655	ug/mlm
27)		n-C23	21.099	227052	24.335	ug/mlm
28)		n-C24	22.348	226077	24.280	ug/mlm
29)		n-C25	23.571	227108	24.397	ug/mlm
30)		n-C26	24.762	227981	24.618	ug/mlm
31)		n-C27	25.918	220708	24.625	ug/mlm
32)		n-C28	27.040	223786	24.734	ug/mlm
33)		n-C29	28.131	223782	24.961	ug/mlm
35)		n-C30	29.185	220291	24.831	ug/mlm
36)		n-C31	30.209	222394	25.432	ug/mlm
37)		n-C32	31.199	215219	24.934	ug/mlm
38)		n-C33	32.166	214283	25.335	ug/mlm
39)		n-C34	33.101	219078	25.291	ug/mlm
40)		n-C35	34.018	217844	25.408	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : FID30053H.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 12:22:09
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 64 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 29 15:39:53 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.019	228555	24.181	ug/mlm
42)	n-C37	36.164	213946	24.642	ug/mlm
43)	n-C38	37.493	208762	23.725	ug/mlm
44)	n-C39	39.040	200830	23.604	ug/mlm
45)	n-C40	40.871	182220	22.700	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

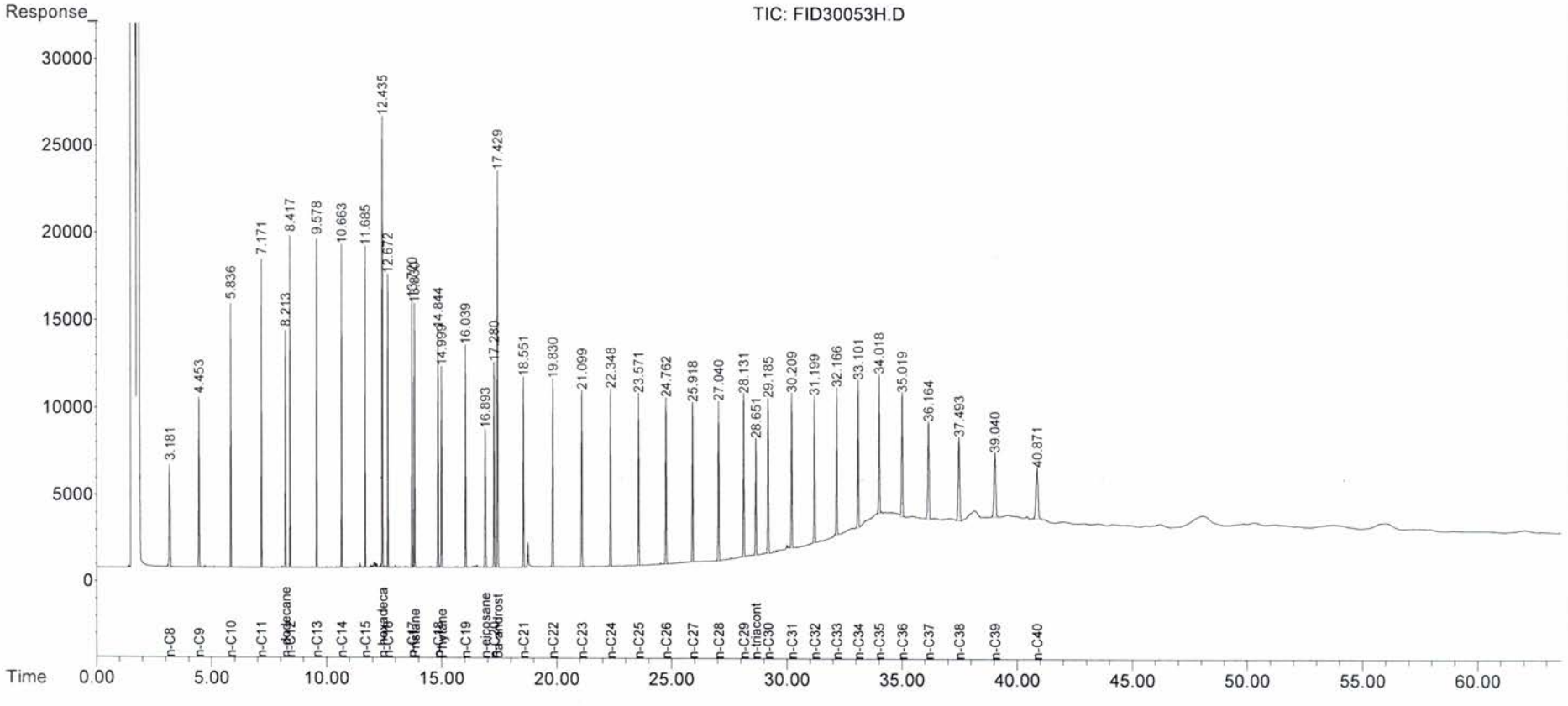
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : FID30053H.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 12:22:09
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 64 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 29 15:39:53 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**FID30053C.D**		FID30053C.D
Sample Name	**AL-SRM2779-20-01**		AL-SRM2779-20-01
Misc Info	**0**		28-Aug-2013, 22:15:39
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3095\FID30053**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**28-Aug-2013, 22:15:39**		0.05
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	53
Vial Number	**53**	IS Area 1	343286
Sample Multiplier	**0.05**	IS Area 2	507236

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.19	2506980	17.37	17.368
3)	n-C9	4.46	2275870	15.00	15.001
4)	n-C10	5.85	2070150	12.96	12.964
5)	n-C11	7.18	1894330	11.90	11.898
7)	n-C12	8.43	1753340	10.66	10.659
8)	i-13	8.61	429237	2.64	2.637
9)	i-14	9.30	310545	1.86	1.864
10)	n-C13	9.59	1375650	8.45	8.451
11)	i-15	10.45	327105	1.95	1.950
12)	n-C14	10.68	1283270	7.70	7.702
13)	i-16	11.34	538410	3.20	3.195
14)	n-C15	11.70	1349550	8.05	8.047
15)	n-C16	12.68	998500	5.93	5.926
17)	i-18	13.21	289434	1.45	1.449
18)	n-C17	13.73	1008930	4.98	4.980
19)	Pristane	13.83	531239	2.63	2.635
20)	n-C18	14.86	873889	4.37	4.374
21)	Phytane	15.00	336362	1.65	1.652
22)	n-C19	16.05	651880	3.27	3.269
24)	n-C20	17.29	579100	2.88	2.884
25)	n-C21	18.56	512652	2.53	2.526
26)	n-C22	19.84	441112	2.16	2.165
27)	n-C23	21.11	397992	1.94	1.943
28)	n-C24	22.35	356571	1.74	1.744
29)	n-C25	23.57	260368	1.27	1.274
30)	n-C26	24.76	239988	1.18	1.180
31)	n-C27	25.92	190329	0.97	0.967
32)	n-C28	27.04	165573	0.83	0.834
33)	n-C29	28.12	153422	0.78	0.779
35)	n-C30	29.18	133890	0.69	0.687
36)	n-C31	30.20	111386	0.58	0.580
37)	n-C32	31.19	91626.9	0.48	0.484
38)	n-C33	32.15	86257.5	0.46	0.465
39)	n-C34	33.09	88697.1	0.47	0.466
40)	n-C35	34.01	68027.9	0.36	0.361
41)	n-C36	35.01	45210.4	0.22	0.218
42)	n-C37	36.15	38199.2	0.20	0.200
43)	n-C38	37.47	31558.4	0.16	0.163
44)	n-C39	39.02	29338.2	0.16	0.157
45)	n-C40	40.82	27209.6	0.15	0.154
46)	TPH	7.18	130975000	673.69	673.685
47)	TRH1	7.18	22229700	114.34	114.341
48)	TRH2	11.70	15624000	80.36	80.364
49)	TRH3	21.11	2352030	12.10	12.098
50)	TRH4	25.92	1737760	8.94	8.938
51)	TRH5	31.19	1496820	7.70	7.699
52)	TRH6	35.01	461871	2.38	2.376
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	8.21	147505	1.00	99.9
23)	n-eicosane-d42	16.89	157823	0.99	98.8
34)	n-triacontane-d62	28.65	146562	0.97	96.9
1)	n-hexadecane-d34	12.44	343286	2.50	343286.000
16)	5a-androstane	17.43	507236	50.15	507236.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : FID30053C.D
Signal(s) : FID2B.CH
Acq On : 28-Aug-2013, 22:15:39
Operator : Meghan Dailey
Sample : AL-SRM2779-20-01
Misc :
ALS Vial : 53 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Aug 29 16:37:30 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 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	12.437	343286	50.000 ug/mlm
16) I	5a-androstane	17.432	507236	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.215	147505	0.999 ug/mlm
23) S	n-eicosane-d42	16.893	157823	0.986 ug/mlm
34) S	n-triacontane-d62	28.648	146562	0.968 ug/mlm
Target Compounds				
2)	n-C8	3.188	2506978	17.368 ug/mlm
3)	n-C9	4.463	2275869	15.001 ug/mlm
4)	n-C10	5.849	2070151	12.963 ug/mlm
5)	n-C11	7.185	1894330	11.898 ug/mlm
7)	n-C12	8.431	1753339	10.659 ug/mlm
8)	i-13	8.607	429237	2.637 ug/mlm
9)	i-14	9.301	310545	1.864 ug/mlm
10)	n-C13	9.591	1375649	8.451 ug/mlm
11)	i-15	10.446	327105	1.950 ug/mlm
12)	n-C14	10.676	1283273	7.702 ug/mlm
13)	i-16	11.336	538410	3.195 ug/mlm
14)	n-C15	11.698	1349552	8.047 ug/mlm
15)	n-C16	12.684	998500	5.926 ug/mlm
17)	i-18	13.210	289434	1.449 ug/mlm
18)	n-C17	13.732	1008931	4.980 ug/mlm
19)	Pristane	13.833	531239	2.635 ug/mlm
20)	n-C18	14.856	873889	4.374 ug/mlm
21)	Phytane	15.003	336362	1.652 ug/mlm
22)	n-C19	16.049	651880	3.269 ug/mlm
24)	n-C20	17.292	579100	2.884 ug/mlm
25)	n-C21	18.560	512652	2.526 ug/mlm
26)	n-C22	19.837	441112	2.165 ug/mlm
27)	n-C23	21.106	397992	1.943 ug/mlm
28)	n-C24	22.353	356571	1.744 ug/mlm
29)	n-C25	23.572	260368	1.274 ug/mlm
30)	n-C26	24.763	239988	1.180 ug/mlm
31)	n-C27	25.917	190329	0.967 ug/mlm
32)	n-C28	27.037	165573	0.834 ug/mlm
33)	n-C29	28.124	153422	0.779 ug/mlm
35)	n-C30	29.177	133890	0.687 ug/mlm
36)	n-C31	30.203	111386	0.580 ug/mlm
37)	n-C32	31.192	91627	0.484 ug/mlm
38)	n-C33	32.155	86257	0.465 ug/mlm
39)	n-C34	33.094	88697	0.466 ug/mlm
40)	n-C35	34.008	68028	0.361 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : FID30053C.D
Signal(s) : FID2B.CH
Acq On : 28-Aug-2013, 22:15:39
Operator : Meghan Dailey
Sample : AL-SRM2779-20-01
Misc :
ALS Vial : 53 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Aug 29 16:37:30 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.006	45210	0.218	ug/mlm
42)	n-C37	36.147	38199	0.200	ug/mlm
43)	n-C38	37.469	31558	0.163	ug/mlm
44)	n-C39	39.020	29338	0.157	ug/mlm
45)	n-C40	40.824	27210	0.154	ug/mlm
46)	TPH	7.185f	130975160	673.685	ug/mlm
47)	TRH1	7.185	22229688	114.341	ug/mlm
48)	TRH2	11.698f	15623968	80.364	ug/mlm
49)	TRH3	21.106f	2352032	12.098	ug/mlm
50)	TRH4	25.917f	1737757	8.938	ug/mlm
51)	TRH5	31.192	1496820	7.699	ug/mlm
52)	TRH6	35.006f	461871	2.376	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

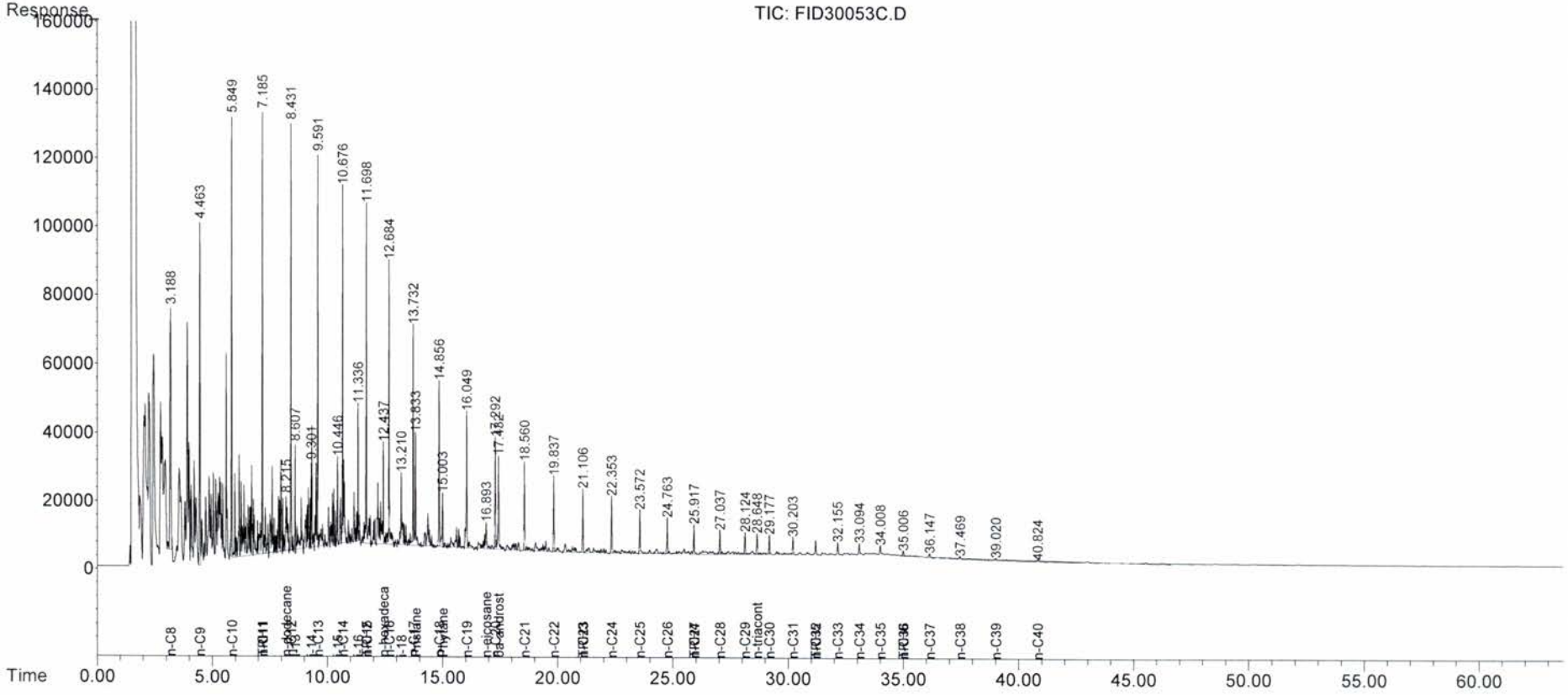
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : FID30053C.D
Signal(s) : FID2B.CH
Acq On : 28-Aug-2013, 22:15:39
Operator : Meghan Dailey
Sample : AL-SRM2779-20-01
Misc :
ALS Vial : 53 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Aug 29 16:37:30 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**FID30053F.D**		FID30053F.D
Sample Name	**AL-WKPem-001**		AL-WKPem-001
Misc Info	**0**		29-Aug-2013, 01:47:02
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3095\FID30053**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**29-Aug-2013, 01:47:02**		1
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	55
Vial Number	**55**	IS Area 1	419193
Sample Multiplier	**1**	IS Area 2	522491

#	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	12.43	15352700	1533.25	1533.250
47)	TRH1	8.21	186931	18.67	18.669
48)	TRH2	12.43	1193340	119.18	119.178
49)	TRH3	25.38	12118.1	1.21	1.210
50)	TRH4	28.63	193154	19.29	19.290
51)	TRH5	34.99	161697	16.15	16.149
52)	TRH6	35.57	50934.3	5.09	5.087
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	8.21	176159	19.54	97.7
23)	n-eicosane-d42	16.88	165035	20.03	100.3
34)	n-triacontane-d62	28.63	159443	20.45	102.3
1)	n-hexadecane-d34	12.43	419193	50.00	419193.000
16)	5a-androstane	17.41	522491	50.15	522491.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : FID30053F.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 01:47:02
Operator : Meghan Dailey
Sample : AL-WKPem-001
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 01 17:44:22 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 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	12.429	419193	50.000	ug/mlm
16) I	5a-androstane	17.414	522491	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.209	176159	19.539	ug/mlm
23) S	n-eicosane-d42	16.881	165035	20.029	ug/mlm
34) S	n-triacontane-d62	28.633	159443	20.450	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/ml
3)	n-C9	0.000	0	N.D.	ug/mld
4)	n-C10	0.000	0	N.D.	ug/mld
5)	n-C11	0.000	0	N.D.	ug/mld
7)	n-C12	0.000	0	N.D.	ug/mld
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	0.000	0	N.D.	ug/mld
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	0.000	0	N.D.	ug/mld
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	0.000	0	N.D.	ug/mld
15)	n-C16	0.000	0	N.D.	ug/mld
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	0.000	0	N.D.	ug/mld
19)	Pristane	0.000	0	N.D.	ug/mld
20)	n-C18	0.000	0	N.D.	ug/mld
21)	Phytane	0.000	0	N.D.	ug/mld
22)	n-C19	0.000	0	N.D.	ug/mld
24)	n-C20	0.000	0	N.D.	ug/mld
25)	n-C21	0.000	0	N.D.	ug/mld
26)	n-C22	0.000	0	N.D.	ug/mld
27)	n-C23	0.000	0	N.D.	ug/mld
28)	n-C24	0.000	0	N.D.	ug/mld
29)	n-C25	0.000	0	N.D.	ug/mld
30)	n-C26	0.000	0	N.D.	ug/mld
31)	n-C27	0.000	0	N.D.	ug/mld
32)	n-C28	0.000	0	N.D.	ug/mld
33)	n-C29	0.000	0	N.D.	ug/mld
35)	n-C30	0.000	0	N.D.	ug/mld
36)	n-C31	0.000	0	N.D.	ug/mld
37)	n-C32	0.000	0	N.D.	ug/mld
38)	n-C33	0.000	0	N.D.	ug/mld
39)	n-C34	0.000	0	N.D.	ug/mld
40)	n-C35	0.000	0	N.D.	ug/mld

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : FID30053F.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 01:47:02
Operator : Meghan Dailey
Sample : AL-WKPem-001
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 01 17:44:22 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 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	12.429f	15352666	1533.250	ug/mlm
47)	TRH1	8.209	186931	18.669	ug/mlm
48)	TRH2	12.429f	1193343	119.178	ug/mlm
49)	TRH3	25.381f	12118	1.210	ug/mlm
50)	TRH4	28.633f	193154	19.290	ug/mlm
51)	TRH5	34.994f	161697	16.148	ug/mlm
52)	TRH6	35.572f	50934	5.087	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/ml

SemiQuant Compounds - Not Calibrated on this Instrument

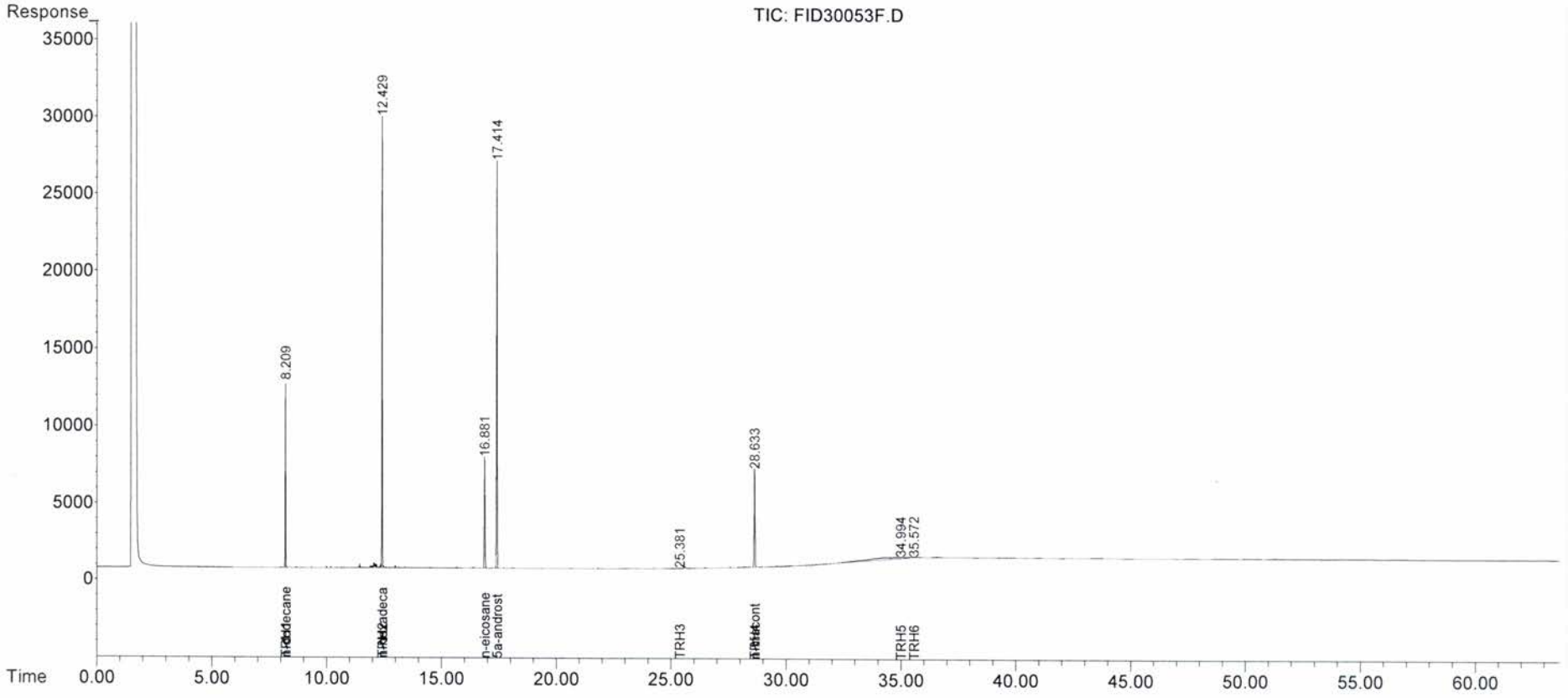
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : FID30053F.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 01:47:02
Operator : Meghan Dailey
Sample : AL-WKPem-001
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 01 17:44:22 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ENV3095A.D**		ENV3095A.D
Sample Name	**Procedural Blank**		Procedural Blank
Misc Info	**0**		29-Aug-2013, 02:57:26
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3095\FID30053**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**29-Aug-2013, 02:57:26**		0.0666667
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	56
Vial Number	**56**	IS Area 1	314862
Sample Multiplier	**0.0666667**	IS Area 2	395307

#	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	12.43	11165100	98.25	98.253
47)	TRH1	8.21	139912	1.23	1.231
48)	TRH2	12.43	923686	8.13	8.128
49)	TRH3	22.37	15944.6	0.14	0.140
50)	TRH4	28.63	121333	1.07	1.068
51)	TRH5	35.59	478094	4.21	4.207
52)	TRH6	37.40	37645.4	0.33	0.331
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	8.21	123191	1.21	91.0
23)	n-eicosane-d42	16.88	119952	1.28	96.4
34)	n-triacontane-d62	28.63	113377	1.28	96.1
1)	n-hexadecane-d34	12.43	314862	3.33	314862.000
16)	5a-androstane	17.41	395307	50.15	395307.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : ENV3095A.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 02:57:26
Operator : Meghan Dailey
Sample : Procedural Blank
Misc :
ALS Vial : 56 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Aug 29 16:19:48 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 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	12.428	314862	50.000	ug/mlm
16) I	5a-androstane	17.411	395307	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.209	123191	1.213	ug/mlm
23) S	n-eicosane-d42	16.879	119952	1.283	ug/mlm
34) S	n-triacontane-d62	28.628	113377	1.281	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/mld
3)	n-C9	0.000	0	N.D.	ug/mld
4)	n-C10	0.000	0	N.D.	ug/mld
5)	n-C11	0.000	0	N.D.	ug/mld
7)	n-C12	0.000	0	N.D.	ug/mld
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	0.000	0	N.D.	ug/mld
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	0.000	0	N.D.	ug/mld
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	0.000	0	N.D.	ug/mld
15)	n-C16	0.000	0	N.D.	ug/mld
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	0.000	0	N.D.	ug/mld
19)	Pristane	0.000	0	N.D.	ug/mld
20)	n-C18	0.000	0	N.D.	ug/mld
21)	Phytane	0.000	0	N.D.	ug/mld
22)	n-C19	0.000	0	N.D.	ug/mld
24)	n-C20	0.000	0	N.D.	ug/mld
25)	n-C21	0.000	0	N.D.	ug/mld
26)	n-C22	0.000	0	N.D.	ug/mld
27)	n-C23	0.000	0	N.D.	ug/mld
28)	n-C24	0.000	0	N.D.	ug/mld
29)	n-C25	0.000	0	N.D.	ug/mld
30)	n-C26	0.000	0	N.D.	ug/mld
31)	n-C27	0.000	0	N.D.	ug/mld
32)	n-C28	0.000	0	N.D.	ug/mld
33)	n-C29	0.000	0	N.D.	ug/mld
35)	n-C30	0.000	0	N.D.	ug/mld
36)	n-C31	0.000	0	N.D.	ug/mld
37)	n-C32	0.000	0	N.D.	ug/mld
38)	n-C33	0.000	0	N.D.	ug/mld
39)	n-C34	0.000	0	N.D.	ug/mld
40)	n-C35	0.000	0	N.D.	ug/mld

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : ENV3095A.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 02:57:26
Operator : Meghan Dailey
Sample : Procedural Blank
Misc :
ALS Vial : 56 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Aug 29 16:19:48 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 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	12.428f	11165070	98.253	ug/mlm
47)	TRH1	8.209	139912	1.231	ug/mlm
48)	TRH2	12.428f	923686	8.128	ug/mlm
49)	TRH3	22.370	15945	0.140	ug/mlm
50)	TRH4	28.628f	121333	1.068	ug/mlm
51)	TRH5	35.590f	478094	4.207	ug/mlm
52)	TRH6	37.397f	37645	0.331	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

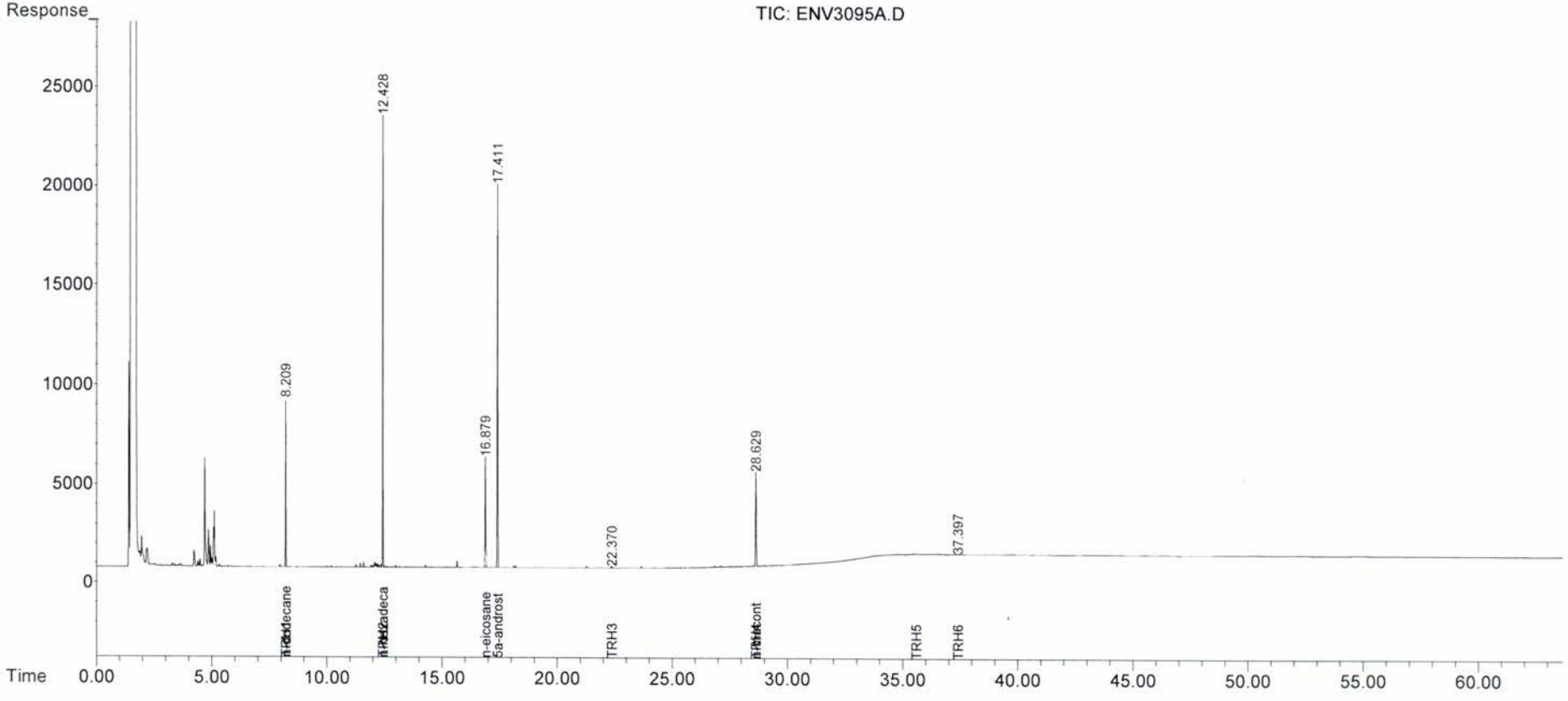
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : ENV3095A.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 02:57:26
Operator : Meghan Dailey
Sample : Procedural Blank
Misc :
ALS Vial : 56 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Aug 29 16:19:48 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ENV3095C.D**		ENV3095C.D
Sample Name	**MS (SED-DA-048 (0-0.5))**		MS (SED-DA-048 (0-0.5))
Misc Info	**0**		29-Aug-2013, 04:08:04
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3095\FID30053**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**29-Aug-2013, 04:08:04**		0.0666223
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	57
Vial Number	**57**	IS Area 1	266211
Sample Multiplier	**0.0666223**	IS Area 2	435702

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.18	13496.8	0.16	0.161
3)	n-C9	4.45	44166.8	0.50	0.500
4)	n-C10	5.83	58177.2	0.63	0.626
5)	n-C11	7.17	61532.3	0.66	0.664
7)	n-C12	8.41	74474.8	0.78	0.778
8)	i-13	8.60	9422.55	0.10	0.099
9)	i-14	9.29	24907.4	0.26	0.257
10)	n-C13	9.57	105142	1.11	1.110
11)	i-15	10.44	102088	1.05	1.046
12)	n-C14	10.66	149248	1.54	1.539
13)	i-16	11.33	158016	1.61	1.611
14)	n-C15	11.69	280203	2.87	2.871
15)	n-C16	12.68	291578	2.97	2.973
17)	i-18	13.21	224544	1.74	1.744
18)	n-C17	13.73	278496	2.13	2.133
19)	Pristane	13.84	378086	2.91	2.909
20)	n-C18	14.86	359530	2.79	2.792
21)	Phytane	15.01	401484	3.06	3.058
22)	n-C19	16.05	371711	2.89	2.891
24)	n-C20	17.30	250766	1.94	1.937
25)	n-C21	18.57	489133	3.74	3.739
26)	n-C22	19.85	315698	2.40	2.403
27)	n-C23	21.12	507426	3.84	3.843
28)	n-C24	22.37	223407	1.70	1.695
29)	n-C25	23.60	408199	3.10	3.098
30)	n-C26	24.78	177999	1.36	1.358
31)	n-C27	25.95	494667	3.90	3.900
32)	n-C28	27.06	188279	1.47	1.470
33)	n-C29	28.17	951395	7.50	7.498
35)	n-C30	29.22	195733	1.56	1.559
36)	n-C31	30.26	1157850	9.36	9.355
37)	n-C32	31.16	188180	1.54	1.540
38)	n-C33	32.19	2938950	24.55	24.551
39)	n-C34	33.08	128206	1.05	1.046
40)	n-C35	34.04	1207120	9.95	9.948
41)	n-C36	35.06	140010	1.05	1.047
42)	n-C37	36.19	270930	2.20	2.205
43)	n-C38	37.52	81190.6	0.65	0.652
44)	n-C39	39.08	126256	1.05	1.049
45)	n-C40	40.90	72086.1	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	8.21	110462	1.29	96.5
23)	n-eicosane-d42	16.91	120821	1.17	88.1
34)	n-triacontane-d62	28.68	99537.6	1.02	76.6
1)	n-hexadecane-d34	12.44	266211	3.33	266211.000
16)	5a-androstane	17.44	435702	50.15	435702.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : ENV3095C.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 04:08:04
Operator : Meghan Dailey
Sample : MS (SED-DA-048 (0-0.5))
Misc :
ALS Vial : 57 Sample Multiplier: 0.0666223

Integration File: autoint1.e
Quant Time: Sep 01 17:57:18 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 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	12.436	266211	50.000	ug/mlm
16) I	5a-androstane	17.444	435702	50.072	ug/mlm
	System Monitoring Compounds				
6) S	n-dodecane-d26	8.209	110462	1.285	ug/mlm
23) S	n-eicosane-d42	16.910	120821	1.171	ug/mlm
34) S	n-triacontane-d62	28.683	99538	1.020	ug/mlm
	Target Compounds				
2)	n-C8	3.177	13497	0.161	ug/mlm
3)	n-C9	4.452	44167	0.500	ug/mlm
4)	n-C10	5.833	58177	0.626	ug/mlm
5)	n-C11	7.166	61532	0.664	ug/mlm
7)	n-C12	8.412	74475	0.778	ug/mlm
8)	i-13	8.598	9423	0.099	ug/mlm
9)	i-14	9.292	24907	0.257	ug/mlm
10)	n-C13	9.573	105142	1.110	ug/mlm
11)	i-15	10.439	102088	1.046	ug/mlm
12)	n-C14	10.661	149248	1.539	ug/mlm
13)	i-16	11.330	158016	1.611	ug/mlm
14)	n-C15	11.686	280203	2.871	ug/mlm
15)	n-C16	12.677	291578	2.973	ug/mlm
17)	i-18	13.214	224544	1.744	ug/mlm
18)	n-C17	13.729	278496	2.133	ug/mlm
19)	Pristane	13.836	378086	2.909	ug/mlm
20)	n-C18	14.855	359530	2.792	ug/mlm
21)	Phytane	15.013	401484	3.058	ug/mlm
22)	n-C19	16.055	371711	2.891	ug/mlm
24)	n-C20	17.300	250766	1.937	ug/mlm
25)	n-C21	18.567	489133	3.739	ug/mlm
26)	n-C22	19.851	315698	2.403	ug/mlm
27)	n-C23	21.122	507426	3.843	ug/mlm
28)	n-C24	22.368	223407	1.695	ug/mlm
29)	n-C25	23.596	408199	3.098	ug/mlm
30)	n-C26	24.785	177999	1.358	ug/mlm
31)	n-C27	25.951f	494667	3.900	ug/mlm
32)	n-C28	27.063	188279	1.470	ug/mlm
33)	n-C29	28.174f	951395	7.498	ug/mlm
35)	n-C30	29.216	195733	1.559	ug/mlm
36)	n-C31	30.263f	1157847	9.355	ug/mlm
37)	n-C32	31.161	188180	1.540	ug/mlm
38)	n-C33	32.185	2938953	24.551	ug/mlm
39)	n-C34	33.081	128206	1.046	ug/mlm
40)	n-C35	34.040	1207122	9.948	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : ENV3095C.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 04:08:04
Operator : Meghan Dailey
Sample : MS (SED-DA-048 (0-0.5))
Misc :
ALS Vial : 57 Sample Multiplier: 0.0666223

Integration File: autoint1.e
Quant Time: Sep 01 17:57:18 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.056f	140010	1.047	ug/mlm
42)	n-C37	36.195	270930	2.205	ug/mlm
43)	n-C38	37.523	81191	0.652	ug/mlm
44)	n-C39	39.081	126256	1.048	ug/mlm
45)	n-C40	40.904	72086	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

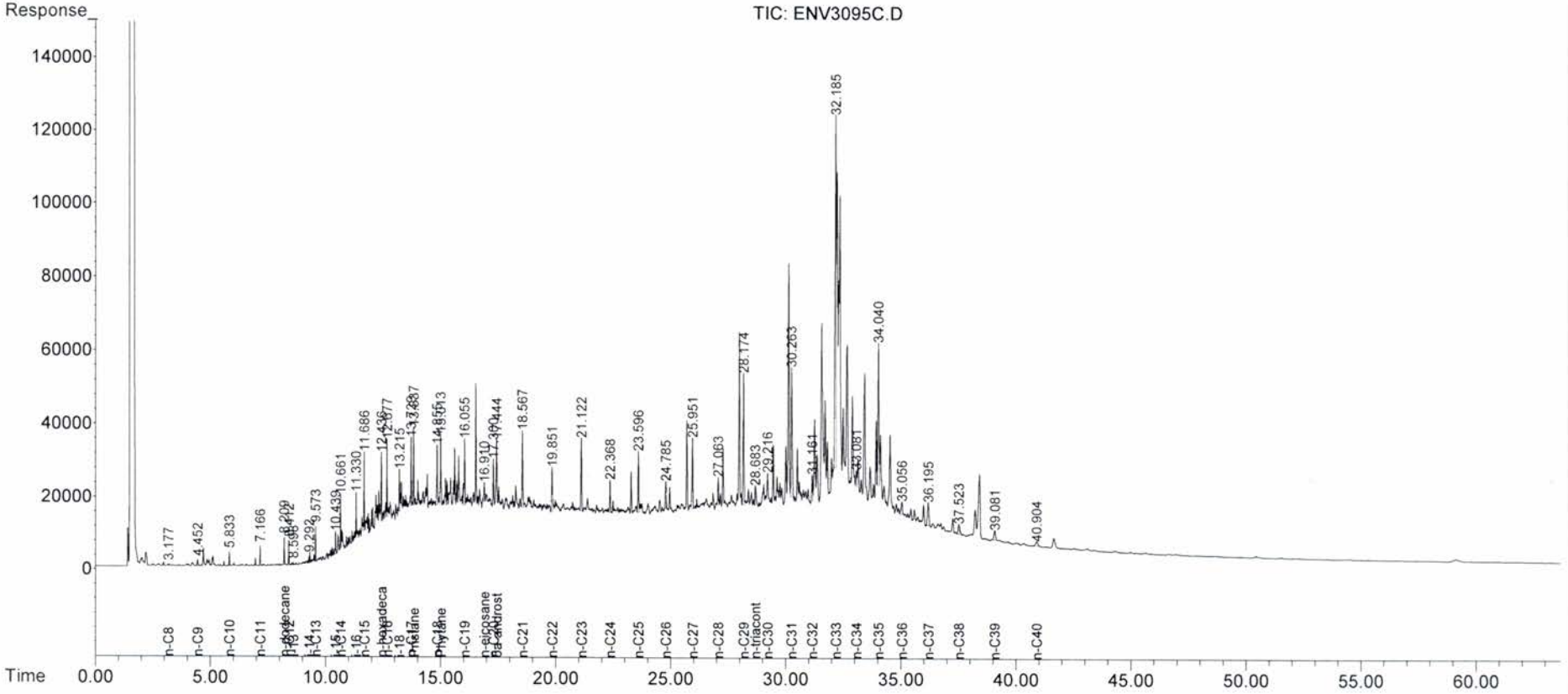
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : ENV3095C.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 04:08:04
Operator : Meghan Dailey
Sample : MS (SED-DA-048 (0-0.5))
Misc :
ALS Vial : 57 Sample Multiplier: 0.0666223

Integration File: autoint1.e
Quant Time: Sep 01 17:57:18 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ENV3095D.D**		ENV3095D.D
Sample Name	**MSD (SED-DA-048 (0-0.5))**		MSD (SED-DA-048 (0-0.5)
Misc Info	**0**		29-Aug-2013, 05:18:38
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3095\FID30053**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**29-Aug-2013, 05:18:38**		0.0664894
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	58
Vial Number	**58**	IS Area 1	299862
Sample Multiplier	**0.0664894**	IS Area 2	422761

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.18	16214	0.17	0.171
3)	n-C9	4.45	51947.2	0.52	0.521
4)	n-C10	5.83	65224.9	0.62	0.622
5)	n-C11	7.17	72714.7	0.70	0.695
7)	n-C12	8.41	88747	0.82	0.821
8)	i-13	8.60	19150.7	0.18	0.179
9)	i-14	9.30	35387.1	0.32	0.323
10)	n-C13	9.58	115730	1.08	1.082
11)	i-15	10.44	117244	1.06	1.064
12)	n-C14	10.66	153400	1.40	1.402
13)	i-16	11.33	164516	1.49	1.486
14)	n-C15	11.69	284144	2.58	2.579
15)	n-C16	12.68	287593	2.60	2.598
17)	i-18	13.22	195698	1.56	1.563
18)	n-C17	13.73	277182	2.18	2.183
19)	Pristane	13.84	370771	2.93	2.934
20)	n-C18	14.86	324174	2.59	2.589
21)	Phytane	15.02	412846	3.23	3.234
22)	n-C19	16.06	360540	2.88	2.885
24)	n-C20	17.30	253294	2.01	2.012
25)	n-C21	18.57	403702	3.17	3.174
26)	n-C22	19.85	268284	2.10	2.101
27)	n-C23	21.13	470663	3.67	3.666
28)	n-C24	22.37	206401	1.61	1.611
29)	n-C25	23.60	339150	2.65	2.648
30)	n-C26	24.79	158178	1.24	1.241
31)	n-C27	25.95	423505	3.43	3.434
32)	n-C28	27.07	181760	1.46	1.460
33)	n-C29	28.18	862408	6.99	6.991
35)	n-C30	29.22	174089	1.43	1.426
36)	n-C31	30.27	1005620	8.36	8.357
37)	n-C32	31.15	180138	1.52	1.517
38)	n-C33	32.17	2882800	24.77	24.770
39)	n-C34	33.08	127694	1.07	1.071
40)	n-C35	34.04	1133650	9.61	9.609
41)	n-C36	35.05	128113	0.99	0.985
42)	n-C37	36.19	255609	2.14	2.140
43)	n-C38	37.54	85980.6	0.71	0.710
44)	n-C39	39.09	132285	1.13	1.130
45)	n-C40	40.92	74582.7	0.68	0.675
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	8.21	112930	1.16	87.6
23)	n-eicosane-d42	16.91	113132	1.13	85.0
34)	n-triacontane-d62	28.69	123398	1.30	97.9
1)	n-hexadecane-d34	12.44	299862	3.32	299862.000
16)	5a-androstane	17.45	422761	50.15	422761.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : ENV3095D.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 05:18:38
Operator : Meghan Dailey
Sample : MSD (SED-DA-048 (0-0.5))
Misc :
ALS Vial : 58 Sample Multiplier: 0.0664894

Integration File: autoint1.e
Quant Time: Sep 01 17:58:22 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 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	12.440	299862	50.000 ug/mlm
16) I	5a-androstane	17.449	422761	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.212	112930	1.164 ug/mlm
23) S	n-eicosane-d42	16.912	113132	1.128 ug/mlm
34) S	n-triacontane-d62	28.687	123398	1.301 ug/mlm
Target Compounds				
2)	n-C8	3.180	16214	0.171 ug/mlm
3)	n-C9	4.454	51947	0.521 ug/mlm
4)	n-C10	5.835	65225	0.622 ug/mlm
5)	n-C11	7.168	72715	0.695 ug/mlm
7)	n-C12	8.414	88747	0.821 ug/mlm
8)	i-13	8.600	19151	0.179 ug/mlm
9)	i-14	9.295	35387	0.323 ug/mlm
10)	n-C13	9.576	115730	1.082 ug/mlm
11)	i-15	10.441	117244	1.064 ug/mlm
12)	n-C14	10.665	153400	1.402 ug/mlm
13)	i-16	11.333	164516	1.486 ug/mlm
14)	n-C15	11.689	284144	2.579 ug/mlm
15)	n-C16	12.679	287593	2.598 ug/mlm
17)	i-18	13.217	195698	1.563 ug/mlm
18)	n-C17	13.731	277182	2.183 ug/mlm
19)	Pristane	13.840	370771	2.934 ug/mlm
20)	n-C18	14.857	324174	2.589 ug/mlm
21)	Phytane	15.015	412846	3.234 ug/mlm
22)	n-C19	16.058	360540	2.885 ug/mlm
24)	n-C20	17.301	253294	2.012 ug/mlm
25)	n-C21	18.570	403702	3.174 ug/mlm
26)	n-C22	19.854	268284	2.101 ug/mlm
27)	n-C23	21.125	470663	3.666 ug/mlm
28)	n-C24	22.371	206401	1.611 ug/mlm
29)	n-C25	23.600	339150	2.648 ug/mlm
30)	n-C26	24.792f	158178	1.241 ug/mlm
31)	n-C27	25.952f	423505	3.434 ug/mlm
32)	n-C28	27.072f	181760	1.460 ug/mlm
33)	n-C29	28.178f	862408	6.991 ug/mlm
35)	n-C30	29.218	174089	1.426 ug/mlm
36)	n-C31	30.267f	1005623	8.357 ug/mlm
37)	n-C32	31.151	180138	1.517 ug/mlm
38)	n-C33	32.175	2882805	24.770 ug/mlm
39)	n-C34	33.081	127694	1.071 ug/mlm
40)	n-C35	34.036	1133649	9.609 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : ENV3095D.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 05:18:38
Operator : Meghan Dailey
Sample : MSD (SED-DA-048 (0-0.5))
Misc :
ALS Vial : 58 Sample Multiplier: 0.0664894

Integration File: autoint1.e
Quant Time: Sep 01 17:58:22 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.053f	128113	0.985	ug/mlm
42)	n-C37	36.194	255609	2.140	ug/mlm
43)	n-C38	37.543f	85981	0.710	ug/mlm
44)	n-C39	39.086	132285	1.130	ug/mlm
45)	n-C40	40.915	74583	0.675	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

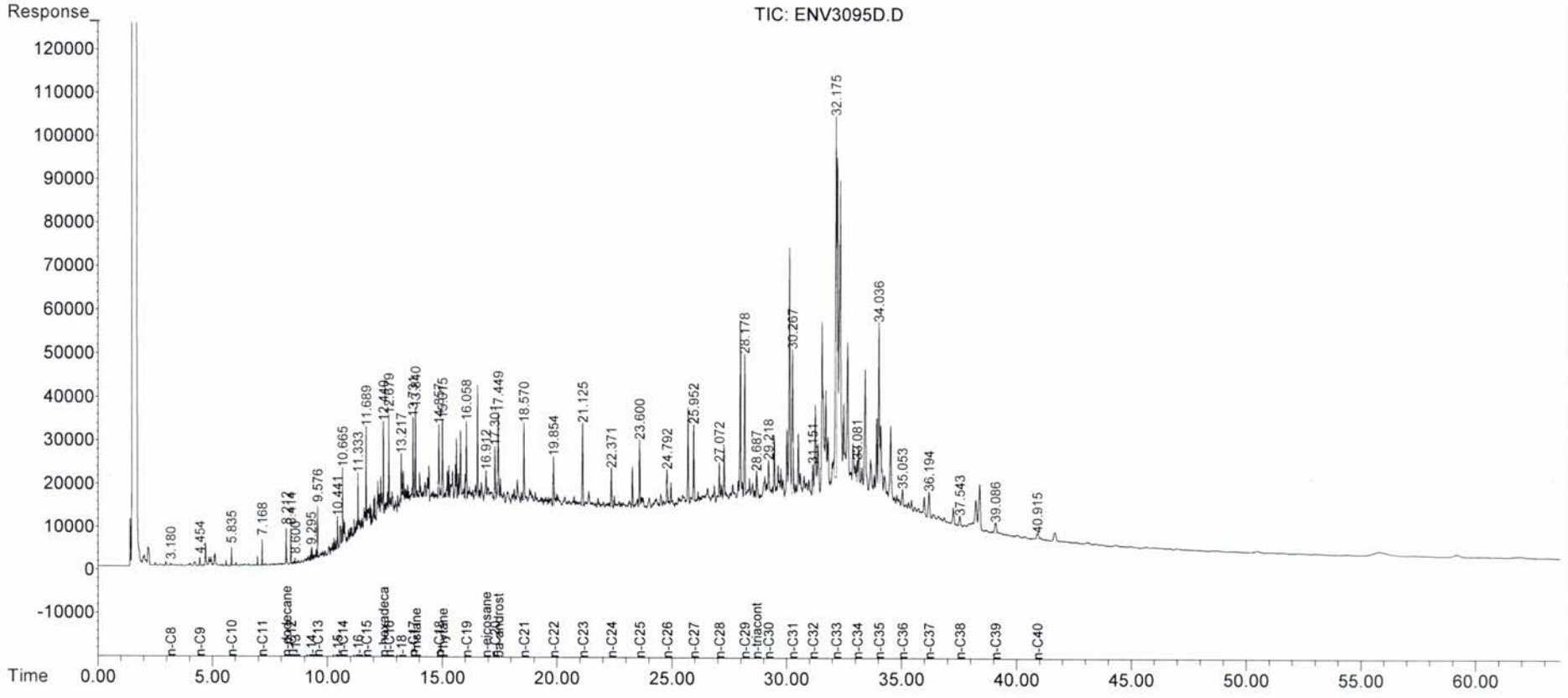
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : ENV3095D.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 05:18:38
Operator : Meghan Dailey
Sample : MSD (SED-DA-048 (0-0.5))
Misc :
ALS Vial : 58 Sample Multiplier: 0.0664894

Integration File: autoint1.e
Quant Time: Sep 01 17:58:22 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ENV3095E.D**		ENV3095E.D
Sample Name	**Dupl (SED-DA-047 (0-0.5))**		Dupl (SED-DA-047 (0-0.5)
Misc Info	**0**		29-Aug-2013, 06:29:14
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3095\FID30053**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**29-Aug-2013, 06:29:14**		0.0666667
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	59
Vial Number	**59**	IS Area 1	316051
Sample Multiplier	**0.0666667**	IS Area 2	417825

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	0.00	0	0.00	0.000
3)	n-C9	0.00	0	0.00	0.000
4)	n-C10	5.84	1329.65	0.01	0.012
5)	n-C11	7.17	1459.74	0.01	0.013
7)	n-C12	8.42	1697.06	0.01	0.015
8)	i-13	0.00	0	0.00	0.000
9)	i-14	9.30	13730.8	0.12	0.119
10)	n-C13	9.57	2157.73	0.02	0.019
11)	i-15	10.44	12635	0.11	0.109
12)	n-C14	10.66	7733.54	0.07	0.067
13)	i-16	11.33	18591.4	0.16	0.160
14)	n-C15	11.69	15502.3	0.13	0.134
15)	n-C16	12.67	13264.9	0.11	0.114
17)	i-18	13.21	33197.5	0.27	0.269
18)	n-C17	13.72	6269.41	0.05	0.050
19)	Pristane	13.83	69710.1	0.56	0.560
20)	n-C18	14.83	73124.3	0.59	0.592
21)	Phytane	15.00	90676.9	0.72	0.721
22)	n-C19	16.05	45083.5	0.37	0.366
24)	n-C20	17.30	21284.4	0.17	0.172
25)	n-C21	18.56	47941.3	0.38	0.382
26)	n-C22	19.86	33723.3	0.27	0.268
27)	n-C23	21.10	82071.8	0.65	0.649
28)	n-C24	22.35	26313.8	0.21	0.208
29)	n-C25	23.58	100844	0.80	0.799
30)	n-C26	24.79	33053	0.26	0.263
31)	n-C27	25.94	325540	2.68	2.678
32)	n-C28	27.05	80919.3	0.66	0.659
33)	n-C29	28.16	696236	5.73	5.726
35)	n-C30	29.20	97806.3	0.81	0.813
36)	n-C31	30.24	555036	4.68	4.680
37)	n-C32	31.23	111651	0.95	0.954
38)	n-C33	32.14	1083640	9.45	9.446
39)	n-C34	33.06	87892.9	0.75	0.748
40)	n-C35	34.00	574735	4.94	4.942
41)	n-C36	35.00	37655.2	0.29	0.294
42)	n-C37	36.17	122686	1.04	1.042
43)	n-C38	37.50	14501.6	0.12	0.122
44)	n-C39	39.06	19741.9	0.17	0.171
45)	n-C40	0.00	0	0.00	0.000
46)	TPH	32.13	217843000	1813.70	1813.701
47)	TRH1	8.21	347730	2.90	2.895
48)	TRH2	12.44	4797130	39.94	39.940
49)	TRH3	28.16	13212500	110.00	110.004
50)	TRH4	32.13	17276300	143.84	143.838
51)	TRH5	38.39	2322310	19.33	19.335
52)	TRH6	47.99	834096	6.94	6.944
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	8.21	127920	1.25	94.1
23)	n-eicosane-d42	16.90	126712	1.28	96.3
34)	n-triacontane-d62	28.68	119993	1.28	96.3
1)	n-hexadecane-d34	12.44	316051	3.33	316051.000
16)	5a-androstane	17.44	417825	50.15	417825.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : ENV3095E.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 06:29:14
Operator : Meghan Dailey
Sample : Dupl (SED-DA-047 (0-0.5))
Misc :
ALS Vial : 59 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Sep 01 18:00:02 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 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	12.435	316051	50.000	ug/mlm
16) I	5a-androstane	17.438	417825	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.212	127920	1.255	ug/mlm
23) S	n-eicosane-d42	16.901	126712	1.282	ug/mlm
34) S	n-triacontane-d62	28.676	119993	1.283	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/mld
3)	n-C9	0.000	0	N.D.	ug/mld
4)	n-C10	5.836	1330	0.012	ug/mlm
5)	n-C11	7.169	1460	0.013	ug/mlm
7)	n-C12	8.415	1697	0.015	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	9.299	13731	0.119	ug/mlm
10)	n-C13	9.573	2158	0.019	ug/mlm
11)	i-15	10.438	12635	0.109	ug/mlm
12)	n-C14	10.665	7734	0.067	ug/mlm
13)	i-16	11.330	18591	0.160	ug/mlm
14)	n-C15	11.685	15502	0.134	ug/mlm
15)	n-C16	12.671	13265	0.114	ug/mlm
17)	i-18	13.211	33197	0.269	ug/mlm
18)	n-C17	13.724	6269	0.050	ug/mlm
19)	Pristane	13.825	69710	0.560	ug/mlm
20)	n-C18	14.833	73124	0.592	ug/mlm
21)	Phytane	15.002	90677	0.721	ug/mlm
22)	n-C19	16.045	45084	0.366	ug/mlm
24)	n-C20	17.302	21284	0.172	ug/mlm
25)	n-C21	18.557	47941	0.382	ug/mlm
26)	n-C22	19.857	33723	0.268	ug/mlm
27)	n-C23	21.097	82072	0.649	ug/mlm
28)	n-C24	22.351	26314	0.208	ug/mlm
29)	n-C25	23.584	100844	0.799	ug/mlm
30)	n-C26	24.787	33053	0.263	ug/mlm
31)	n-C27	25.938	325540	2.678	ug/mlm
32)	n-C28	27.053	80919	0.659	ug/mlm
33)	n-C29	28.162f	696236	5.726	ug/mlm
35)	n-C30	29.200	97806	0.813	ug/mlm
36)	n-C31	30.239	555036	4.680	ug/mlm
37)	n-C32	31.230	111651	0.954	ug/mlm
38)	n-C33	32.145	1083643	9.446	ug/mlm
39)	n-C34	33.061	87893	0.748	ug/mlm
40)	n-C35	34.003	574735	4.942	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : ENV3095E.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 06:29:14
Operator : Meghan Dailey
Sample : Dupl (SED-DA-047 (0-0.5))
Misc :
ALS Vial : 59 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Sep 01 18:00:02 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.996	37655	0.294	ug/mlm
42)	n-C37	36.170	122686	1.042	ug/mlm
43)	n-C38	37.496	14502	0.122	ug/mlm
44)	n-C39	39.060	19742	0.171	ug/mlm
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	32.132	217842562	1813.701	ug/mlm
47)	TRH1	8.212	347730	2.895	ug/mlm
48)	TRH2	12.435f	4797125	39.940	ug/mlm
49)	TRH3	28.162f	13212547	110.004	ug/mlm
50)	TRH4	32.132f	17276320	143.838	ug/mlm
51)	TRH5	38.393f	2322307	19.335	ug/mlm
52)	TRH6	47.986f	834096	6.944	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

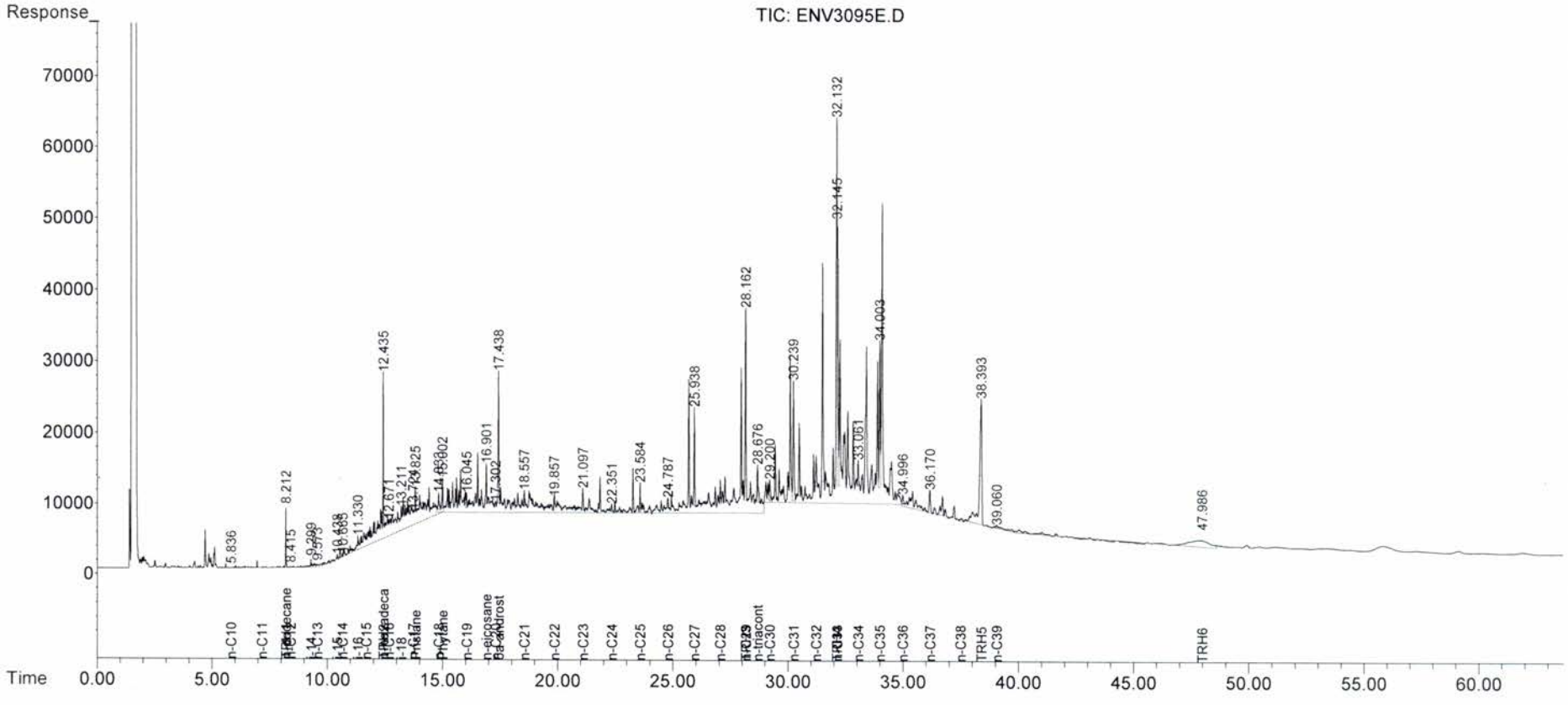
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : ENV3095E.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 06:29:14
Operator : Meghan Dailey
Sample : Dupl (SED-DA-047 (0-0.5))
Misc :
ALS Vial : 59 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Sep 01 18:00:02 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC1807.D**		ARC1807.D
Sample Name	**SED-DA-047 (0-0.5)**		SED-DA-047 (0-0.5)
Misc Info	**0**		29-Aug-2013, 08:50:31
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3095\FID30053**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**29-Aug-2013, 08:50:31**		0.0666667
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	61
Vial Number	**61**	IS Area 1	357061
Sample Multiplier	**0.0666667**	IS Area 2	436880

#	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	7.17	1549.65	0.01	0.012
7)	n-C12	8.41	1892.27	0.01	0.015
8)	i-13	8.60	1249.62	0.01	0.010
9)	i-14	9.30	8141.97	0.06	0.063
10)	n-C13	9.57	2309.35	0.02	0.018
11)	i-15	10.44	14355.4	0.11	0.110
12)	n-C14	10.66	8536.58	0.07	0.066
13)	i-16	11.33	21205.2	0.16	0.161
14)	n-C15	11.68	16275.8	0.12	0.124
15)	n-C16	12.66	15392.9	0.12	0.117
17)	i-18	13.21	32565.5	0.25	0.252
18)	n-C17	13.72	7069.68	0.05	0.054
19)	Pristane	13.83	79151.2	0.61	0.608
20)	n-C18	14.83	69538.2	0.54	0.539
21)	Phytane	15.00	98261	0.75	0.747
22)	n-C19	16.04	41109.1	0.32	0.319
24)	n-C20	17.30	25102.4	0.19	0.194
25)	n-C21	18.56	51423.9	0.39	0.392
26)	n-C22	19.85	34045.9	0.26	0.259
27)	n-C23	21.10	95294.8	0.72	0.720
28)	n-C24	22.35	29180.2	0.22	0.221
29)	n-C25	23.58	99700.6	0.76	0.755
30)	n-C26	24.78	30863.7	0.24	0.235
31)	n-C27	25.94	335491	2.64	2.639
32)	n-C28	27.06	87540.9	0.68	0.682
33)	n-C29	28.16	789947	6.21	6.213
35)	n-C30	29.20	93475.9	0.74	0.743
36)	n-C31	30.24	641613	5.17	5.174
37)	n-C32	31.23	107633	0.88	0.879
38)	n-C33	32.18	1075920	8.97	8.970
39)	n-C34	33.06	94295.9	0.77	0.768
40)	n-C35	34.01	648735	5.34	5.335
41)	n-C36	35.00	41857	0.31	0.312
42)	n-C37	36.17	132950	1.08	1.080
43)	n-C38	37.49	14235	0.11	0.114
44)	n-C39	39.08	21765	0.18	0.180
45)	n-C40	0.00	0	0.00	0.000
46)	TPH	32.14	224304000	1786.04	1786.041
47)	TRH1	8.21	302078	2.41	2.405
48)	TRH2	12.44	6734910	53.63	53.627
49)	TRH3	28.16	11918500	94.90	94.902
50)	TRH4	32.14	17892900	142.47	142.474
51)	TRH5	38.40	2329740	18.55	18.551
52)	TRH6	41.65	327839	2.61	2.610
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	8.21	142513	1.24	92.8
23)	n-eicosane-d42	16.90	128155	1.24	93.2
34)	n-triacontane-d62	28.67	116838	1.19	89.7
1)	n-hexadecane-d34	12.44	357061	3.33	357061.000
16)	5a-androstane	17.44	436880	50.15	436880.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : ARC1807.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 08:50:31
Operator : Meghan Dailey
Sample : SED-DA-047 (0-0.5)
Misc :
ALS Vial : 61 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Sep 01 18:12:52 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 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	12.435	357061	50.000	ug/mlm
16) I	5a-androstane	17.438	436880	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.210	142513	1.237	ug/mlm
23) S	n-eicosane-d42	16.902	128155	1.240	ug/mlm
34) S	n-triacontane-d62	28.674	116838	1.195	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	7.166	1550	0.012	ug/mlm
7)	n-C12	8.413	1892	0.015	ug/mlm
8)	i-13	8.603	1250	0.010	ug/mlm
9)	i-14	9.296	8142	0.063	ug/mlm
10)	n-C13	9.572	2309	0.018	ug/mlm
11)	i-15	10.439	14355	0.110	ug/mlm
12)	n-C14	10.664	8537	0.066	ug/mlm
13)	i-16	11.331	21205	0.161	ug/mlm
14)	n-C15	11.684	16276	0.124	ug/mlm
15)	n-C16	12.664	15393	0.117	ug/mlm
17)	i-18	13.210	32566	0.252	ug/mlm
18)	n-C17	13.723	7070	0.054	ug/mlm
19)	Pristane	13.827	79151	0.608	ug/mlm
20)	n-C18	14.833	69538	0.539	ug/mlm
21)	Phytane	15.002	98261	0.747	ug/mlm
22)	n-C19	16.043	41109	0.319	ug/mlm
24)	n-C20	17.302	25102	0.194	ug/mlm
25)	n-C21	18.555	51424	0.392	ug/mlm
26)	n-C22	19.853	34046	0.259	ug/mlm
27)	n-C23	21.098	95295	0.720	ug/mlm
28)	n-C24	22.352	29180	0.221	ug/mlm
29)	n-C25	23.583	99701	0.755	ug/mlm
30)	n-C26	24.778	30864	0.235	ug/mlm
31)	n-C27	25.940	335491	2.639	ug/mlm
32)	n-C28	27.056	87541	0.682	ug/mlm
33)	n-C29	28.163f	789947	6.213	ug/mlm
35)	n-C30	29.203	93476	0.743	ug/mlm
36)	n-C31	30.240	641613	5.174	ug/mlm
37)	n-C32	31.234	107633	0.879	ug/mlm
38)	n-C33	32.177	1075917	8.970	ug/mlm
39)	n-C34	33.062	94296	0.768	ug/mlm
40)	n-C35	34.006	648735	5.335	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : ARC1807.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 08:50:31
Operator : Meghan Dailey
Sample : SED-DA-047 (0-0.5)
Misc :
ALS Vial : 61 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Sep 01 18:12:52 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.000	41857	0.312	ug/mlm
42)	n-C37	36.172	132950	1.080	ug/mlm
43)	n-C38	37.486	14235	0.114	ug/mlm
44)	n-C39	39.077	21765	0.180	ug/mlm
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	32.137	224304130	1786.044	ug/mlm
47)	TRH1	8.210	302078	2.405	ug/mlm
48)	TRH2	12.435f	6734910	53.627	ug/mlm
49)	TRH3	28.163f	11918483	94.902	ug/mlm
50)	TRH4	32.137f	17892900	142.474	ug/mlm
51)	TRH5	38.404f	2329744	18.551	ug/mlm
52)	TRH6	41.647	327839	2.610	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

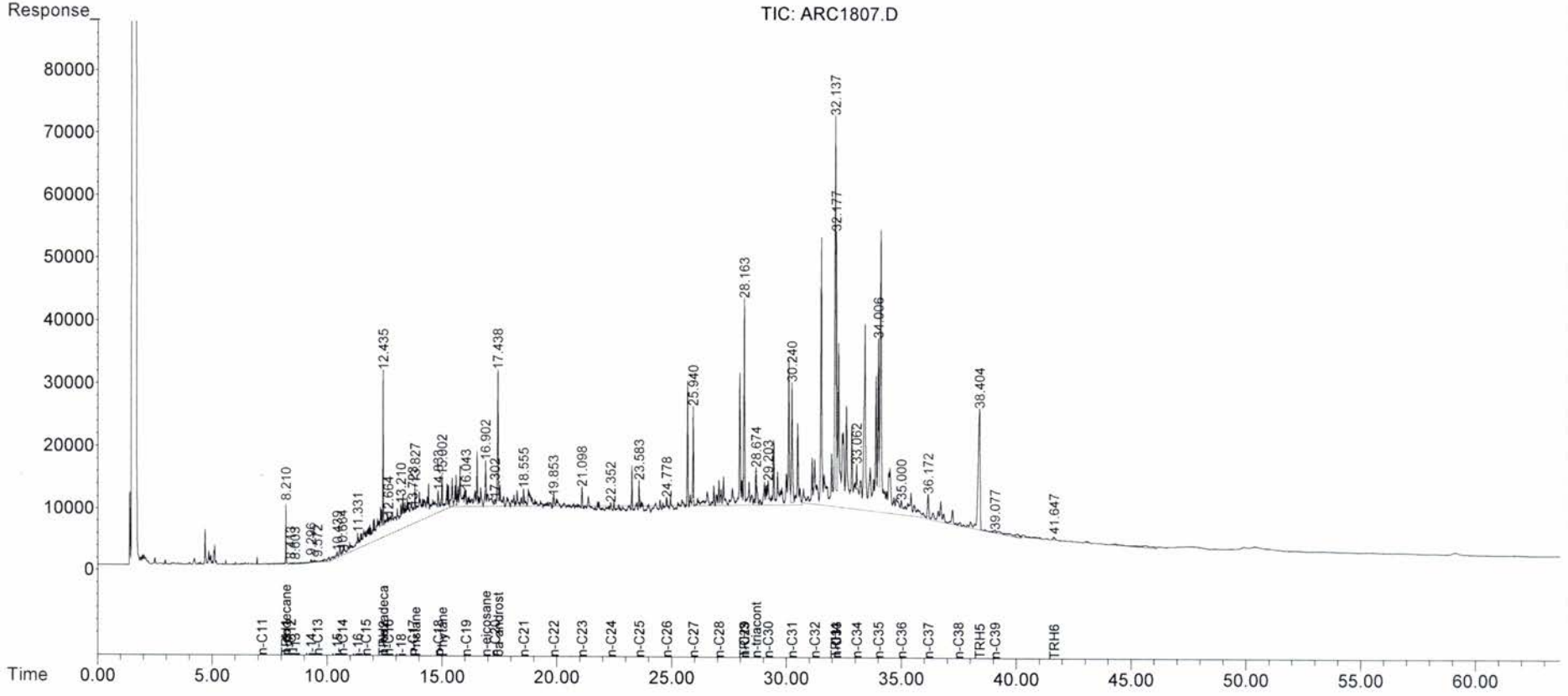
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : ARC1807.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 08:50:31
Operator : Meghan Dailey
Sample : SED-DA-047 (0-0.5)
Misc :
ALS Vial : 61 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Sep 01 18:12:52 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC1810.D**		ARC1810.D
Sample Name	**SED-DA-048 (0-0.5)**		SED-DA-048 (0-0.5)
Misc Info	**0**		29-Aug-2013, 10:01:08
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3095\FID30053**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**29-Aug-2013, 10:01:08**		0.0664011
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	62
Vial Number	**62**	IS Area 1	322125
Sample Multiplier	**0.0664011**	IS Area 2	474190

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	0.00	0	0.00	0.000
3)	n-C9	0.00	0	0.00	0.000
4)	n-C10	5.83	2302.04	0.02	0.020
5)	n-C11	7.17	6063.04	0.05	0.054
7)	n-C12	8.41	18507.2	0.16	0.159
8)	i-13	8.60	8380.2	0.07	0.073
9)	i-14	9.29	25291.2	0.21	0.215
10)	n-C13	9.57	51450.6	0.45	0.447
11)	i-15	10.44	95624.8	0.81	0.807
12)	n-C14	10.66	115124	0.98	0.978
13)	i-16	11.33	163546	1.37	1.374
14)	n-C15	11.69	199868	1.69	1.687
15)	n-C16	12.68	213982	1.80	1.797
17)	i-18	13.22	219147	1.56	1.558
18)	n-C17	13.73	203865	1.43	1.430
19)	Pristane	13.84	316039	2.23	2.227
20)	n-C18	14.86	272412	1.94	1.937
21)	Phytane	15.02	359801	2.51	2.510
22)	n-C19	16.06	293660	2.09	2.092
24)	n-C20	17.30	188588	1.33	1.334
25)	n-C21	18.57	405630	2.84	2.840
26)	n-C22	19.86	188533	1.31	1.314
27)	n-C23	21.13	482823	3.35	3.348
28)	n-C24	22.37	150206	1.04	1.044
29)	n-C25	23.61	376923	2.62	2.620
30)	n-C26	24.79	100540	0.70	0.702
31)	n-C27	25.96	495303	3.58	3.576
32)	n-C28	27.08	149750	1.07	1.071
33)	n-C29	28.19	929487	6.71	6.709
35)	n-C30	29.23	126436	0.92	0.922
36)	n-C31	30.28	1110390	8.22	8.216
37)	n-C32	31.17	153988	1.15	1.154
38)	n-C33	32.17	896593	6.86	6.859
39)	n-C34	33.09	89864.7	0.67	0.671
40)	n-C35	34.03	387444	2.92	2.924
41)	n-C36	35.04	55231	0.38	0.378
42)	n-C37	36.21	213036	1.59	1.588
43)	n-C38	37.54	33736.4	0.25	0.248
44)	n-C39	39.11	62982.7	0.48	0.479
45)	n-C40	40.92	8292.42	0.07	0.067
46)	TPH	32.19	343823000	2512.27	2512.266
47)	TRH1	8.21	338679	2.47	2.475
48)	TRH2	12.44	9265390	67.70	67.701
49)	TRH3	28.01	18158100	132.68	132.679
50)	TRH4	32.19	42743500	312.32	312.322
51)	TRH5	38.42	1847400	13.50	13.499
52)	TRH6	41.69	984077	7.19	7.191
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	8.21	124805	1.20	90.1
23)	n-eicosane-d42	16.92	132557	1.18	88.8
34)	n-triacontane-d62	28.70	119594	1.12	84.6
1)	n-hexadecane-d34	12.44	322125	3.32	322125.000
16)	5a-androstane	17.45	474190	50.15	474190.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : ARC1810.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 10:01:08
Operator : Meghan Dailey
Sample : SED-DA-048 (0-0.5)
Misc :
ALS Vial : 62 Sample Multiplier: 0.0664011

Integration File: autoint1.e
Quant Time: Sep 01 17:49:40 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 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	12.440	322125	50.000	ug/mlm
16) I	5a-androstane	17.453	474190	50.072	ug/mlm
	System Monitoring Compounds				
6) S	n-dodecane-d26	8.210	124805	1.196	ug/mlm
23) S	n-eicosane-d42	16.916	132557	1.177	ug/mlm
34) S	n-triacontane-d62	28.700f	119594	1.122	ug/mlm
	Target Compounds				
2)	n-C8	0.000	0	N.D.	ug/mld
3)	n-C9	0.000	0	N.D.	ug/mld
4)	n-C10	5.833	2302	0.020	ug/mlm
5)	n-C11	7.167	6063	0.054	ug/mlm
7)	n-C12	8.413	18507	0.159	ug/mlm
8)	i-13	8.600	8380	0.073	ug/mlm
9)	i-14	9.294	25291	0.215	ug/mlm
10)	n-C13	9.574	51451	0.447	ug/mlm
11)	i-15	10.441	95625	0.807	ug/mlm
12)	n-C14	10.663	115124	0.978	ug/mlm
13)	i-16	11.332	163546	1.374	ug/mlm
14)	n-C15	11.688	199868	1.687	ug/mlm
15)	n-C16	12.679	213982	1.797	ug/mlm
17)	i-18	13.217	219147	1.558	ug/mlm
18)	n-C17	13.732	203865	1.430	ug/mlm
19)	Pristane	13.839	316039	2.227	ug/mlm
20)	n-C18	14.856	272412	1.937	ug/mlm
21)	Phytane	15.017	359801	2.510	ug/mlm
22)	n-C19	16.059	293660	2.092	ug/mlm
24)	n-C20	17.302	188588	1.334	ug/mlm
25)	n-C21	18.572	405630	2.840	ug/mlm
26)	n-C22	19.857	188533	1.314	ug/mlm
27)	n-C23	21.130	482823	3.348	ug/mlm
28)	n-C24	22.373	150206	1.044	ug/mlm
29)	n-C25	23.605f	376923	2.620	ug/mlm
30)	n-C26	24.794f	100540	0.702	ug/mlm
31)	n-C27	25.960f	495303	3.576	ug/mlm
32)	n-C28	27.076f	149750	1.071	ug/mlm
33)	n-C29	28.188f	929487	6.709	ug/mlm
35)	n-C30	29.226f	126436	0.922	ug/mlm
36)	n-C31	30.278f	1110393	8.216	ug/mlm
37)	n-C32	31.169	153988	1.154	ug/mlm
38)	n-C33	32.167	896593	6.859	ug/mlm
39)	n-C34	33.089	89865	0.671	ug/mlm
40)	n-C35	34.033	387444	2.924	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : ARC1810.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 10:01:08
Operator : Meghan Dailey
Sample : SED-DA-048 (0-0.5)
Misc :
ALS Vial : 62 Sample Multiplier: 0.0664011

Integration File: autoint1.e
Quant Time: Sep 01 17:49:40 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.041	55231	0.378	ug/mlm
42)	n-C37	36.208	213036	1.588	ug/mlm
43)	n-C38	37.540f	33736	0.248	ug/mlm
44)	n-C39	39.111f	62983	0.479	ug/mlm
45)	n-C40	40.922	8292	0.067	ug/mlm
46)	TPH	32.195	343822716	2512.267	ug/mlm
47)	TRH1	8.210	338679	2.475	ug/mlm
48)	TRH2	12.440f	9265393	67.701	ug/mlm
49)	TRH3	28.006f	18158124	132.679	ug/mlm
50)	TRH4	32.195f	42743546	312.321	ug/mlm
51)	TRH5	38.423f	1847400	13.499	ug/mlm
52)	TRH6	41.690	984077	7.191	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

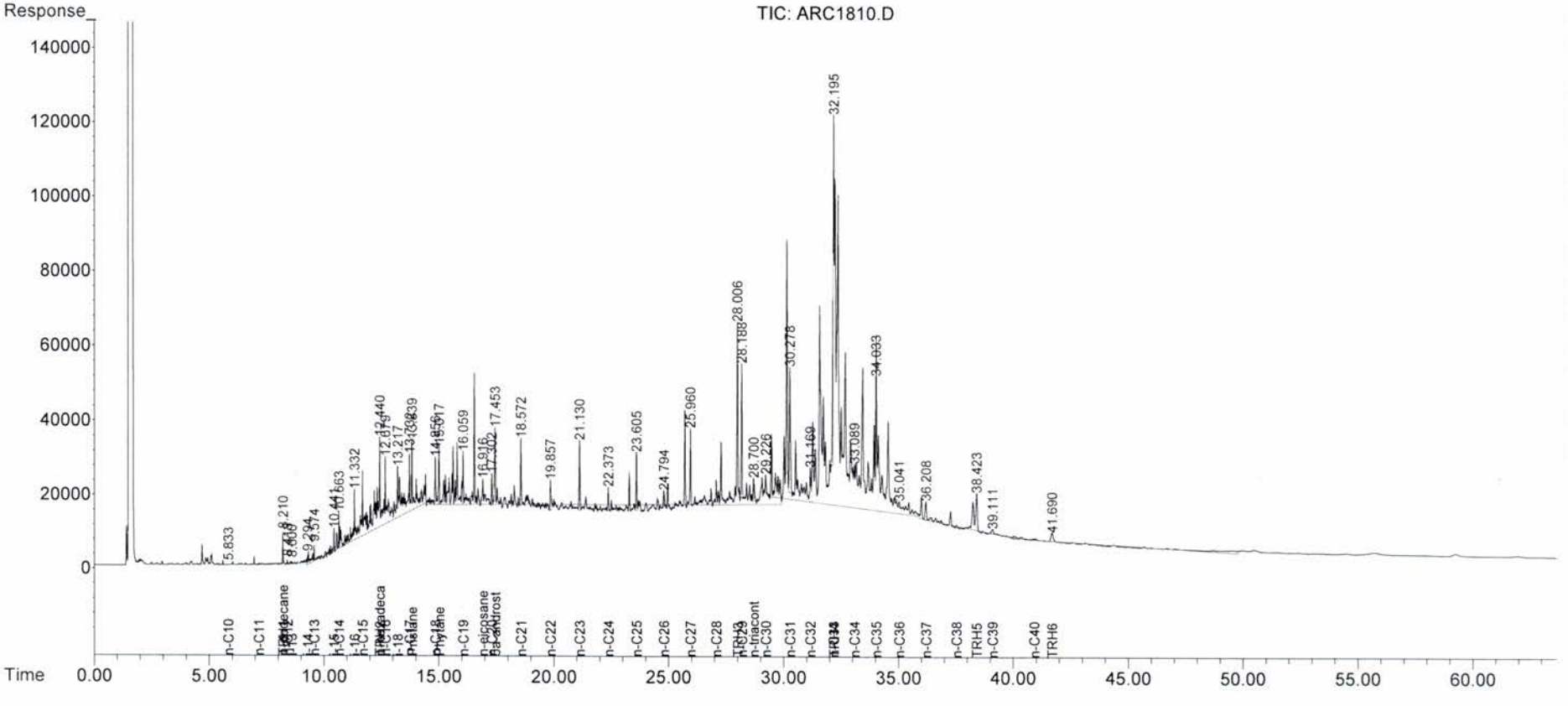
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : ARC1810.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 10:01:08
Operator : Meghan Dailey
Sample : SED-DA-048 (0-0.5)
Misc :
ALS Vial : 62 Sample Multiplier: 0.0664011

Integration File: autoint1.e
Quant Time: Sep 01 17:49:40 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC1815.D**		ARC1815.D
Sample Name	**SED-DA-DUP-07-081213**		SED-DA-DUP-07-081213
Misc Info	**0**		29-Aug-2013, 11:11:36
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3095\FID30053**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**29-Aug-2013, 11:11:36**		0.0665336
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	63
Vial Number	**63**	IS Area 1	278504
Sample Multiplier	**0.0665336**	IS Area 2	430894

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	0.00	0	0.00	0.000
3)	n-C9	0.00	0	0.00	0.000
4)	n-C10	5.84	3145.85	0.03	0.032
5)	n-C11	7.17	4354.42	0.04	0.045
7)	n-C12	8.41	14752.8	0.15	0.147
8)	i-13	8.60	12341.8	0.12	0.124
9)	i-14	9.30	26667.1	0.26	0.263
10)	n-C13	9.58	60660.8	0.61	0.611
11)	i-15	10.44	107775	1.05	1.054
12)	n-C14	10.67	115762	1.14	1.140
13)	i-16	11.33	158532	1.54	1.543
14)	n-C15	11.69	185808	1.82	1.817
15)	n-C16	12.68	178036	1.73	1.733
17)	i-18	13.22	194042	1.52	1.522
18)	n-C17	13.73	156286	1.21	1.208
19)	Pristane	13.84	266975	2.07	2.074
20)	n-C18	14.86	181258	1.42	1.421
21)	Phytane	15.01	308231	2.37	2.371
22)	n-C19	16.06	192041	1.51	1.508
24)	n-C20	17.30	144592	1.13	1.128
25)	n-C21	18.57	169736	1.31	1.310
26)	n-C22	19.86	128697	0.99	0.989
27)	n-C23	21.12	188825	1.44	1.444
28)	n-C24	22.37	97766.4	0.75	0.749
29)	n-C25	23.60	152756	1.17	1.171
30)	n-C26	24.79	77134.8	0.59	0.594
31)	n-C27	25.95	297998	2.37	2.372
32)	n-C28	27.07	100014	0.79	0.789
33)	n-C29	28.18	666072	5.30	5.301
35)	n-C30	29.21	47358.9	0.38	0.381
36)	n-C31	30.26	619423	5.05	5.054
37)	n-C32	31.25	73551.5	0.61	0.608
38)	n-C33	32.20	559771	4.72	4.722
39)	n-C34	33.14	53835.1	0.44	0.443
40)	n-C35	34.01	230200	1.92	1.916
41)	n-C36	35.04	49398.5	0.37	0.373
42)	n-C37	36.19	134028	1.10	1.101
43)	n-C38	37.54	14222.8	0.12	0.115
44)	n-C39	39.11	27656.4	0.23	0.232
45)	n-C40	0.00	0	0.00	0.000
46)	TPH	32.15	339778000	2737.62	2737.625
47)	TRH1	8.21	387073	3.12	3.119
48)	TRH2	12.44	9853520	79.39	79.391
49)	TRH3	17.45	8853190	71.33	71.331
50)	TRH4	32.15	24189300	194.90	194.896
51)	TRH5	34.53	1698900	13.69	13.688
52)	TRH6	39.11	1567030	12.63	12.626
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	8.21	116391	1.29	97.2
23)	n-eicosane-d42	16.91	131292	1.29	96.8
34)	n-triacontane-d62	28.70	114827	1.19	89.3
1)	n-hexadecane-d34	12.44	278504	3.33	278504.000
16)	5a-androstane	17.45	430894	50.15	430894.000

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : ARC1815.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 11:11:36
Operator : Meghan Dailey
Sample : SED-DA-DUP-07-081213
Misc :
ALS Vial : 63 Sample Multiplier: 0.0665336

Integration File: autoint1.e
Quant Time: Sep 01 17:53:00 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 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	12.441	278504	50.000	ug/mlm
16) I	5a-androstane	17.452	430894	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.212	116391	1.293	ug/mlm
23) S	n-eicosane-d42	16.913	131292	1.285	ug/mlm
34) S	n-triacontane-d62	28.697	114827	1.188	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/mld
3)	n-C9	0.000	0	N.D.	ug/mld
4)	n-C10	5.835	3146	0.032	ug/mlm
5)	n-C11	7.168	4354	0.045	ug/mlm
7)	n-C12	8.415	14753	0.147	ug/mlm
8)	i-13	8.601	12342	0.124	ug/mlm
9)	i-14	9.296	26667	0.263	ug/mlm
10)	n-C13	9.576	60661	0.611	ug/mlm
11)	i-15	10.442	107775	1.054	ug/mlm
12)	n-C14	10.665	115762	1.140	ug/mlm
13)	i-16	11.334	158532	1.543	ug/mlm
14)	n-C15	11.690	185808	1.817	ug/mlm
15)	n-C16	12.680	178036	1.733	ug/mlm
17)	i-18	13.218	194042	1.522	ug/mlm
18)	n-C17	13.731	156286	1.208	ug/mlm
19)	Pristane	13.837	266975	2.074	ug/mlm
20)	n-C18	14.857	181258	1.421	ug/mlm
21)	Phytane	15.015	308231	2.371	ug/mlm
22)	n-C19	16.056	192041	1.508	ug/mlm
24)	n-C20	17.302	144592	1.128	ug/mlm
25)	n-C21	18.571	169736	1.310	ug/mlm
26)	n-C22	19.855	128697	0.989	ug/mlm
27)	n-C23	21.120	188825	1.444	ug/mlm
28)	n-C24	22.373	97766	0.749	ug/mlm
29)	n-C25	23.600	152756	1.171	ug/mlm
30)	n-C26	24.786	77135	0.594	ug/mlm
31)	n-C27	25.954f	297998	2.372	ug/mlm
32)	n-C28	27.071f	100014	0.789	ug/mlm
33)	n-C29	28.177f	666072	5.301	ug/mlm
35)	n-C30	29.213	47359	0.381	ug/mlm
36)	n-C31	30.257f	619423	5.054	ug/mlm
37)	n-C32	31.250f	73551	0.608	ug/mlm
38)	n-C33	32.199	559771	4.722	ug/mlm
39)	n-C34	33.138	53835	0.443	ug/mlm
40)	n-C35	34.010	230200	1.916	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : ARC1815.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 11:11:36
Operator : Meghan Dailey
Sample : SED-DA-DUP-07-081213
Misc :
ALS Vial : 63 Sample Multiplier: 0.0665336

Integration File: autoint1.e
Quant Time: Sep 01 17:53:00 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.035	49398	0.373	ug/mlm
42)	n-C37	36.190	134028	1.101	ug/mlm
43)	n-C38	37.535	14223	0.115	ug/mlm
44)	n-C39	39.108f	27656	0.232	ug/mlm
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	32.151	339778221	2737.625	ug/mlm
47)	TRH1	8.212	387073	3.119	ug/mlm
48)	TRH2	12.441f	9853523	79.391	ug/mlm
49)	TRH3	17.452f	8853192	71.331	ug/mlm
50)	TRH4	32.151f	24189282	194.895	ug/mlm
51)	TRH5	34.529f	1698899	13.688	ug/mlm
52)	TRH6	39.108	1567027	12.626	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

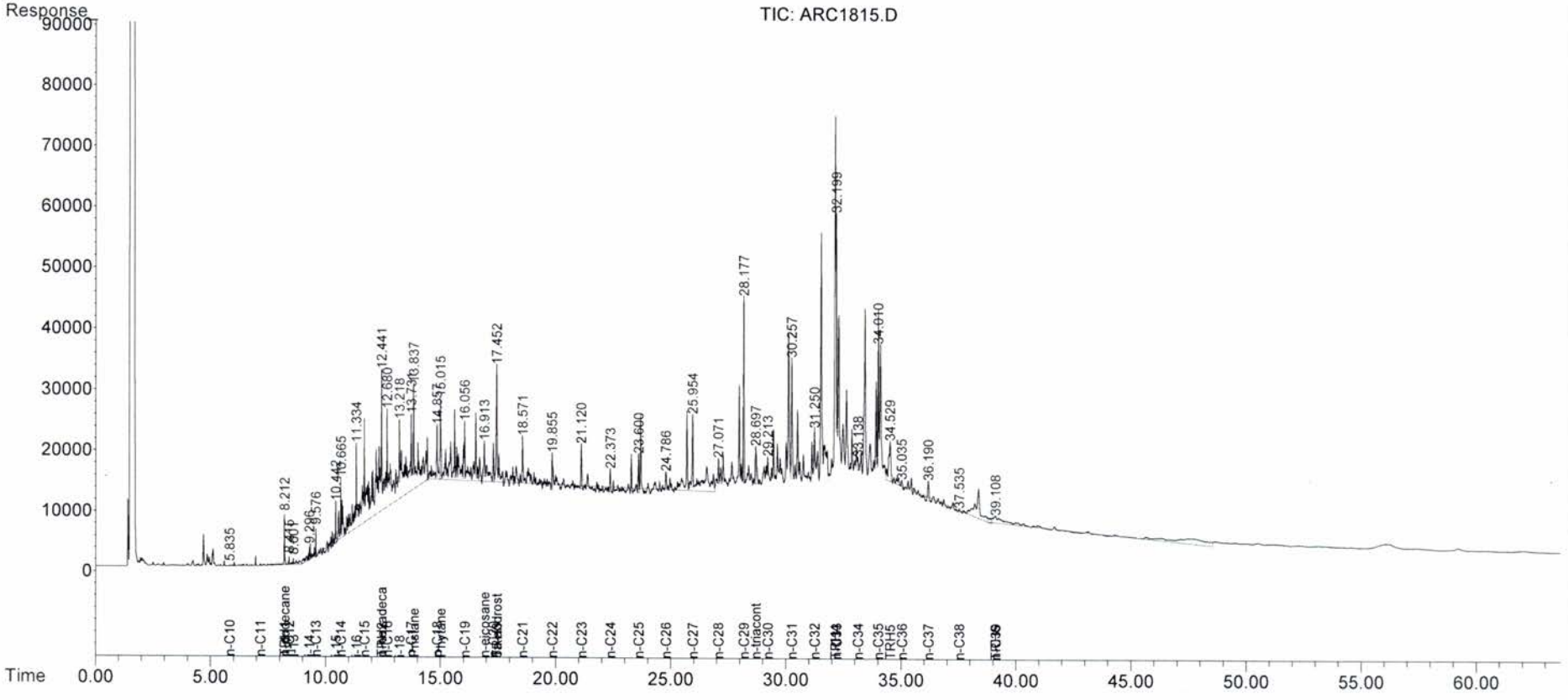
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3095\FID30053\
Data File : ARC1815.D
Signal(s) : FID2B.CH
Acq On : 29-Aug-2013, 11:11:36
Operator : Meghan Dailey
Sample : SED-DA-DUP-07-081213
Misc :
ALS Vial : 63 Sample Multiplier: 0.0665336

Integration File: autoint1.e
Quant Time: Sep 01 17:53:00 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3095\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 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 3095_____	Analyst:_____Y. Miao_____
Client:__Arcadis Mayflower Project_____	Date:____September 24, 2013_____
Job: #:_____J13034_____	Project Quality Manager:_____
SDG #:____13081301 and 13081401_____	Date:_____05/24/13_____

Initial Calibration: No failures	ICV No failures
Surrogate Recoveries:	Three client samples and two internal QC samples required dilution prior to anlaysis on the GC/MS due to high native PAH concentrations. "D" qualifer is applied to the surrogate recoveries. d12-Perylene was outside of the laboratory %recovery limits in 3 client submitted samples Recovery is qualifed with an "L"
Procedural Blank:	No failures
Blank Spike:	NA
Blank Spike Duplicate:	NA
Laboratory Duplicate:	No failures
Matrix Spike:	Thirty-six peaks were detcted outside of the laboratory QC recovery limits laboratory %recovery limits of 40-120%. It is assumed that these failures are due inhomogentiety with the original sample and MS sample collected in the field.
Matirx Spike Duplicate:	Thirty-six peaks were detcted outside of the laboratory QC recovery limits laboratory %recovery limits of 40-120%. It is assumed that these failures are due inhomogentiety with the original sample and MS sample collected in the field.
SRM/LCS (Solution, Tissue, Sediment):	Solution no failures Sediment (1941b) no failures
CCC (from a second source):	No failures
SRM-2279 Reference Oil	Pyrene was outside of the QC %recovery limits in MS70063K (AR-SRM2779-WK4.0-002)
Mass Discrimination Check (benzo(ghi)perylene/phenanthrene >0.7)	No failures

Sequence Name: C:\msdchem\1\data\MS70063\MS70063.s
Comment: Arcadis-Mayflower AR-Sediments-PAH (09/04/13)
Operator: YM
Data Path: C:\MSDCHEM\1\DATA\MS70063\
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

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

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

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

Line		Sample Name/Misc Info		
1)	Sample	1	MS70063A	PAH-2012 Solvent rinse
2)	Sample	2	MS70063B	PAH-2012 AR-WKC1-020-030
3)	Sample	3	MS70063C	PAH-2012 AR-WKC2-100-030
4)	Sample	4	MS70063D	PAH-2012 AR-WKC3-250-030
5)	Sample	5	MS70063E	PAH-2012 AR-WKC4-500-030
6)	Sample	6	MS70063F	PAH-2012 AR-WKC5-1000-030
7)	Sample	7	MS70063G	PAH-2012 AR-WKC6-5000-030
8)	Sample	8	MS70063H	PAH-2012 AR-WKISSU-250-002
9)	Sample	9	MS70063I	PAH-2012 AR-WKICV-250-004
10)	Sample	10	MS70063J	PAH-2012 AR-WKCC-250-038
11)	Sample	11	MS70063K	PAH-2012 AR-SRM2779-WK4.0-002
12)	Sample	12	ENV3095A	PAH-2012
13)	Sample	13	ENV3095B	PAH-2012
14)	Sample	14	ENV3095C	PAH-2012 5x
15)	Sample	15	ENV3095D	PAH-2012 5x
16)	Sample	16	ENV3095E	PAH-2012
17)	Sample	17	ARC1807	PAH-2012
18)	Sample	18	ARC1810	PAH-2012 5x
19)	Sample	19	MS70063L	PAH-2012 AR-WKCC-250-038
20)	Sample	20	ARC1814	PAH-2012
21)	Sample	21	ARC1815	PAH-2012 5x
22)	Sample	22	ARC1841	PAH-2012 5x
23)	Sample	23	ARC1842	PAH-2012
24)	Sample	24	ARC1843	PAH-2012
25)	Sample	25	ARC1844	PAH-2012
26)	Sample	26	ARC1845	PAH-2012
27)	Sample	27	ARC1846	PAH-2012
28)	Sample	28	MS70063M	PAH-2012 AR-WKCC-250-038

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70063\
Data File : MS70063J.D
Acq On : 5 Sep 2013 5:50 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 12 16:44:23 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 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	80	0.00
2	S	Naphthalene-d8	1.654	1.572	5.0	82	0.00
3	T	cis/trans Decalin	0.278	0.273	1.8	83	0.00
4	un	C1-Decalins	0.278	0.000	100.0#	0#	-12.26#
5	un	C2-Decalins	0.278	0.000	100.0#	0#	-13.60#
6	un	C3-Decalins	0.278	0.000	100.0#	0#	-15.83#
7	un	C4-Decalins	0.278	0.000	100.0#	0#	-18.47#
8	T	Naphthalene	1.700	1.621	4.6	83	0.00
9	T	2-Methylnaphthalene	1.143	1.092	4.5	82	0.00
10	T	1-Methylnaphthalene	1.078	1.013	6.0	82	0.00
11	T	2,6-Dimethylnaphthalene	1.021	0.967	5.3	82	0.00
12	T	1,6,7-Trimethylnaphthalene	0.952	0.874	8.2	81	0.00
13	un	C2-Naphthalenes	1.700	0.000	100.0#	0#	-18.84#
14	un	C3-Naphthalenes	1.700	0.000	100.0#	0#	-20.28#
15	un	C4-Naphthalenes	1.700	0.000	100.0#	0#	-22.07#
16	T	Benzothiophene	1.331	1.274	4.3	84	0.00
17	un	C1-Benzothiophenes	1.331	0.000	100.0#	0#	-15.41#
18	un	C2-Benzothiophenes	1.331	0.000	100.0#	0#	-17.86#
19	un	C3-Benzothiophenes	1.331	0.000	100.0#	0#	-20.26#
20	un	C4-Benzothiophenes	1.331	0.000	100.0#	0#	-22.01#
21	S	Acenaphthene-d10	0.961	0.904	5.9	81	0.00
22	T	Biphenyl	1.460	1.384	5.2	83	0.00
23	T	Acenaphthylene	1.723	1.558	9.6	81	0.00
24	T	Acenaphthene	1.022	0.947	7.3	81	0.00
25	T	Dibenzofuran	1.627	1.578	3.0	85	0.00
26	T	Fluorene	1.285	1.217	5.3	83	0.00
27	T	1-Methylfluorene	0.898	0.802	10.7	79	0.00
28	un	C1-Fluorenes	1.285	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.285	0.000	100.0#	0#	-24.82#
30	un	C3-Fluorenes	1.285	0.000	100.0#	0#	-27.21#
31	I	Pyrene-d10	1.000	1.000	0.0	75	0.00
32	S	Phenanthrene-d10	1.001	0.933	6.8	76	0.00
33	T	Carbazole	1.013	0.904	10.8	74	0.00
34	T	Dibenzothiophene	1.020	0.971	4.8	78	0.00
35	T	4-Methyldibenzothiophene	0.840	0.849	-1.1	82	0.00
36	un	2/3-Methyldibenzothiophene	0.840	0.000	100.0#	0#	-26.14#
37	un	1-Methyldibenzothiophene	0.840	0.000	100.0#	0#	-26.45#
38	un	C2-Dibenzothiophenes	1.020	0.000	100.0#	0#	-27.97#
39	un	C3-Dibenzothiophenes	1.020	0.000	100.0#	0#	-29.22#
40	un	C4-Dibenzothiophenes	1.020	0.000	100.0#	0#	-30.81#
41	T	Phenanthrene	1.234	1.230	0.3	79	0.00
42	T	Anthracene	1.164	1.131	2.8	77	0.00
43	un	3-Methylphenanthrene	0.792	0.000	100.0#	0#	-26.86#
44	un	2-Methylphenanthrene	0.792	0.000	100.0#	0#	-26.86#
45	un	2-Methylanthracene	0.792	0.000	100.0#	0#	-26.86#
46	un	4/9-Methylphenanthrene	0.792	0.000	100.0#	0#	-26.86#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70063\
Data File : MS70063J.D
Acq On : 5 Sep 2013 5:50 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 12 16:44:23 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 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	0.792	0.806	-1.8	84	0.00
48	T	3,6-Dimethylphenanthrene	0.673	0.634	5.8	79	0.00
49	T	Retene	0.350	0.300	14.3	72	0.00
50	un	C2-Phenanthrenes/Anthracene	1.234	0.000	100.0#	0#	-28.49#
51	un	C3-Phenanthrenes/Anthracene	1.234	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.234	0.000	100.0#	0#	-31.89#
53	T	Naphthobenzothiophene	1.071	0.988	7.7	78	0.00
54	un	C1-Naphthobenzothiophenes	1.071	0.000	100.0#	0#	-34.16#
55	un	C2-Naphthobenzothiophenes	1.071	0.000	100.0#	0#	-35.94#
56	un	C3-Naphthobenzothiophenes	1.071	0.000	100.0#	0#	-37.84#
57	un	C4-Naphthobenzothiophenes	1.071	0.000	100.0#	0#	-37.73#
58	T	Fluoranthene	1.135	1.107	2.5	81	-0.03
59	T	Pyrene	1.458	1.422	2.5	78	0.00
60	T	2-Methylfluoranthene	0.905	0.805	11.0	74	0.00
61	T	Benzo(b)fluorene	0.784	0.690	12.0	75	0.00
62	un	C1-Fluoranthenes/Pyrenes	1.135	0.000	100.0#	0#	-30.60#
63	un	C2-Fluoranthenes/Pyrenes	1.135	0.000	100.0#	0#	-32.10#
64	un	C3-Fluoranthenes/Pyrenes	1.135	0.000	100.0#	0#	-33.89#
65	un	C4-Fluoranthenes/Pyrenes	1.135	0.000	100.0#	0#	-35.24#
66	S	Chrysene-d12	1.036	0.911	12.1	76	0.00
67	T	Benz(a)anthracene	1.042	0.963	7.6	80	-0.04
68	T	Chrysene/Triphenylene	1.235	1.079	12.6	73	0.00
69	un	C1-Chrysenes	1.235	0.000	100.0#	0#	-35.21#
70	un	C2-Chrysenes	1.235	0.000	100.0#	0#	-37.18#
71	un	C3-Chrysenes	1.235	0.000	100.0#	0#	-38.04#
72	un	C4-Chrysenes	1.235	0.000	100.0#	0#	-39.90#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	65	0.00
74	un	C29-Hopane	0.400	0.000	100.0#	0#	-40.64#
75	un	18a-Oleanane	0.400	0.000	100.0#	0#	-42.45#
76	T	C30-Hopane	0.400	0.417	-4.2	74	0.00
77	T	Benzo(b)fluoranthene	1.377	1.325	3.8	69	0.00
78	T	Benzo(k,j)fluoranthene	1.073	1.223	-14.0	83	0.00
79	un	Benzo(a)fluoranthene	1.073	0.000	100.0#	0#	-37.22#
80	T	Benzo(e)pyrene	1.250	1.413	-13.0	83	0.00
81	T	Benzo(a)pyrene	1.313	1.469	-11.9	79	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.161	1.129	2.8	71	0.00
83	T	Dibenzo(a,h)anthracene	1.017	1.092	-7.4	76	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.017	0.000	100.0#	0#	-48.68#
85	un	C2-Dibenzo(a,h)anthracenes	1.017	0.000	100.0#	0#	-50.27#
86	un	C3-Dibenzo(a,h)anthracenes	1.017	0.000	100.0#	0#	-50.82#
87	T	Benzo(g,h,i)perylene	1.087	1.174	-8.0	74	0.00
88	S	Perylene-d12	1.092	1.155	-5.8	77	0.00
89	T	Perylene	1.327	1.420	-7.0	77	0.00
90	S	5(b)H-Cholane	0.251	0.239	4.8	68	0.00
91	un	C20-TAS	1.516	0.000	100.0#	0#	-33.73#
92	un	C21-TAS	1.516	0.000	100.0#	0#	-34.16#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70063\
Data File : MS70063J.D
Acq On : 5 Sep 2013 5:50 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 12 16:44:23 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 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	1.516	0.000	100.0#	0#	-38.58#
94 T	C26(20R)/C27(20S)-TAS	1.516	1.573	-3.8	75	0.00
95 un	C28(20S)-TAS	1.516	0.000	100.0#	0#	-39.74#
96 un	C27(20R)-TAS	1.516	0.000	100.0#	0#	-40.94#
97 un	C28(20R)-TAS	1.516	0.000	100.0#	0#	-40.94#

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70063\
Data File : MS70063J.D
Acq On : 5 Sep 2013 5:50 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 12 16:44:23 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.343	176	393297m	251.05		0.00
31) Pyrene-d10	29.531	212	659103m	250.63		0.00
73) Benzo(a)pyrene-d12	38.270	264	591160m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.711	136	616030m	237.74		0.00
21) Acenaphthene-d10	19.561	164	354258m	235.40		0.00
32) Phenanthrene-d10	24.648	188	613792m	233.10		0.00
66) Chrysene-d12	33.731	240	599206m	219.87		0.00
88) Perylene-d12	38.580	264	682091m	264.59		0.00
90) 5(b)H-Cholane	34.119	217	141320m	237.96		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.064	138	105631m	242.47		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.794	128	634692m	238.26		
9) 2-Methylnaphthalene	16.023	142	428018m	239.03		
10) 1-Methylnaphthalene	16.357	142	396448m	234.66		
11) 2,6-Dimethylnaphthalene	18.112	156	378704m	236.76		
12) 1,6,7-Trimethylnaphtha...	20.981	170	342429m	229.69		
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.		
16) Benzothiophene	13.961	134	496001m	237.84		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.583	154	536984m	234.71		
23) Acenaphthylene	19.059	152	605157m	224.18		
24) Acenaphthene	19.672	154	371582m	232.03		
25) Dibenzofuran	20.257	168	615087m	241.29		
26) Fluorene	21.427	166	477476m	237.23		
27) 1-Methylfluorene	23.402	180	316310m	224.89		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.		
33) Carbazole	25.479	167	589001m	220.99		
34) Dibenzothiophene	24.302	184	629357m	234.66		
35) 4-Methyldibenzothiophene	25.791	198	562887m	254.96		
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.		
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.718	178	801106m	246.91		
42) Anthracene	24.891	178	746041m	243.65		

Data Path : C:\GCMS7\MS70063\
Data File : MS70063J.D
Acq On : 5 Sep 2013 5:50 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 12 16:44:23 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D.	d	
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	26.830	192	524112m	251.51		
48) 3,6-Dimethylphenanthrene	27.938	206	417002m	235.54		
49) Retene	30.604	234	176289m	191.65		
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.		
53) Naphthobenzothiophene	32.877	234	653367m	232.07		
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	28.804	202	728340m	243.94		
59) Pyrene	29.600	202	935007m	243.78		
60) 2-Methylfluoranthene	30.362	216	532968m	223.98		
61) Benzo(b)fluorene	30.985	216	457996m	222.06		
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	33.653	228	632069m	230.72		
68) Chrysene/Triphenylene	33.809	228	705394m	217.26		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.599	191	246072m	260.52		
77) Benzo(b)fluoranthene	37.184	252	783746m	241.05		
78) Benzo(k,j)fluoranthene	37.300	252	719030m	283.74		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.154	252	830633m	281.37		
81) Benzo(a)pyrene	38.348	252	865399m	279.05		
82) Indeno(1,2,3-c,d)pyrene	43.004	276	655048m	238.97		
83) Dibenzo(a,h)anthracene	43.078	278	638814m	266.03		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.331	276	686609m	267.43		
89) Perylene	38.658	252	839301m	267.86		
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	39.279	231	928894m	259.50		
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Data Path : C:\GCMS7\MS70063\
Data File : MS70063J.D
Acq On : 5 Sep 2013 5:50 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 12 16:44:23 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

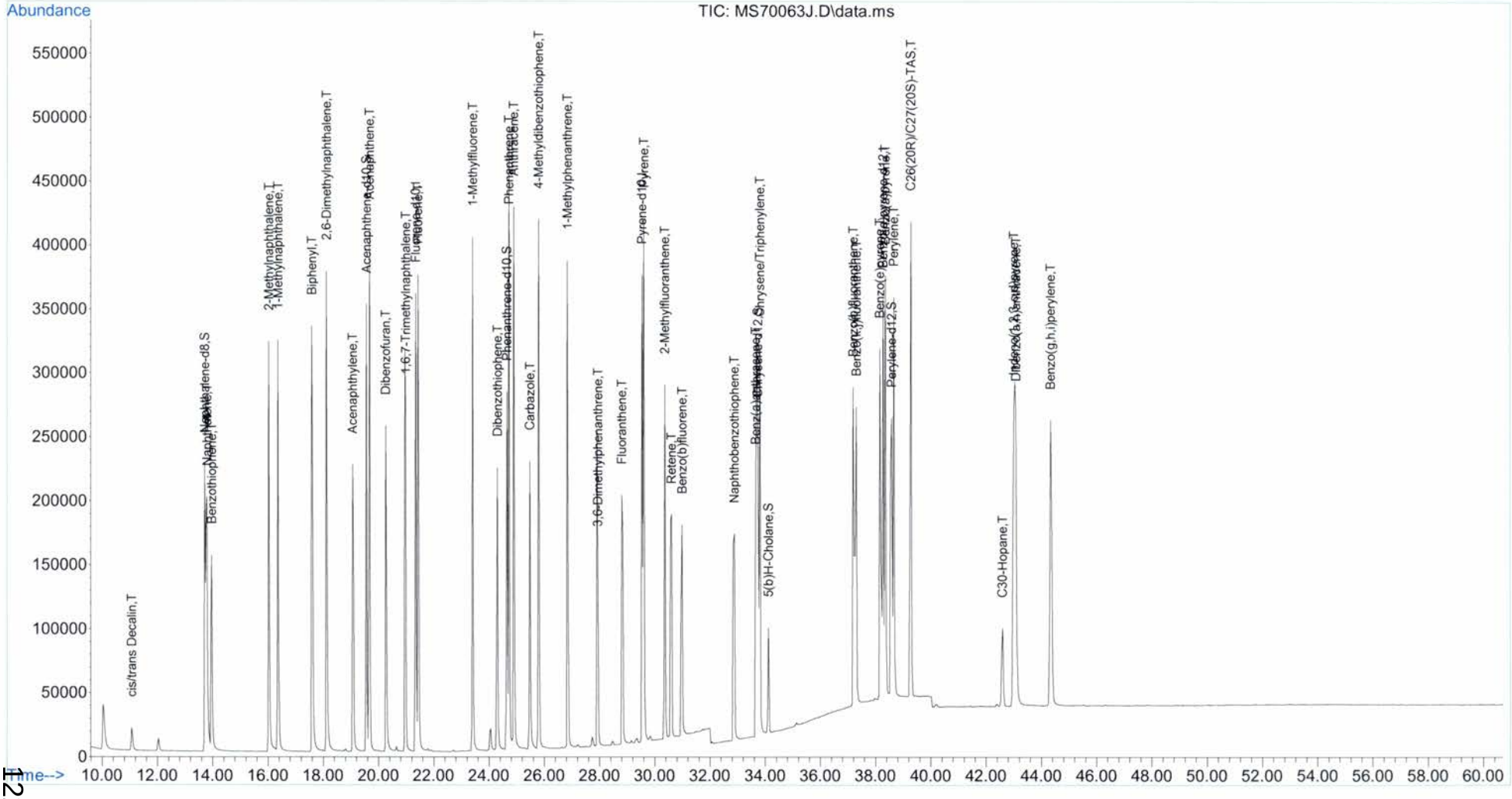
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70063\
Data File : MS70063J.D
Acq On : 5 Sep 2013 5:50 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 12 16:44:23 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70063\
Data File : MS70063L.D
Acq On : 5 Sep 2013 4:07 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Sep 12 16:52:59 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorene-d10	1.000	1.000	0.0	71	0.00
2	S	Naphthalene-d8	1.654	1.501	9.3	70	0.00
3	T	cis/trans Decalin	0.278	0.263	5.4	71	0.00
4	un	C1-Decalins	0.278	0.000	100.0#	0#	-12.26#
5	un	C2-Decalins	0.278	0.000	100.0#	0#	-13.60#
6	un	C3-Decalins	0.278	0.000	100.0#	0#	-15.83#
7	un	C4-Decalins	0.278	0.000	100.0#	0#	-18.47#
8	T	Naphthalene	1.700	1.511	11.1	68	0.00
9	T	2-Methylnaphthalene	1.143	1.038	9.2	69	0.00
10	T	1-Methylnaphthalene	1.078	0.992	8.0	71	0.00
11	T	2,6-Dimethylnaphthalene	1.021	0.931	8.8	70	0.00
12	T	1,6,7-Trimethylnaphthalene	0.952	0.886	6.9	72	0.00
13	un	C2-Naphthalenes	1.700	0.000	100.0#	0#	-18.84#
14	un	C3-Naphthalenes	1.700	0.000	100.0#	0#	-20.28#
15	un	C4-Naphthalenes	1.700	0.000	100.0#	0#	-22.07#
16	T	Benzothiophene	1.331	1.185	11.0	69	0.00
17	un	C1-Benzothiophenes	1.331	0.000	100.0#	0#	-15.41#
18	un	C2-Benzothiophenes	1.331	0.000	100.0#	0#	-17.86#
19	un	C3-Benzothiophenes	1.331	0.000	100.0#	0#	-20.26#
20	un	C4-Benzothiophenes	1.331	0.000	100.0#	0#	-22.01#
21	S	Acenaphthene-d10	0.961	0.882	8.2	70	0.00
22	T	Biphenyl	1.460	1.296	11.2	69	0.00
23	T	Acenaphthylene	1.723	1.572	8.8	72	0.03
24	T	Acenaphthene	1.022	0.935	8.5	70	0.00
25	T	Dibenzofuran	1.627	1.465	10.0	70	0.00
26	T	Fluorene	1.285	1.157	10.0	69	0.00
27	T	1-Methylfluorene	0.898	0.820	8.7	71	0.00
28	un	C1-Fluorenes	1.285	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.285	0.000	100.0#	0#	-24.82#
30	un	C3-Fluorenes	1.285	0.000	100.0#	0#	-27.21#
31	I	Pyrene-d10	1.000	1.000	0.0	70	0.00
32	S	Phenanthrene-d10	1.001	0.938	6.3	72	0.00
33	T	Carbazole	1.013	0.967	4.5	74	0.00
34	T	Dibenzothiophene	1.020	0.936	8.2	71	0.00
35	T	4-Methyldibenzothiophene	0.840	0.762	9.3	69	0.00
36	un	2/3-Methyldibenzothiophene	0.840	0.000	100.0#	0#	-26.14#
37	un	1-Methyldibenzothiophene	0.840	0.000	100.0#	0#	-26.45#
38	un	C2-Dibenzothiophenes	1.020	0.000	100.0#	0#	-27.97#
39	un	C3-Dibenzothiophenes	1.020	0.000	100.0#	0#	-29.22#
40	un	C4-Dibenzothiophenes	1.020	0.000	100.0#	0#	-30.81#
41	T	Phenanthrene	1.234	1.156	6.3	70	0.00
42	T	Anthracene	1.164	1.116	4.1	72	0.00
43	un	3-Methylphenanthrene	0.792	0.000	100.0#	0#	-26.86#
44	un	2-Methylphenanthrene	0.792	0.000	100.0#	0#	-26.86#
45	un	2-Methylanthracene	0.792	0.000	100.0#	0#	-26.86#
46	un	4/9-Methylphenanthrene	0.792	0.000	100.0#	0#	-26.86#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70063\
Data File : MS70063L.D
Acq On : 5 Sep 2013 4:07 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Sep 12 16:52:59 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 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	0.792	0.729	8.0	71	0.00
48	T	3,6-Dimethylphenanthrene	0.673	0.651	3.3	76	0.00
49	T	Retene	0.350	0.354	-1.1	80	0.00
50	un	C2-Phenanthrenes/Anthracene	1.234	0.000	100.0#	0#	-28.49#
51	un	C3-Phenanthrenes/Anthracene	1.234	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.234	0.000	100.0#	0#	-31.89#
53	T	Naphthobenzothiophene	1.071	1.033	3.5	76	0.00
54	un	C1-Naphthobenzothiophenes	1.071	0.000	100.0#	0#	-34.16#
55	un	C2-Naphthobenzothiophenes	1.071	0.000	100.0#	0#	-35.94#
56	un	C3-Naphthobenzothiophenes	1.071	0.000	100.0#	0#	-37.84#
57	un	C4-Naphthobenzothiophenes	1.071	0.000	100.0#	0#	-37.73#
58	T	Fluoranthene	1.135	1.083	4.6	74	0.00
59	T	Pyrene	1.458	1.378	5.5	71	0.00
60	T	2-Methylfluoranthene	0.905	0.889	1.8	76	0.00
61	T	Benzo(b)fluorene	0.784	0.784	0.0	79	0.00
62	un	C1-Fluoranthenes/Pyrenes	1.135	0.000	100.0#	0#	-30.60#
63	un	C2-Fluoranthenes/Pyrenes	1.135	0.000	100.0#	0#	-32.10#
64	un	C3-Fluoranthenes/Pyrenes	1.135	0.000	100.0#	0#	-33.89#
65	un	C4-Fluoranthenes/Pyrenes	1.135	0.000	100.0#	0#	-35.24#
66	S	Chrysene-d12	1.036	0.969	6.5	76	0.00
67	T	Benz(a)anthracene	1.042	0.979	6.0	76	0.00
68	T	Chrysene/Triphenylene	1.235	1.222	1.1	77	0.00
69	un	C1-Chrysenes	1.235	0.000	100.0#	0#	-35.21#
70	un	C2-Chrysenes	1.235	0.000	100.0#	0#	-37.18#
71	un	C3-Chrysenes	1.235	0.000	100.0#	0#	-38.04#
72	un	C4-Chrysenes	1.235	0.000	100.0#	0#	-39.90#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	59	0.00
74	un	C29-Hopane	0.400	0.000	100.0#	0#	-40.64#
75	un	18a-Oleanane	0.400	0.000	100.0#	0#	-42.45#
76	T	C30-Hopane	0.400	0.411	-2.7	66	0.00
77	T	Benzo(b)fluoranthene	1.377	1.379	-0.1	65	0.04
78	T	Benzo(k,j)fluoranthene	1.073	1.274	-18.7	78	0.00
79	un	Benzo(a)fluoranthene	1.073	0.000	100.0#	0#	-37.22#
80	T	Benzo(e)pyrene	1.250	1.252	-0.2	66	0.04
81	T	Benzo(a)pyrene	1.313	1.294	1.4	63	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.161	1.162	-0.1	66	0.00
83	T	Dibenzo(a,h)anthracene	1.017	0.944	7.2	59	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.017	0.000	100.0#	0#	-48.68#
85	un	C2-Dibenzo(a,h)anthracenes	1.017	0.000	100.0#	0#	-50.27#
86	un	C3-Dibenzo(a,h)anthracenes	1.017	0.000	100.0#	0#	-50.82#
87	T	Benzo(g,h,i)perylene	1.087	0.903	16.9	51	0.04
88	S	Perylene-d12	1.092	1.121	-2.7	67	0.00
89	T	Perylene	1.327	1.339	-0.9	65	0.00
90	S	5(b)H-Cholane	0.251	0.273	-8.8	70	0.00
91	un	C20-TAS	1.516	0.000	100.0#	0#	-33.73#
92	un	C21-TAS	1.516	0.000	100.0#	0#	-34.16#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70063\
Data File : MS70063L.D
Acq On : 5 Sep 2013 4:07 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Sep 12 16:52:59 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 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	1.516	0.000	100.0#	0#	-38.58#
94 T	C26(20R)/C27(20S)-TAS	1.516	1.722	-13.6	74	0.00
95 un	C28(20S)-TAS	1.516	0.000	100.0#	0#	-39.74#
96 un	C27(20R)-TAS	1.516	0.000	100.0#	0#	-40.94#
97 un	C28(20R)-TAS	1.516	0.000	100.0#	0#	-40.94#

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70063\
Data File : MS70063L.D
Acq On : 5 Sep 2013 4:07 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Sep 12 16:52:59 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.343	176	347616m	251.05		0.00
31) Pyrene-d10	29.531	212	617225m	250.63		0.00
73) Benzo(a)pyrene-d12	38.270	264	532535m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.711	136	519802m	226.97		0.00
21) Acenaphthene-d10	19.561	164	305545m	229.71		0.00
32) Phenanthrene-d10	24.648	188	577913m	234.37		0.00
66) Chrysene-d12	33.731	240	596599m	233.77		0.00
88) Perylene-d12	38.580	264	596209m	256.73		0.00
90) 5(b)H-Cholane	34.119	217	145450m	271.88		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.064	138	90170m	234.18		
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	13.794	128	522922m	222.10		
9) 2-Methylnaphthalene	16.023	142	359555m	227.18		
10) 1-Methylnaphthalene	16.357	142	343211m	229.84		
11) 2,6-Dimethylnaphthalene	18.112	156	322168m	227.89		
12) 1,6,7-Trimethylnaphtha...	20.981	170	306702m	232.76		
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.		
16) Benzothiophene	13.961	134	407590m	221.13		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.583	154	444539m	219.84		
23) Acenaphthylene	19.087	152	539937m	226.31		
24) Acenaphthene	19.672	154	324188m	229.04		
25) Dibenzofuran	20.257	168	504541m	223.94		
26) Fluorene	21.427	166	401221m	225.54		
27) 1-Methylfluorene	23.402	180	285943m	230.02		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.479	167	589710m	236.27		
34) Dibenzothiophene	24.302	184	567968m	226.14		
35) 4-Methyldibenzothiophene	25.791	198	473135m	228.84		
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	24.718	178	705484m	232.19		
42) Anthracene	24.891	178	689233m	240.37		

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70063\
Data File : MS70063L.D
Acq On : 5 Sep 2013 4:07 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Sep 12 16:52:59 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43)	3-Methylphenanthrene	0.000		0	N.D.	d	
44)	2-Methylphenanthrene	0.000		0	N.D.	d	
45)	2-Methylanthracene	0.000		0	N.D.	d	
46)	4/9-Methylphenanthrene	0.000		0	N.D.	d	
47)	1-Methylphenanthrene	26.830	192	443600m	227.32		
48)	3,6-Dimethylphenanthrene	27.938	206	401137m	241.95		
49)	Retene	30.604	234	194826m	226.18		
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51)	C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52)	C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53)	Naphthobenzothiophene	32.878	234	640145m	242.80		
54)	C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55)	C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56)	C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57)	C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58)	Fluoranthene	28.838	202	667628m	238.78		
59)	Pyrene	29.600	202	848632m	236.27		
60)	2-Methylfluoranthene	30.362	216	551352m	247.43		
61)	Benzo(b)fluorene	30.985	216	486947m	252.12		
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	33.692	228	601676m	234.52		
68)	Chrysene/Triphenylene	33.809	228	747816m	245.95		
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	42.599	191	218712m	257.04		
77)	Benzo(b)fluoranthene	37.223	252	735059m	250.96		
78)	Benzo(k,j)fluoranthene	37.300	252	674746m	295.58		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.192	252	663283m	249.42		
81)	Benzo(a)pyrene	38.348	252	686790m	245.84		
82)	Indeno(1,2,3-c,d)pyrene	43.004	276	607638m	246.07		
83)	Dibenzo(a,h)anthracene	43.078	278	497773m	230.11		
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87)	Benzo(g,h,i)perylene	44.368	276	475797m	205.72		
89)	Perylene	38.658	252	712839m	252.54		
91)	C20-TAS	0.000		0	N.D.	d	
92)	C21-TAS	0.000		0	N.D.	d	
93)	C26(20S)-TAS	0.000		0	N.D.	d	
94)	C26(20R)/C27(20S)-TAS	39.279	231	915674m	283.97		
95)	C28(20S)-TAS	0.000		0	N.D.	d	
96)	C27(20R)-TAS	0.000		0	N.D.	d	
97)	C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70063\
Data File : MS70063L.D
Acq On : 5 Sep 2013 4:07 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Sep 12 16:52:59 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

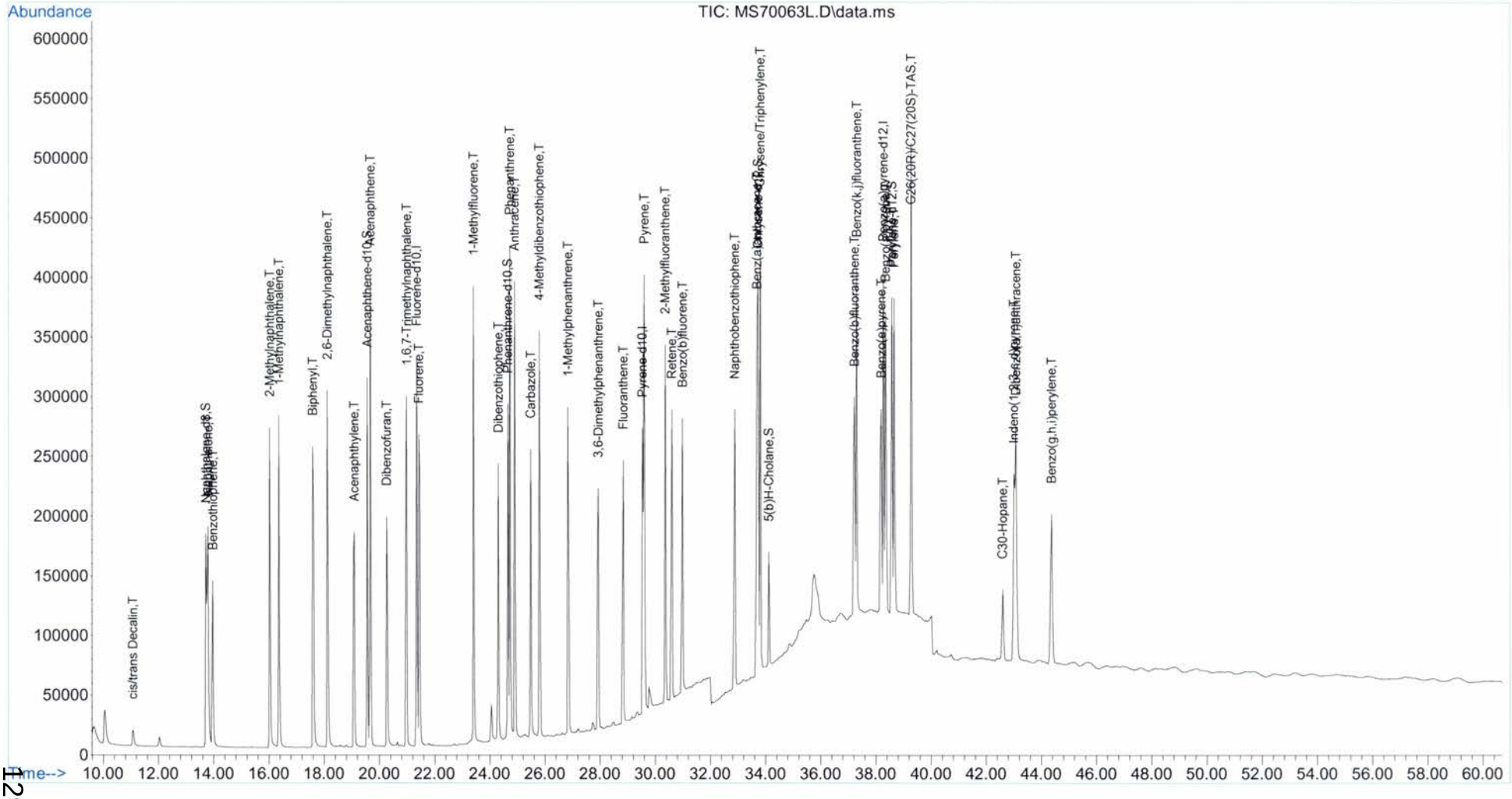
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70063\
Data File : MS70063L.D
Acq On : 5 Sep 2013 4:07 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Sep 12 16:52:59 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70063\
Data File : MS70063M.D
Acq On : 6 Sep 2013 2:24 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Sep 12 16:21:45 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 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	70	0.00
2	S	Naphthalene-d8	1.654	1.514	8.5	69	0.00
3	T	cis/trans Decalin	0.278	0.275	1.1	73	0.00
4	un	C1-Decalins	0.278	0.000	100.0#	0#	-12.26#
5	un	C2-Decalins	0.278	0.000	100.0#	0#	-13.60#
6	un	C3-Decalins	0.278	0.000	100.0#	0#	-15.83#
7	un	C4-Decalins	0.278	0.000	100.0#	0#	-18.47#
8	T	Naphthalene	1.700	1.556	8.5	70	0.00
9	T	2-Methylnaphthalene	1.143	1.067	6.6	70	0.00
10	T	1-Methylnaphthalene	1.078	0.997	7.5	70	0.00
11	T	2,6-Dimethylnaphthalene	1.021	0.941	7.8	70	0.00
12	T	1,6,7-Trimethylnaphthalene	0.952	0.882	7.4	71	0.00
13	un	C2-Naphthalenes	1.700	0.000	100.0#	0#	-18.84#
14	un	C3-Naphthalenes	1.700	0.000	100.0#	0#	-20.28#
15	un	C4-Naphthalenes	1.700	0.000	100.0#	0#	-22.07#
16	T	Benzothiophene	1.331	1.207	9.3	70	0.00
17	un	C1-Benzothiophenes	1.331	0.000	100.0#	0#	-15.41#
18	un	C2-Benzothiophenes	1.331	0.000	100.0#	0#	-17.86#
19	un	C3-Benzothiophenes	1.331	0.000	100.0#	0#	-20.26#
20	un	C4-Benzothiophenes	1.331	0.000	100.0#	0#	-22.01#
21	S	Acenaphthene-d10	0.961	0.885	7.9	69	0.00
22	T	Biphenyl	1.460	1.331	8.8	69	0.00
23	T	Acenaphthylene	1.723	1.600	7.1	72	0.00
24	T	Acenaphthene	1.022	0.942	7.8	70	0.00
25	T	Dibenzofuran	1.627	1.490	8.4	70	0.00
26	T	Fluorene	1.285	1.193	7.2	71	0.00
27	T	1-Methylfluorene	0.898	0.838	6.7	72	0.00
28	un	C1-Fluorenes	1.285	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.285	0.000	100.0#	0#	-24.82#
30	un	C3-Fluorenes	1.285	0.000	100.0#	0#	-27.21#
31	I	Pyrene-d10	1.000	1.000	0.0	71	0.00
32	S	Phenanthrene-d10	1.001	0.914	8.7	70	0.00
33	T	Carbazole	1.013	0.934	7.8	72	0.00
34	T	Dibenzothiophene	1.020	0.922	9.6	70	0.00
35	T	4-Methyldibenzothiophene	0.840	0.778	7.4	71	0.00
36	un	2/3-Methyldibenzothiophene	0.840	0.000	100.0#	0#	-26.14#
37	un	1-Methyldibenzothiophene	0.840	0.000	100.0#	0#	-26.45#
38	un	C2-Dibenzothiophenes	1.020	0.000	100.0#	0#	-27.97#
39	un	C3-Dibenzothiophenes	1.020	0.000	100.0#	0#	-29.22#
40	un	C4-Dibenzothiophenes	1.020	0.000	100.0#	0#	-30.81#
41	T	Phenanthrene	1.234	1.119	9.3	68	0.00
42	T	Anthracene	1.164	1.089	6.4	70	0.00
43	un	3-Methylphenanthrene	0.792	0.000	100.0#	0#	-26.86#
44	un	2-Methylphenanthrene	0.792	0.000	100.0#	0#	-26.86#
45	un	2-Methylanthracene	0.792	0.000	100.0#	0#	-26.86#
46	un	4/9-Methylphenanthrene	0.792	0.000	100.0#	0#	-26.86#

Data Path : C:\GCMS7\MS70063\
Data File : MS70063M.D
Acq On : 6 Sep 2013 2:24 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Sep 12 16:21:45 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 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	0.792	0.729	8.0	72	0.00
48	T	3,6-Dimethylphenanthrene	0.673	0.628	6.7	74	0.00
49	T	Retene	0.350	0.324	7.4	73	0.00
50	un	C2-Phenanthrenes/Anthracene	1.234	0.000	100.0#	0#	-28.49#
51	un	C3-Phenanthrenes/Anthracene	1.234	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.234	0.000	100.0#	0#	-31.89#
53	T	Naphthobenzothiophene	1.071	0.987	7.8	73	0.00
54	un	C1-Naphthobenzothiophenes	1.071	0.000	100.0#	0#	-34.16#
55	un	C2-Naphthobenzothiophenes	1.071	0.000	100.0#	0#	-35.94#
56	un	C3-Naphthobenzothiophenes	1.071	0.000	100.0#	0#	-37.84#
57	un	C4-Naphthobenzothiophenes	1.071	0.000	100.0#	0#	-37.73#
58	T	Fluoranthene	1.135	1.054	7.1	73	0.00
59	T	Pyrene	1.458	1.359	6.8	70	0.00
60	T	2-Methylfluoranthene	0.905	0.866	4.3	75	0.00
61	T	Benzo(b)fluorene	0.784	0.741	5.5	75	0.00
62	un	C1-Fluoranthenes/Pyrenes	1.135	0.000	100.0#	0#	-30.60#
63	un	C2-Fluoranthenes/Pyrenes	1.135	0.000	100.0#	0#	-32.10#
64	un	C3-Fluoranthenes/Pyrenes	1.135	0.000	100.0#	0#	-33.89#
65	un	C4-Fluoranthenes/Pyrenes	1.135	0.000	100.0#	0#	-35.24#
66	S	Chrysene-d12	1.036	0.886	14.5	69	0.00
67	T	Benz(a)anthracene	1.042	0.935	10.3	73	0.00
68	T	Chrysene/Triphenylene	1.235	1.136	8.0	72	0.00
69	un	C1-Chrysenes	1.235	0.000	100.0#	0#	-35.21#
70	un	C2-Chrysenes	1.235	0.000	100.0#	0#	-37.18#
71	un	C3-Chrysenes	1.235	0.000	100.0#	0#	-38.04#
72	un	C4-Chrysenes	1.235	0.000	100.0#	0#	-39.90#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	50	0.00
74	un	C29-Hopane	0.400	0.000	100.0#	0#	-40.64#
75	un	18a-Oleanane	0.400	0.000	100.0#	0#	-42.45#
76	T	C30-Hopane	0.400	0.450	-12.5	62	0.00
77	T	Benzo(b)fluoranthene	1.377	1.450	-5.3	59	0.04
78	T	Benzo(k,j)fluoranthene	1.073	1.237	-15.3	65	0.00
79	un	Benzo(a)fluoranthene	1.073	0.000	100.0#	0#	-37.22#
80	T	Benzo(e)pyrene	1.250	1.240	0.8	56	0.04
81	T	Benzo(a)pyrene	1.313	1.315	-0.2	55	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.161	0.957	17.6	47#	0.00
83	T	Dibenzo(a,h)anthracene	1.017	0.814	20.0	44#	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.017	0.000	100.0#	0#	-48.68#
85	un	C2-Dibenzo(a,h)anthracenes	1.017	0.000	100.0#	0#	-50.27#
86	un	C3-Dibenzo(a,h)anthracenes	1.017	0.000	100.0#	0#	-50.82#
87	T	Benzo(g,h,i)perylene	1.087	0.736	32.3#	36#	0.04
88	S	Perylene-d12	1.092	1.058	3.1	55	0.00
89	T	Perylene	1.327	1.329	-0.2	56	0.00
90	S	5(b)H-Cholane	0.251	0.289	-15.1	64	0.00
91	un	C20-TAS	1.516	0.000	100.0#	0#	-33.73#
92	un	C21-TAS	1.516	0.000	100.0#	0#	-34.16#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70063\
Data File : MS70063M.D
Acq On : 6 Sep 2013 2:24 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Sep 12 16:21:45 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 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	1.516	0.000	100.0#	0#	-38.58#
94 T	C26(20R)/C27(20S)-TAS	1.516	1.790	-18.1	66	0.00
95 un	C28(20S)-TAS	1.516	0.000	100.0#	0#	-39.74#
96 un	C27(20R)-TAS	1.516	0.000	100.0#	0#	-40.94#
97 un	C28(20R)-TAS	1.516	0.000	100.0#	0#	-40.94#

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

Data Path : C:\GCMS7\MS70063\
Data File : MS70063M.D
Acq On : 6 Sep 2013 2:24 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Sep 12 16:21:45 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.343	176	343434m	251.05	0.00
31) Pyrene-d10	29.531	212	619747m	250.63	0.00
73) Benzo(a)pyrene-d12	38.270	264	457251m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.711	136	518041m	228.96	0.00
21) Acenaphthene-d10	19.561	164	302838m	230.45	0.00
32) Phenanthrene-d10	24.648	188	565474m	228.39	0.00
66) Chrysene-d12	33.731	240	547786m	213.77	0.00
88) Perylene-d12	38.580	264	483241m	242.35	0.00
90) 5(b)H-Cholane	34.119	217	132072m	287.52	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.064	138	93170m	244.91	
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	532042m	228.73	
9) 2-Methylnaphthalene	16.023	142	365163m	233.54	
10) 1-Methylnaphthalene	16.357	142	340615m	230.88	
11) 2,6-Dimethylnaphthalene	18.112	156	321949m	230.50	
12) 1,6,7-Trimethylnaphtha...	20.981	170	301582m	231.66	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.961	134	410374m	225.35	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.583	154	450996m	225.75	
23) Acenaphthylene	19.059	152	542871m	230.31	
24) Acenaphthene	19.672	154	322919m	230.92	
25) Dibenzofuran	20.257	168	507113m	227.82	
26) Fluorene	21.427	166	408990m	232.71	
27) 1-Methylfluorene	23.402	180	288683m	235.05	
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	25.479	167	572102m	228.28	
34) Dibenzothiophene	24.302	184	561988m	222.85	
35) 4-Methyldibenzothiophene	25.791	198	484682m	233.47	
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	24.718	178	685547m	224.71	
42) Anthracene	24.891	178	675341m	234.57	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70063\
Data File : MS70063M.D
Acq On : 6 Sep 2013 2:24 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Sep 12 16:21:45 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43)	3-Methylphenanthrene	0.000		0	N.D.	d	
44)	2-Methylphenanthrene	0.000		0	N.D.	d	
45)	2-Methylanthracene	0.000		0	N.D.	d	
46)	4/9-Methylphenanthrene	0.000		0	N.D.	d	
47)	1-Methylphenanthrene	26.830	192	445678m	227.45		
48)	3,6-Dimethylphenanthrene	27.938	206	388480m	233.37		
49)	Retene	30.604	234	179058m	207.02		
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	32.877	234	613853m	231.88		
54)	C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55)	C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56)	C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57)	C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58)	Fluoranthene	28.838	202	652430m	232.39		
59)	Pyrene	29.600	202	840124m	232.95		
60)	2-Methylfluoranthene	30.362	216	539284m	241.03		
61)	Benzo(b)fluorene	30.985	216	462299m	238.38		
62)	C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63)	C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64)	C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65)	C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67)	Benz(a)anthracene	33.692	228	577098m	224.03		
68)	Chrysene/Triphenylene	33.809	228	698199m	228.70		
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	42.599	191	205579m	281.39		
77)	Benzo(b)fluoranthene	37.222	252	663553m	263.85		
78)	Benzo(k,j)fluoranthene	37.300	252	562766m	287.11		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.192	252	563846m	246.94		
81)	Benzo(a)pyrene	38.348	252	599209m	249.80		
82)	Indeno(1,2,3-c,d)pyrene	43.004	276	429807m	202.72		
83)	Dibenzo(a,h)anthracene	43.078	278	368421m	198.36		
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87)	Benzo(g,h,i)perylene	44.368	276	333080m	167.72		
89)	Perylene	38.658	252	607710m	250.75		
91)	C20-TAS	0.000		0	N.D.	d	
92)	C21-TAS	0.000		0	N.D.	d	
93)	C26(20S)-TAS	0.000		0	N.D.	d	
94)	C26(20R)/C27(20S)-TAS	39.279	231	817634m	295.31		
95)	C28(20S)-TAS	0.000		0	N.D.		
96)	C27(20R)-TAS	0.000		0	N.D.	d	
97)	C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70063\
Data File : MS70063M.D
Acq On : 6 Sep 2013 2:24 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Sep 12 16:21:45 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

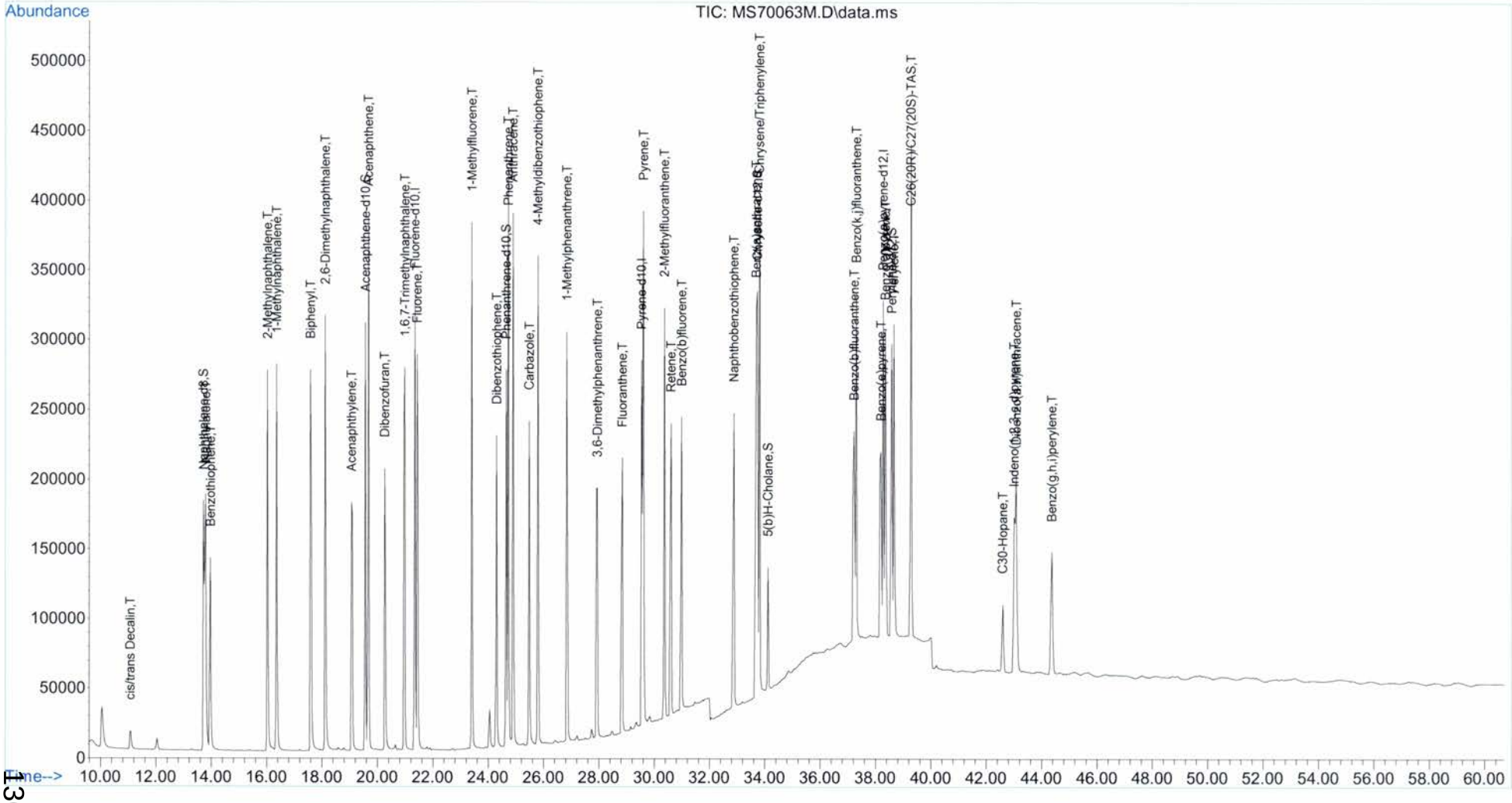
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70063\
Data File : MS70063M.D
Acq On : 6 Sep 2013 2:24 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Sep 12 16:21:45 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration



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

Data File Name	MS70063H.D
Data File Path	P:\2013\J13034\PAH\MSDChemstation\MS70063\
Operator	YM
Date Acquired	9/5/2013 3:33
Acq. Method File	PAH-2012.M
Sample Name	AR-WKISSU-250-002
Misc Info	0
Instrument Name	GCMSD
Vial Number	8
Sample Multiplier	1
Sample Amount	0

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

Copy data below to Spread Sheet

MS70063H.D
AR-WKISSU-250-002
9/5/2013
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	679466	235.20	94.03
21)	Acenaphthene-d10	19.56	392086	233.69	93.41
32)	Phenanthrene-d10	24.65	700491	212.86	85.08
66)	Chrysene-d12	33.73	664021	194.96	77.97
88)	Perylene-d12	38.58	774462	225.66	90.25
90)	5(b)H-Cholane	34.12	177121	224.02	89.61
	Internal Standards				
1)	Fluorene-d10	21.34	438483	251.05	
31)	Pyrene-d10	29.53	823728	250.63	
73)	Benzo(a)pyrene-d12	38.27	787022	250.33	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : MS70063H.D
Acq On : 5 Sep 2013 3:33 am
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 12 16:25:01 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.343	176	438483m	251.05		0.00
31) Pyrene-d10	29.531	212	823728m	250.63		0.00
73) Benzo(a)pyrene-d12	38.270	264	787022m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.711	136	679466m	235.20		0.00
21) Acenaphthene-d10	19.561	164	392086m	233.69		0.00
32) Phenanthrene-d10	24.648	188	700491m	212.86		0.00
66) Chrysene-d12	33.731	240	664021m	194.96		0.00
88) Perylene-d12	38.580	264	774462m	225.66		0.00
90) 5(b)H-Cholane	34.119	217	177121m	224.02		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	0.000		0	N.D.	d	
9) 2-Methylnaphthalene	0.000		0	N.D.	d	
10) 1-Methylnaphthalene	0.000		0	N.D.	d	
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.		
16) Benzothiophene	0.000		0	N.D.		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	0.000		0	N.D.	d	
23) Acenaphthylene	0.000		0	N.D.	d	
24) Acenaphthene	0.000		0	N.D.	d	
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	0.000		0	N.D.	d	
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	0.000		0	N.D.	d	
35) 4-Methyldibenzothiophene	0.000		0	N.D.	d	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	0.000		0	N.D.	d	
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : MS70063H.D
Acq On : 5 Sep 2013 3:33 am
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 12 16:25:01 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : MS70063H.D
Acq On : 5 Sep 2013 3:33 am
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 12 16:25:01 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

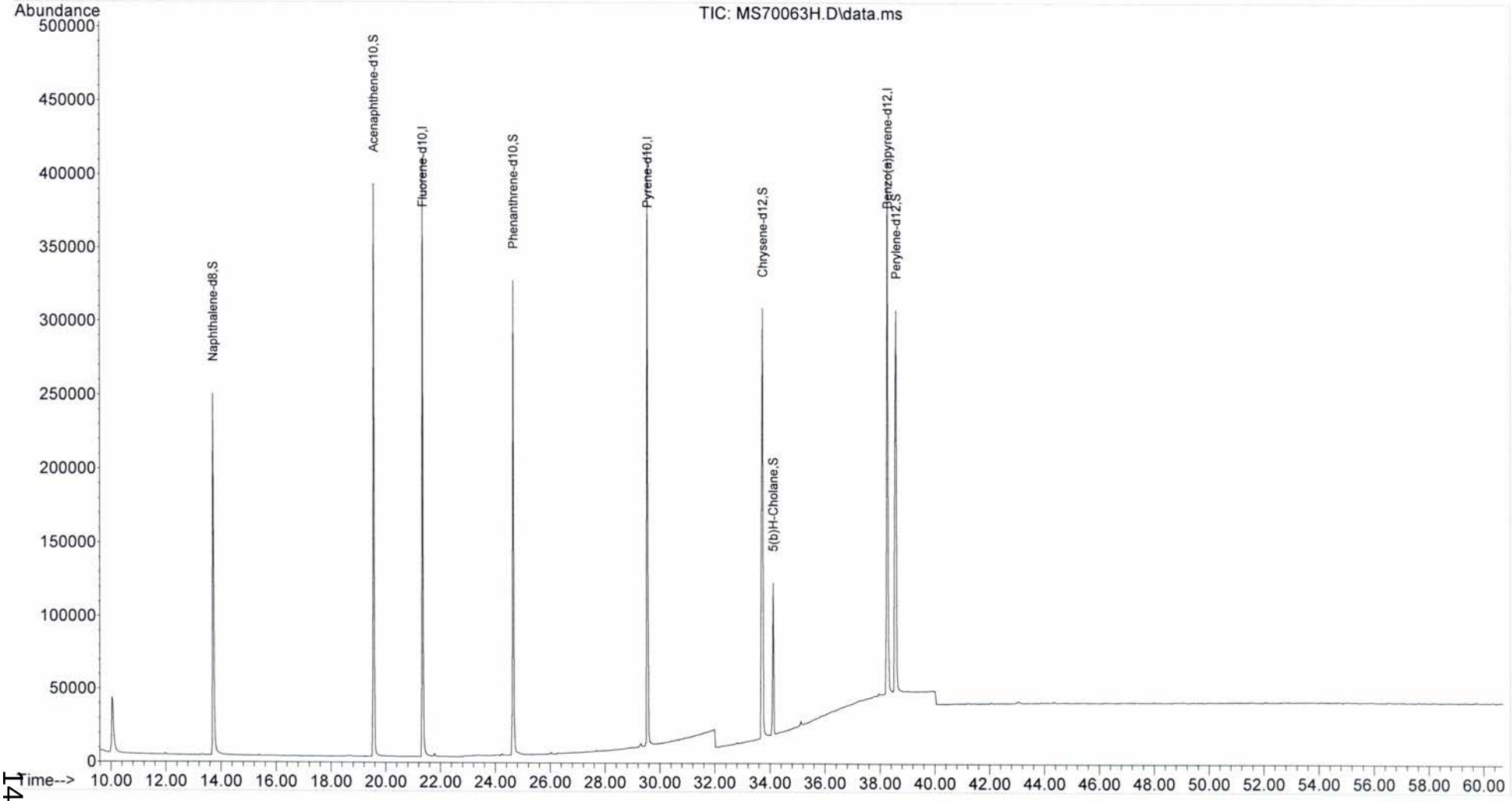
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : MS70063H.D
Acq On : 5 Sep 2013 3:33 am
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 12 16:25:01 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration



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

Data File Name	MS70063K.D
Data File Path	P:\2013\J13034\PAH\MSDChemstation\MS70063\
Operator	YM
Date Acquired	9/5/2013 6:58
Acq. Method File	PAH-2012.M
Sample Name	AR-SRM2779-WK4.0-002
Misc Info	0
Instrument Name	GCMSD
Vial Number	11
Sample Multiplier	0.24461
Sample Amount	0

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

Copy data below to Spread Sheet

MS70063K.D
\R-SRM2779-WK4.0-002
9/5/2013
PAH-2012.M
4.088140305

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.06	1767710	630.3771	740.6863
4)	C1-Decalins	12.23	2490480	888.1251	1043.5375
5)	C2-Decalins	13.71	2138800	762.7111	896.1774
6)	C3-Decalins	16.58	2060390	734.7522	863.3260
7)	C4-Decalins	17.61	1091870	389.3702	457.5058
8)	Naphthalene	13.79	11117300	648.3731	761.8314
9)+10)	C1-Naphthalenes	16.19	24662560	1438.3474	1690.0428
13)	C2-Naphthalenes	18.39	28368100	1654.4613	1943.9744
14)	C3-Naphthalenes	20.40	18647700	1087.5556	1277.8662
15)	C4-Naphthalenes	22.71	10220200	596.0534	700.3564
16)	Benzothiophene	13.99	98640	7.3482	8.6341
17)	C1-Benzothiophenes	15.52	358103	26.6769	31.3451
18)	C2-Benzothiophenes	18.53	348758	25.9808	30.5271
19)	C3-Benzothiophenes	20.23	442230	32.9441	38.7089
20)	C4-Benzothiophenes	21.68	346271	25.7956	30.3095
22)	Biphenyl	17.58	2083160	141.4592	166.2130
23)	Acenaphthylene	19.06	139284	8.0161	9.4188
24)	Acenaphthene	19.67	90200	8.7503	10.2815
25)	Dibenzofuran	20.26	416059	25.3570	29.7942
26)	Fluorene	21.43	1286750	99.3224	116.7028
28)	C1-Fluorenes	23.40	3200390	247.0316	290.2595
29)	C2-Fluorenes	25.24	4511440	348.2292	409.1656
30)	C3-Fluorenes	26.73	3604690	278.2390	326.9278
33)	Carbazole	25.48	48277	2.5071	2.9458
42)	Anthracene	24.89	54849	2.4794	2.9133
41)	Phenanthrene	24.72	4753350	202.7819	238.2666
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.62	10030323	427.9021	502.7804
50)	C2-Phenanthrenes/Anthracenes	28.28	10377700	442.7221	520.1937
51)	C3-Phenanthrenes/Anthracenes	29.84	7206970	307.4552	361.2566
52)	C4-Phenanthrenes/Anthracenes	31.68	4911420	209.5253	246.1900
34)	Dibenzothiophene	24.30	741473	38.2661	44.9622
35)+36)+37)	C1-Dibenzothiophenes	26.10	2099894	108.3717	127.3355
38)	C2-Dibenzothiophenes	27.21	2590840	133.7087	157.1063
39)	C3-Dibenzothiophenes	28.70	2031600	104.8472	123.1943
40)	C4-Dibenzothiophenes	29.70	1060580	54.7349	64.3129
58)	Fluoranthene	28.84	84184	3.9026	4.5855
59)	Pyrene	29.60	268736	9.6981	11.3951
62)	C1-Fluoranthenes/Pyrenes	30.74	1399070	64.8579	76.2073
63)	C2-Fluoranthenes/Pyrenes	32.22	2386680	110.6415	130.0026
64)	C3-Fluoranthenes/Pyrenes	33.93	2384530	110.5419	129.8856
65)	C4-Fluoranthenes/Pyrenes	35.05	2423600	112.3530	132.0136
53)	Naphthobenzothiophene	32.88	597256	29.3625	34.5006
54)	C1-Naphthobenzothiophenes	34.62	949604	46.6848	54.8541
55)	C2-Naphthobenzothiophenes	35.71	1226280	60.2866	70.8361
56)	C3-Naphthobenzothiophenes	36.80	848102	41.6948	48.9909
57)	C4-Naphthobenzothiophenes	38.08	394090	19.3744	22.7647
67)	Benz(a)anthracene	33.73	132584	6.6986	7.8708
68)	Chrysene/Triphenylene	33.77	849050	36.1954	42.5292
69)	C1-Chrysenes	35.01	2264890	96.5532	113.4490
70)	C2-Chrysenes	36.49	2660310	113.4102	133.2558
71)	C3-Chrysenes	37.88	1740930	74.2164	87.2035
72)	C4-Chrysenes	39.28	1100450	46.9125	55.1217
77)	Benzo(b)fluoranthene	37.22	110619	3.9145	4.5995
78)	Benzo(k,j)fluoranthene	37.30	10816	0.4911	0.5770
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.19	194470	7.5796	8.9060
81)	Benzo(a)pyrene	38.35	44977	1.6687	1.9607
89)	Perylene	38.58	13863	0.5091	0.5981
82)	Indeno(1,2,3-c,d)pyrene	43.04	12960	0.5440	0.6392
83)	Dibenzo(a,h)anthracene	43.04	10458	0.5011	0.5888
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.37	35196	1.5773	1.8533

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	15182600	1317.2493	1547.7539
10)	1-Methylnaphthalene	16.36	9479960	871.7460	1024.2922
11)	2,6-Dimethylnaphthalene	18.14	7896730	766.9967	901.2129
12)	1,6,7-Trimethylnaphthalene	20.98	2495390	260.0376	305.5413
27)	1-Methylfluorene	23.40	1725600	190.6055	223.9594
35)	4-Methyldibenzothiophene	25.79	1182340	74.1247	87.0957
36)	2/3-Methyldibenzothiophene	26.10	578716	36.2815	42.6304
37)	1-Methyldibenzothiophene	26.41	338838	21.2429	24.9602
43)	3-Methylphenanthrene	26.38	2619440	173.9879	204.4339
44)	2-Methylphenanthrene	26.48	2336380	155.1865	182.3424
45)	2-Methylanthracene	26.62	236873	15.7335	18.4867
46)	4/9-Methylphenanthrene	26.76	2922480	194.1164	228.0847
47)	1-Methylphenanthrene	26.83	1915150	127.2072	149.4671
48)	3,6-Dimethylphenanthrene	27.94	740311	57.8794	68.0076
49)	Retene	30.64	46032	6.9267	8.1388
60)	2-Methylfluoranthene	30.36	83312	4.8461	5.6941
61)	Benzo(b)fluorene	30.99	193304	12.9727	15.2428
74)	C29-Hopane	40.57	178422	21.7341	25.5374
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	41.86	302680	36.8703	43.3222
91)	C20-TAS	33.27	146890	4.7216	5.5478
92)	C21-TAS	34.35	139804	4.4938	5.2802
93)	C26(20S)-TAS	38.43	95048	3.0552	3.5898
94)	C26(20R)/C27(20S)-TAS	39.32	292212	9.3927	11.0364
95)	C28(20S)-TAS	40.09	249149	8.0085	9.4099
96)	C27(20R)-TAS	40.53	189605	6.0946	7.1611
97)	C28(20R)-TAS	41.64	182926	5.8799	6.9088
	Surrogate Standards				
2)	Naphthalene-d8	13.71	940302	56.38	92.15
21)	Acenaphthene-d10	19.56	555839	57.38	93.77
32)	Phenanthrene-d10	24.65	990866	52.09	85.11
66)	Chrysene-d12	33.73	1044470	53.05	86.73
88)	Perylene-d12	38.58	1193250	53.26	87.08
90)	5(b)H-Cholane	34.12	314790	60.99	99.73
	Internal Standards				
1)	Fluorene-d10	21.34	619246	61.41	
31)	Pyrene-d10	29.53	1164790	61.31	
73)	Benzo(a)pyrene-d12	38.27	1256780	61.23	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : MS70063K.D
Acq On : 5 Sep 2013 6:58 am
Operator : YM
Sample : AR-SRM2779-WK4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Sep 13 15:29:21 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.343	176	619246m	251.05		0.00
31) Pyrene-d10	29.531	212	1164794m	250.63		0.00
73) Benzo(a)pyrene-d12	38.270	264	1256780m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.711	136	940302m	56.38		0.00
21) Acenaphthene-d10	19.561	164	555839m	57.38		0.00
32) Phenanthrene-d10	24.648	188	990866m	52.09		0.00
66) Chrysene-d12	33.731	240	1044468m	53.05		0.00
88) Perylene-d12	38.580	264	1193254m	53.26		0.00
90) 5(b)H-Cholane	34.119	217	314790m	60.99		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.064	138	1767705m	630.38		
4) C1-Decalins	12.234	152	2490480m	888.12		
5) C2-Decalins	13.711	166	2138798m	762.71		
6) C3-Decalins	16.580	180	2060390m	734.75		
7) C4-Decalins	17.611	194	1091870m	389.37		
8) Naphthalene	13.794	128	11117288m	648.37		
9) 2-Methylnaphthalene	16.023	142	15182633m	1317.25		
10) 1-Methylnaphthalene	16.357	142	9479957m	871.75		
11) 2,6-Dimethylnaphthalene	18.140	156	7896728m	767.00		
12) 1,6,7-Trimethylnaphtha...	20.981	170	2495389m	260.04		
13) C2-Naphthalenes	18.391	156	28368107m	1654.46		
14) C3-Naphthalenes	20.396	170	18647679m	1087.56		
15) C4-Naphthalenes	22.708	184	10220170m	596.05		
16) Benzothiophene	13.989	134	98640m	7.35		
17) C1-Benzothiophenes	15.521	148	358103m	26.68		
18) C2-Benzothiophenes	18.530	162	348758m	25.98		
19) C3-Benzothiophenes	20.229	176	442230m	32.94		
20) C4-Benzothiophenes	21.678	190	346271m	25.80		
22) Biphenyl	17.583	154	2083162m	141.46		
23) Acenaphthylene	19.059	152	139284m	8.02		
24) Acenaphthene	19.672	154	90200m	8.75		
25) Dibenzofuran	20.257	168	416059m	25.36		
26) Fluorene	21.427	166	1286754m	99.32		
27) 1-Methylfluorene	23.402	180	1725600m	190.61		
28) C1-Fluorenes	23.402	180	3200394m	247.03		
29) C2-Fluorenes	25.237	194	4511438m	348.23		
30) C3-Fluorenes	26.726	208	3604694m	278.24		
33) Carbazole	25.479	167	48277m	2.51		
34) Dibenzothiophene	24.302	184	741473m	38.27		
35) 4-Methyldibenzothiophene	25.791	198	1182336m	74.12		
36) 2/3-Methyldibenzothiop...	26.103	198	578716m	36.28		
37) 1-Methyldibenzothiophene	26.414	198	338838m	21.24		
38) C2-Dibenzothiophenes	27.211	212	2590843m	133.71		
39) C3-Dibenzothiophenes	28.700	226	2031600m	104.85		
40) C4-Dibenzothiophenes	29.704	240	1060584m	54.73		
41) Phenanthrene	24.718	178	4753346m	202.78		
42) Anthracene	24.891	178	54849m	2.48		
43) 3-Methylphenanthrene	26.380	192	2619441m	173.99		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : MS70063K.D
Acq On : 5 Sep 2013 6:58 am
Operator : YM
Sample : AR-SRM2779-WK4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Sep 13 15:29:21 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.484	192	2336379m	155.19		
45) 2-Methylanthracene	26.622	192	236873m	15.73		
46) 4/9-Methylphenanthrene	26.761	192	2922481m	194.12		
47) 1-Methylphenanthrene	26.830	192	1915145m	127.21		
48) 3,6-Dimethylphenanthrene	27.938	206	740311m	57.88		
49) Retene	30.639	234	46032m	6.93		
50) C2-Phenanthrenes/Anthr...	28.284	206	10377728m	442.72		
51) C3-Phenanthrenes/Anthr...	29.843	220	7206969m	307.46		
52) C4-Phenanthrenes/Anthr...	31.678	234	4911415m	209.53		
53) Naphthobenzothiophene	32.878	234	597256m	29.36		
54) C1-Naphthobenzothiophenes	34.623	248	949604m	46.68		
55) C2-Naphthobenzothiophenes	35.710	262	1226277m	60.29		
56) C3-Naphthobenzothiophenes	36.796	276	848102m	41.69		
57) C4-Naphthobenzothiophenes	38.076	290	394090m	19.37		
58) Fluoranthene	28.838	202	84184m	3.90		
59) Pyrene	29.600	202	268736m	9.70		
60) 2-Methylfluoranthene	30.362	216	83312m	4.85		
61) Benzo(b)fluorene	30.985	216	193304m	12.97		
62) C1-Fluoranthenes/Pyrenes	30.743	216	1399065m	64.86		
63) C2-Fluoranthenes/Pyrenes	32.218	230	2386677m	110.64		
64) C3-Fluoranthenes/Pyrenes	33.925	244	2384530m	110.54		
65) C4-Fluoranthenes/Pyrenes	35.050	258	2423600m	112.35		
67) Benz(a)anthracene	33.731	228	132584m	6.70		
68) Chrysene/Triphenylene	33.770	228	849050m	36.20		
69) C1-Chrysenes	35.011	242	2264887m	96.55		
70) C2-Chrysenes	36.486	256	2660307m	113.41		
71) C3-Chrysenes	37.882	270	1740925m	74.22		
72) C4-Chrysenes	39.279	284	1100446m	46.91		
74) C29-Hopane	40.571	191	178422m	21.73		
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	41.861	191	302680m	36.87		
77) Benzo(b)fluoranthene	37.223	252	110619m	3.91		
78) Benzo(k,j)fluoranthene	37.300	252	10816m	0.49		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.192	252	194470m	7.58		
81) Benzo(a)pyrene	38.348	252	44977m	1.67		
82) Indeno(1,2,3-c,d)pyrene	43.041	276	12960m	0.54		
83) Dibenzo(a,h)anthracene	43.041	278	10458m	0.50		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.368	276	35196m	1.58		
89) Perylene	38.580	252	13863m	0.51		
91) C20-TAS	33.266	231	146890m	4.72		
92) C21-TAS	34.352	231	139804m	4.49		
93) C26(20S)-TAS	38.425	231	95048m	3.06		
94) C26(20R)/C27(20S)-TAS	39.318	231	292212m	9.39		
95) C28(20S)-TAS	40.091	231	249149m	8.01		
96) C27(20R)-TAS	40.534	231	189605m	6.09		
97) C28(20R)-TAS	41.640	231	182926m	5.88		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : MS70063K.D
Acq On : 5 Sep 2013 6:58 am
Operator : YM
Sample : AR-SRM2779-WK4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Sep 13 15:29:21 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

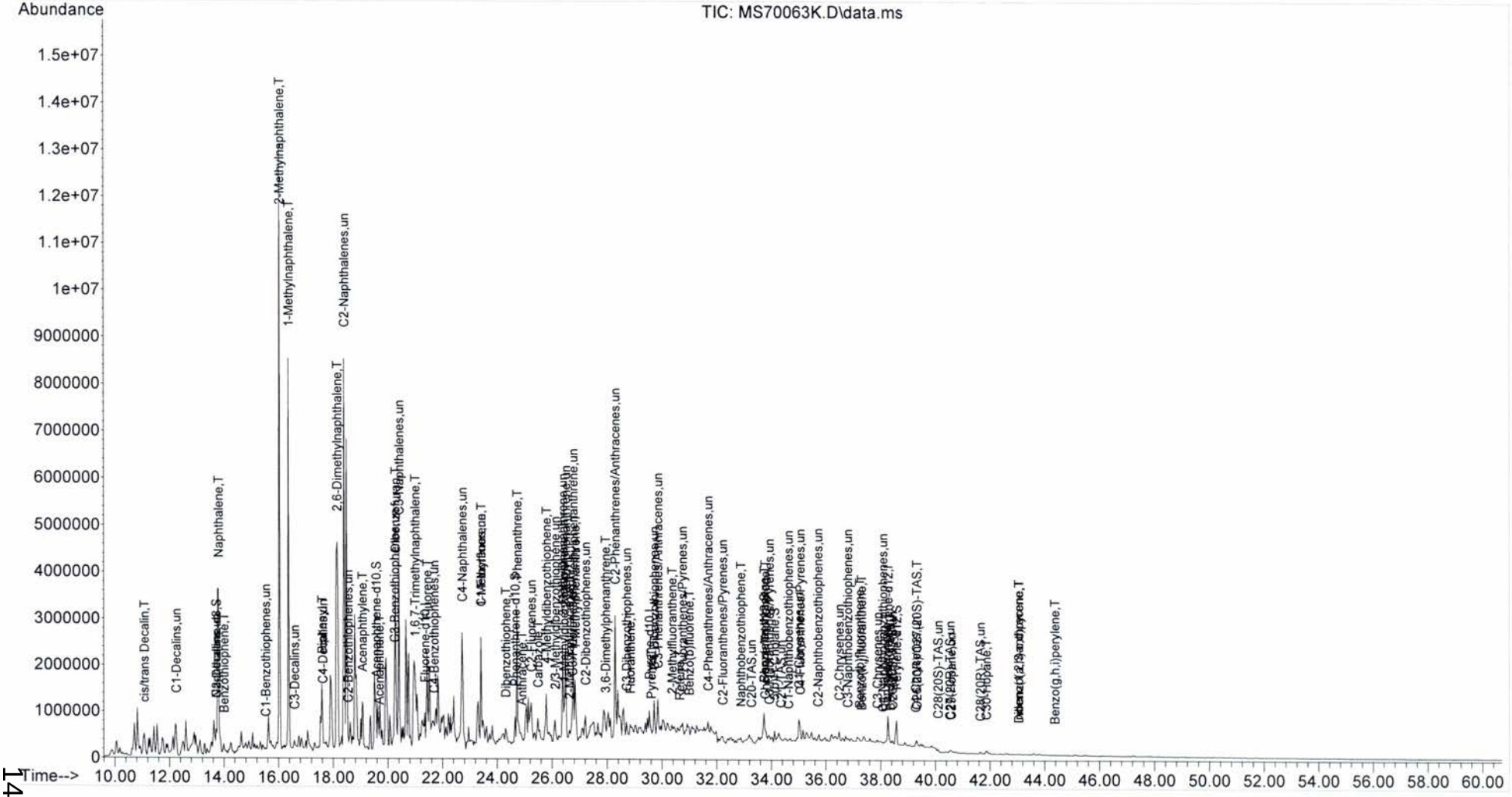
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : MS70063K.D
Acq On : 5 Sep 2013 6:58 am
Operator : YM
Sample : AR-SRM2779-WK4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Sep 13 15:29:21 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration



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

Data File Name	ENV3095A.D	**Surrogate/Internal Multiplier Factor:**	1.00		
Data File Path	P:\2013\J13034\PAH\MSDChemstation\MS70063\	**AR-WKSU-2500-001:**	**(ng/mL)**		
Operator	YM	Naphthalene-d8	250.125		
Date Acquired	9/5/2013 8:07	Acenaphthene-d10	250.163	***Copy data below***	
Acq. Method File	PAH-2012.M	Phenanthrene-d10	250.194	***to Spread Sheet***	
Sample Name	Procedural Blank	Chrysene-d12	250.038		
Misc Info	0	Perylene-d12	250.031	ENV3095A.D	
Instrument Name	GCMSD	5(b)H-Cholane	250.000	Procedural Blank	
Vial Number	12			9/5/2013	
Sample Multiplier	0.06667			PAH-2012.M	
Sample Amount	0			14.99925004	

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	0.00	0	0.0000	0.0000
9)+10)	C1-Naphthalenes	0.00	0	0.0000	0.0000
13)	C2-Naphthalenes	0.00	0	0.0000	0.0000
14)	C3-Naphthalenes	0.00	0	0.0000	0.0000
15)	C4-Naphthalenes	0.00	0	0.0000	0.0000
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.61	2390	0.0779	0.1017
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	504728	14.53	87.15
21)	Acenaphthene-d10	19.56	301719	14.96	89.68
32)	Phenanthrene-d10	24.65	528301	12.79	76.67
66)	Chrysene-d12	33.73	539433	12.62	75.68
88)	Perylene-d12	38.58	637785	15.25	91.47
90)	5(b)H-Cholane	34.12	132803	13.78	82.69
	Internal Standards				
1)	Fluorene-d10	21.34	351456	16.74	
31)	Pyrene-d10	29.53	689408	16.71	
73)	Benzo(a)pyrene-d12	38.27	639475	16.69	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ENV3095A.D
Acq On : 5 Sep 2013 8:07 am
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 0.06667

Quant Time: Sep 12 21:41:19 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.343	176	351456m	251.05	0.00
31) Pyrene-d10	29.531	212	689408m	250.63	0.00
73) Benzo(a)pyrene-d12	38.270	264	639475m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.711	136	504728m	14.53	0.00
21) Acenaphthene-d10	19.561	164	301719m	14.96	0.00
32) Phenanthrene-d10	24.648	188	528301m	12.79	0.00
66) Chrysene-d12	33.731	240	539433m	12.62	0.00
88) Perylene-d12	38.580	264	637785m	15.25	0.00
90) 5(b)H-Cholane	34.119	217	132803m	13.78	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	0.000		0	N.D. d	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	0.000		0	N.D. d	
9) 2-Methylnaphthalene	0.000		0	N.D. d	
10) 1-Methylnaphthalene	0.000		0	N.D. d	
11) 2,6-Dimethylnaphthalene	0.000		0	N.D. d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D. d	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D. d	
16) Benzothiophene	0.000		0	N.D. d	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.611	154	2390m	0.08	
23) Acenaphthylene	0.000		0	N.D. d	
24) Acenaphthene	0.000		0	N.D. d	
25) Dibenzofuran	0.000		0	N.D. d	
26) Fluorene	0.000		0	N.D. d	
27) 1-Methylfluorene	0.000		0	N.D. d	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	0.000		0	N.D. d	
34) Dibenzothiophene	0.000		0	N.D. d	
35) 4-Methyldibenzothiophene	0.000		0	N.D. d	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	0.000		0	N.D. d	
42) Anthracene	0.000		0	N.D. d	
43) 3-Methylphenanthrene	0.000		0	N.D. d	

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ENV3095A.D
Acq On : 5 Sep 2013 8:07 am
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 0.06667

Quant Time: Sep 12 21:41:19 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ENV3095A.D
Acq On : 5 Sep 2013 8:07 am
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 0.06667

Quant Time: Sep 12 21:41:19 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

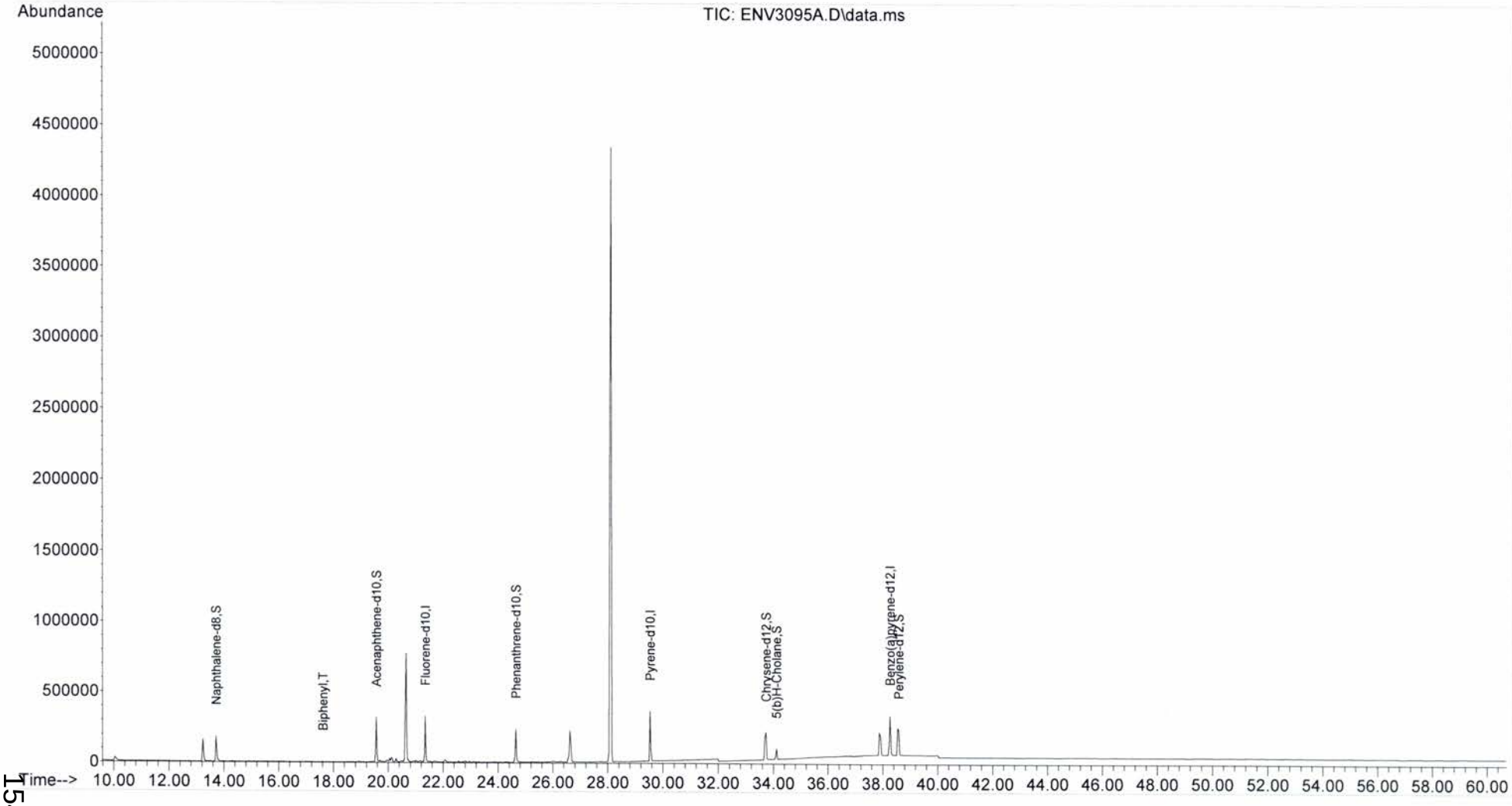
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ENV3095A.D
Acq On : 5 Sep 2013 8:07 am
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 0.06667

Quant Time: Sep 12 21:41:19 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration



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

Data File Name	ENV3095B.D	**Surrogate/Internal Multiplier Factor:**	1.00		
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS70063\	**AR-WKSU-2500-001:**	**(ng/mL)**		
Operator	YM	Naphthalene-d8	250.125		
Date Acquired	9/5/2013 9:16	Acenaphthene-d10	250.163	***Copy data below***	
Acq. Method File	PAH-2012.M	Phenanthrene-d10	250.194	***to Spread Sheet***	
Sample Name	SRM 1941b	Chrysene-d12	250.038		
Misc Info	0	Perylene-d12	250.031	ENV3095B.D	
Instrument Name	GCMSD	5(b)H-Cholane	250.000	SRM 1941b	
Vial Number	13			9/5/2013	
Sample Multiplier	0.24691			PAH-2012.M	
Sample Amount	0			4.050058726	

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.31	69752	39.7802	85.4365
4)	C1-Decalins	12.23	12537	7.1499	15.3561
5)	C2-Decalins	13.38	16724	9.5378	20.4846
6)	C3-Decalins	14.91	48670	27.7569	59.6139
7)	C4-Decalins	17.47	65974	37.6254	80.8087
8)	Naphthalene	13.77	5913870	551.5895	1184.6582
9)+10)	C1-Naphthalenes	16.19	1731330	161.4820	346.8176
13)	C2-Naphthalenes	18.39	1604010	149.6075	321.3145
14)	C3-Naphthalenes	20.40	1075760	100.3368	215.4951
15)	C4-Naphthalenes	22.71	608750	56.7784	121.9440
16)	Benzothiophene	13.96	183672	21.8822	46.9968
17)	C1-Benzothiophenes	16.30	195080	23.2413	49.9158
18)	C2-Benzothiophenes	18.14	121340	14.4561	31.0477
19)	C3-Benzothiophenes	20.51	109346	13.0272	27.9787
20)	C4-Benzothiophenes	22.07	112642	13.4199	28.8221
22)	Biphenyl	17.58	435637	47.3099	101.6083
23)	Acenaphthylene	19.06	216307	19.9091	42.7592
24)	Acenaphthene	19.67	125524	19.4743	41.8253
25)	Dibenzofuran	20.26	627387	61.1497	131.3323
26)	Fluorene	21.43	287284	35.4634	76.1654
28)	C1-Fluorenes	23.40	288920	35.6654	76.5992
29)	C2-Fluorenes	25.27	867089	107.0370	229.8851
30)	C3-Fluorenes	27.49	862647	106.4886	228.7073
33)	Carbazole	25.48	151106	12.6253	27.1156
42)	Anthracene	24.89	1485470	108.0379	232.0349
41)	Phenanthrene	24.72	3719450	255.2926	548.2963
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.62	2485809	170.6189	366.4412
50)	C2-Phenanthrenes/Anthracenes	28.28	2536750	174.1145	373.9487
51)	C3-Phenanthrenes/Anthracenes	29.84	1886130	129.4579	278.0389
52)	C4-Phenanthrenes/Anthracenes	31.68	1028430	70.5881	151.6033
34)	Dibenzothiophene	24.30	411503	34.1681	73.3835
35)+36)+37)	C1-Dibenzothiophenes	26.09	568416	47.1970	101.3659
38)	C2-Dibenzothiophenes	27.52	905269	75.1666	161.4365
39)	C3-Dibenzothiophenes	28.70	920914	76.4656	164.2264
40)	C4-Dibenzothiophenes	30.57	549254	45.6058	97.9483
58)	Fluoranthene	28.84	3308670	246.7774	530.0080
59)	Pyrene	29.60	6237050	362.1306	777.7540
62)	C1-Fluoranthenes/Pyrenes	30.74	3603530	268.7689	577.2396
63)	C2-Fluoranthenes/Pyrenes	33.19	3426000	255.5296	548.8053
64)	C3-Fluoranthenes/Pyrenes	33.89	1583500	118.1052	253.6566
65)	C4-Fluoranthenes/Pyrenes	35.21	1099610	82.0146	176.1442
53)	Naphthobenzothiophene	32.88	1336960	105.7496	227.1202
54)	C1-Naphthobenzothiophenes	34.27	1158390	91.6256	196.7858
55)	C2-Naphthobenzothiophenes	35.71	1134490	89.7347	192.7248
56)	C3-Naphthobenzothiophenes	36.80	778804	61.6011	132.3017
57)	C4-Naphthobenzothiophenes	38.08	356512	28.1991	60.5637
67)	Benz(a)anthracene	33.69	2492900	202.6398	435.2129
68)	Chrysene/Triphenylene	33.81	3617360	248.1075	532.8647
69)	C1-Chrysenes	35.05	2931190	201.0445	431.7867
70)	C2-Chrysenes	36.49	1465760	100.5339	215.9183
71)	C3-Chrysenes	37.26	893552	61.2870	131.6272
72)	C4-Chrysenes	39.28	402103	27.5794	59.2326
77)	Benzo(b)fluoranthene	37.22	4676500	272.9862	586.2970
78)	Benzo(k,j)fluoranthene	37.22	3460610	259.1913	556.6696
79)	Benzo(a)fluoranthene	37.57	676038	50.6336	108.7466
80)	Benzo(e)pyrene	38.15	3284900	211.1969	453.5913
81)	Benzo(a)pyrene	38.35	2860260	175.0503	375.9585
89)	Perylene	38.66	3684860	223.2024	479.3757
82)	Indeno(1,2,3-c,d)pyrene	43.00	3259370	225.6785	484.6935
83)	Dibenzo(a,h)anthracene	43.04	404955	32.0072	68.7424
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.37	1512930	111.8426	240.2062

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	1244250	172.6427	370.7876
10)	1-Methylnaphthalene	16.36	487080	71.6313	153.8438
11)	2,6-Dimethylnaphthalene	18.14	298998	46.4445	99.7497
12)	1,6,7-Trimethylnaphthalene	20.98	89609	14.9337	32.0733
27)	1-Methylfluorene	23.40	113663	20.0786	43.1231
35)	4-Methyldibenzothiophene	25.79	290225	29.2741	62.8726
36)	2/3-Methyldibenzothiophene	26.07	200343	20.2080	43.4011
37)	1-Methyldibenzothiophene	26.41	77848	7.8523	16.8645
43)	3-Methylphenanthrene	26.38	624381	66.7250	143.3063
44)	2-Methylphenanthrene	26.48	700390	74.8478	160.7519
45)	2-Methylanthracene	26.62	375628	40.1419	86.2134
46)	4/9-Methylphenanthrene	26.76	339763	36.3091	77.9817
47)	1-Methylphenanthrene	26.83	445647	47.6245	102.2839
48)	3,6-Dimethylphenanthrene	27.94	123236	15.5015	33.2929
49)	Retene	30.60	115006	27.8431	59.7990
60)	2-Methylfluoranthene	30.36	517306	48.4129	103.9772
61)	Benzo(b)fluorene	30.99	524413	56.6226	121.6094
74)	C29-Hopane	40.57	925248	185.9193	399.3020
75)	18a-Oleanane	41.68	161034	32.3583	69.4965
76)	C30-Hopane	41.86	1159320	232.9532	500.3175
91)	C20-TAS	33.19	142117	7.5355	16.1842
92)	C21-TAS	34.24	98623	5.2293	11.2311
93)	C26(20S)-TAS	38.43	27622	1.4646	3.1456
94)	C26(20R)/C27(20S)-TAS	39.32	111639	5.9195	12.7133
95)	C28(20S)-TAS	39.32	106867	5.6664	12.1699
96)	C27(20R)-TAS	40.53	90729	4.8107	10.3321
97)	C28(20R)-TAS	41.23	69230	3.6708	7.8839
	Surrogate Standards				
2)	Naphthalene-d8	13.71	317787	30.47	49.34
21)	Acenaphthene-d10	19.56	191570	31.63	51.20
32)	Phenanthrene-d10	24.65	340101	28.76	46.56
66)	Chrysene-d12	33.73	318543	26.03	42.16
88)	Perylene-d12	38.58	341374	25.13	40.71
90)	5(b)H-Cholane	34.12	94375	30.16	48.86
	Internal Standards				
1)	Fluorene-d10	21.34	390849	61.99	
31)	Pyrene-d10	29.53	730778	61.88	
73)	Benzo(a)pyrene-d12	38.27	769044	61.81	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ENV3095B.D
Acq On : 5 Sep 2013 9:16 am
Operator : YM
Sample : SRM 1941b
Misc :
ALS Vial : 13 Sample Multiplier: 0.24691

Quant Time: Sep 12 22:21:04 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.343	176	390849m	251.05		0.00
31) Pyrene-d10	29.531	212	730778m	250.63		0.00
73) Benzo(a)pyrene-d12	38.270	264	769044m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.711	136	317787m	30.47		0.00
21) Acenaphthene-d10	19.561	164	191570m	31.63		0.00
32) Phenanthrene-d10	24.648	188	340101m	28.76		0.00
66) Chrysene-d12	33.731	240	318543m	26.03		0.00
88) Perylene-d12	38.580	264	341374m	25.13		0.00
90) 5(b)H-Cholane	34.119	217	94375m	30.16		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.315	138	69752m	39.78		
4) C1-Decalins	12.234	152	12537m	7.15		
5) C2-Decalins	13.376	166	16724m	9.54		
6) C3-Decalins	14.908	180	48670m	27.76		
7) C4-Decalins	17.471	194	65974m	37.63		
8) Naphthalene	13.766	128	5913865m	551.59		
9) 2-Methylnaphthalene	16.023	142	1244252m	172.64		
10) 1-Methylnaphthalene	16.357	142	487080m	71.63		
11) 2,6-Dimethylnaphthalene	18.140	156	298998m	46.44		
12) 1,6,7-Trimethylnaphtha...	20.981	170	89609m	14.93		
13) C2-Naphthalenes	18.391	156	1604014m	149.61		
14) C3-Naphthalenes	20.396	170	1075760m	100.34		
15) C4-Naphthalenes	22.708	184	608750m	56.78		
16) Benzothiophene	13.961	134	183672m	21.88		
17) C1-Benzothiophenes	16.301	148	195080m	23.24		
18) C2-Benzothiophenes	18.140	162	121340m	14.46		
19) C3-Benzothiophenes	20.508	176	109346m	13.03		
20) C4-Benzothiophenes	22.068	190	112642m	13.42		
22) Biphenyl	17.583	154	435637m	47.31		
23) Acenaphthylene	19.059	152	216307m	19.91		
24) Acenaphthene	19.672	154	125524m	19.47		
25) Dibenzofuran	20.257	168	627387m	61.15		
26) Fluorene	21.427	166	287284m	35.46		
27) 1-Methylfluorene	23.402	180	113663m	20.08		
28) C1-Fluorenes	23.402	180	288920m	35.67		
29) C2-Fluorenes	25.272	194	867089m	107.04		
30) C3-Fluorenes	27.488	208	862647m	106.49		
33) Carbazole	25.479	167	151106m	12.63		
34) Dibenzothiophene	24.302	184	411503m	34.17		
35) 4-Methyldibenzothiophene	25.791	198	290225m	29.27		
36) 2/3-Methyldibenzothiop...	26.068	198	200343m	20.21		
37) 1-Methyldibenzothiophene	26.414	198	77848m	7.85		
38) C2-Dibenzothiophenes	27.522	212	905269m	75.17		
39) C3-Dibenzothiophenes	28.700	226	920914m	76.47		
40) C4-Dibenzothiophenes	30.570	240	549254m	45.61		
41) Phenanthrene	24.718	178	3719448m	255.29		
42) Anthracene	24.891	178	1485471m	108.04		
43) 3-Methylphenanthrene	26.380	192	624381m	66.72		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ENV3095B.D
Acq On : 5 Sep 2013 9:16 am
Operator : YM
Sample : SRM 1941b
Misc :
ALS Vial : 13 Sample Multiplier: 0.24691

Quant Time: Sep 12 22:21:04 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	2-Methylphenanthrene	26.484	192	700390m	74.85		
45)	2-Methylanthracene	26.622	192	375628m	40.14		
46)	4/9-Methylphenanthrene	26.761	192	339763m	36.31		
47)	1-Methylphenanthrene	26.830	192	445647m	47.62		
48)	3,6-Dimethylphenanthrene	27.938	206	123236m	15.50		
49)	Retene	30.604	234	115006m	27.84		
50)	C2-Phenanthrenes/Anthr...	28.284	206	2536747m	174.11		
51)	C3-Phenanthrenes/Anthr...	29.842	220	1886126m	129.46		
52)	C4-Phenanthrenes/Anthr...	31.678	234	1028426m	70.59		
53)	Naphthobenzothiophene	32.877	234	1336958m	105.75		
54)	C1-Naphthobenzothiophenes	34.274	248	1158394m	91.63		
55)	C2-Naphthobenzothiophenes	35.710	262	1134488m	89.73		
56)	C3-Naphthobenzothiophenes	36.796	276	778804m	61.60		
57)	C4-Naphthobenzothiophenes	38.076	290	356512m	28.20		
58)	Fluoranthene	28.838	202	3308665m	246.78		
59)	Pyrene	29.600	202	6237048m	362.13		
60)	2-Methylfluoranthene	30.362	216	517306m	48.41		
61)	Benzo(b)fluorene	30.985	216	524413m	56.62		
62)	C1-Fluoranthenes/Pyrenes	30.743	216	3603531m	268.77		
63)	C2-Fluoranthenes/Pyrenes	33.188	230	3426003m	255.53		
64)	C3-Fluoranthenes/Pyrenes	33.886	244	1583496m	118.11		
65)	C4-Fluoranthenes/Pyrenes	35.205	258	1099611m	82.01		
67)	Benz(a)anthracene	33.692	228	2492896m	202.64		
68)	Chrysene/Triphenylene	33.809	228	3617361m	248.11		
69)	C1-Chrysenes	35.050	242	2931188m	201.04		
70)	C2-Chrysenes	36.485	256	1465762m	100.53		
71)	C3-Chrysenes	37.261	270	893552m	61.29		
72)	C4-Chrysenes	39.279	284	402103m	27.58		
74)	C29-Hopane	40.571	191	925248m	185.92		
75)	18a-Oleanane	41.677	191	161034m	32.36		
76)	C30-Hopane	41.861	191	1159317m	232.95		
77)	Benzo(b)fluoranthene	37.223	252	4676500m	272.99		
78)	Benzo(k,j)fluoranthene	37.223	252	3460610m	259.19		
79)	Benzo(a)fluoranthene	37.572	252	676038m	50.63		
80)	Benzo(e)pyrene	38.154	252	3284896m	211.20		
81)	Benzo(a)pyrene	38.348	252	2860255m	175.05		
82)	Indeno(1,2,3-c,d)pyrene	43.004	276	3259371m	225.68		
83)	Dibenzo(a,h)anthracene	43.041	278	404955m	32.01		
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.		
87)	Benzo(g,h,i)perylene	44.368	276	1512933m	111.84		
89)	Perylene	38.658	252	3684856m	223.20		
91)	C20-TAS	33.188	231	142117m	7.54		
92)	C21-TAS	34.235	231	98623m	5.23		
93)	C26(20S)-TAS	38.425	231	27622m	1.46		
94)	C26(20R)/C27(20S)-TAS	39.317	231	111639m	5.92		
95)	C28(20S)-TAS	39.317	231	106867m	5.67		
96)	C27(20R)-TAS	40.534	231	90729m	4.81		
97)	C28(20R)-TAS	41.234	231	69230m	3.67		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ENV3095B.D
Acq On : 5 Sep 2013 9:16 am
Operator : YM
Sample : SRM 1941b
Misc :
ALS Vial : 13 Sample Multiplier: 0.24691

Quant Time: Sep 12 22:21:04 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

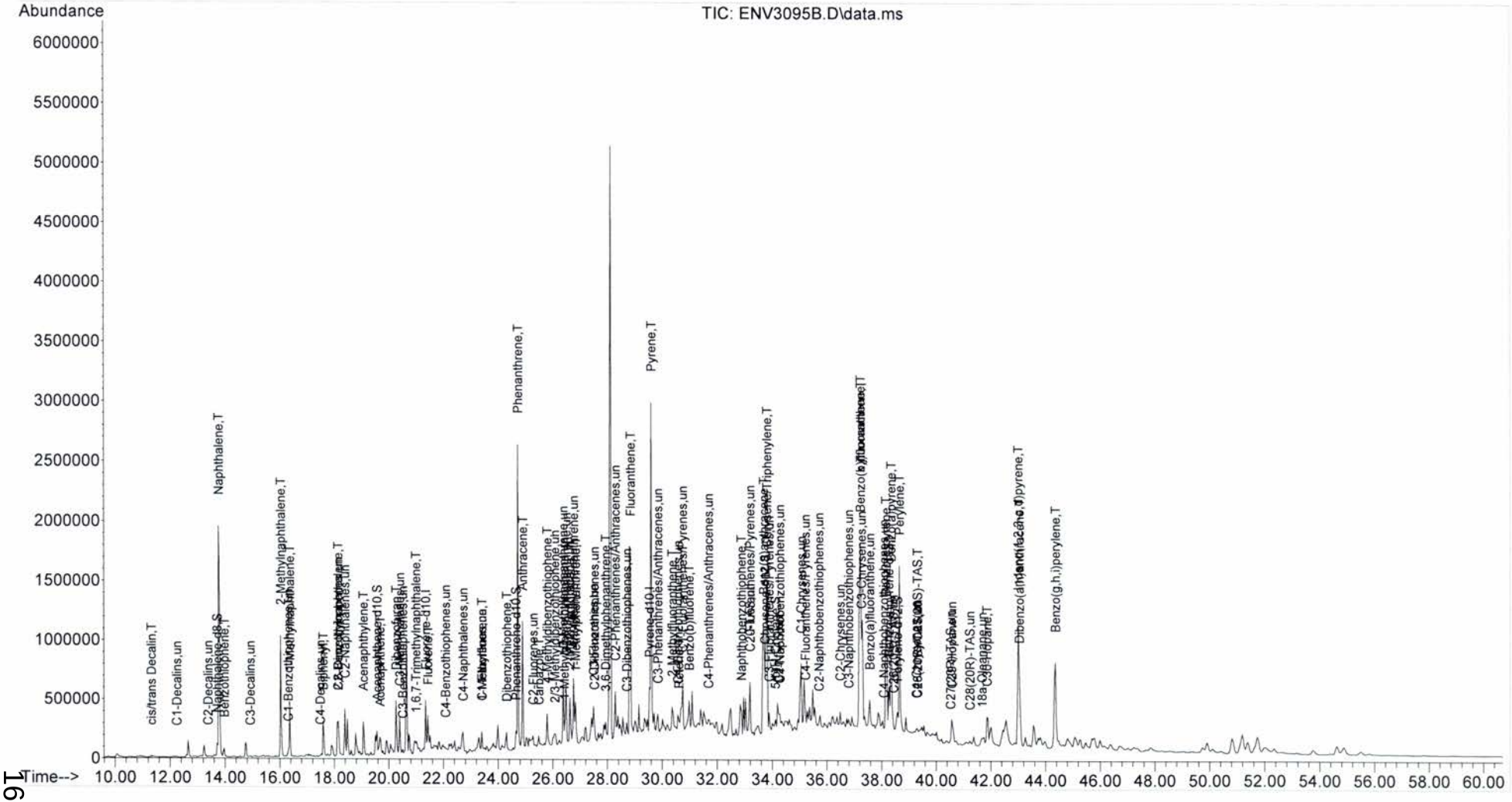
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ENV3095B.D
Acq On : 5 Sep 2013 9:16 am
Operator : YM
Sample : SRM 1941b
Misc :
ALS Vial : 13 Sample Multiplier: 0.24691

Quant Time: Sep 12 22:21:04 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration



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

Data File Name	ENV3095C.D
Data File Path	C:\GCMS7\MS70063\
Operator	YM
Date Acquired	9/5/2013 10:24
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-048 (0-0.5) MS
Misc Info	0
Instrument Name	GCMSD
Vial Number	14
Sample Multiplier	0.33311
Sample Amount	0

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

Copy data below to Spread Sheet

ENV3095C.D
SED-DA-048 (0-0.5) MS
9/5/2013
PAH-2012.M
3.002011348

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.06	16270	9.0658	9.8189
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	320201	29.1793	31.6034
9)+10)	C1-Naphthalenes	16.19	2211039	201.4877	218.2267
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	59891	6.9714	7.5505
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.58	352205	37.3706	40.4752
23)	Acenaphthylene	19.06	162884	14.6476	15.8645
24)	Acenaphthene	19.67	145674	22.0813	23.9157
25)	Dibenzofuran	20.26	398920	37.9885	41.1445
26)	Fluorene	21.43	729871	88.0286	95.3418
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	25.48	157238	14.6674	15.8859
42)	Anthracene	24.89	162027	13.1563	14.2493
41)	Phenanthrene	24.72	3889230	298.0282	322.7874
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	5.37	1606270	123.0870	133.3127
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	24.30	3089580	286.4063	310.2000
35)+36)+37)	C1-Dibenzothiophenes	8.60	4391960	407.1379	440.9616
38)	C2-Dibenzothiophenes	0.00	0	0.0000	0.0000
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.84	856321	71.3059	77.2297
59)	Pyrene	29.60	1336820	86.6556	93.8546
62)	C1-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.69	395415	35.8846	38.8658
68)	Chrysene/Triphenylene	33.81	1645140	125.9759	136.4416
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.22	975216	64.6593	70.0310
78)	Benzo(k,j)fluoranthene	37.26	345200	29.3665	31.8062
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.19	939518	68.6093	74.3092
81)	Benzo(a)pyrene	38.39	504053	35.0385	37.9494
89)	Perylene	38.70	1405600	96.7058	104.7398
82)	Indeno(1,2,3-c,d)pyrene	43.04	439124	34.5348	37.4039
83)	Dibenzo(a,h)anthracene	43.11	211054	18.9473	20.5214
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.44	936150	78.6040	85.1341

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	1303740	176.7412	191.4243
10)	1-Methylnaphthalene	16.36	907299	130.3646	141.1949
11)	2,6-Dimethylnaphthalene	18.11	2393700	363.2798	393.4599
12)	1,6,7-Trimethylnaphthalene	20.98	1282520	208.8270	226.1757
27)	1-Methylfluorene	23.40	1447390	249.8075	270.5607
35)	4-Methyldibenzothiophene	25.79	4391960	494.5884	535.6772
36)	2/3-Methyldibenzothiophene	0.00	0	0.0000	0.0000
37)	1-Methyldibenzothiophene	0.00	0	0.0000	0.0000
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	26.86	1606270	191.6425	207.5636
48)	3,6-Dimethylphenanthrene	27.94	931559	130.8226	141.6910
49)	Retene	30.60	439335	118.7481	128.6133
60)	2-Methylfluoranthene	30.40	288048	30.0964	32.5967
61)	Benzo(b)fluorene	30.99	396070	47.7447	51.7111
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	39.36	2891390	174.1346	188.6011
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	690878	64.72	77.68
21)	Acenaphthene-d10	19.56	381204	61.49	73.79
32)	Phenanthrene-d10	24.65	814965	76.95	92.33
66)	Chrysene-d12	33.73	961164	87.69	105.28
88)	Perylene-d12	38.58	872431	72.96	87.60
90)	5(b)H-Cholane	34.12	243354	88.34	106.08
	Internal Standards				
1)	Fluorene-d10	21.34	539698	83.63	
31)	Pyrene-d10	29.57	883077	83.49	
73)	Benzo(a)pyrene-d12	38.31	913456	83.39	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ENV3095C.D
Acq On : 5 Sep 2013 10:24 am
Operator : YM
Sample : SED-DA-048 (0-0.5) MS
Misc :
ALS Vial : 14 Sample Multiplier: 0.33311

Quant Time: Sep 13 05:03:34 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.343	176	539698m	251.05		0.00
31) Pyrene-d10	29.566	212	883077m	250.63		0.03
73) Benzo(a)pyrene-d12	38.309	264	913456m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.711	136	690878m	64.72		0.00
21) Acenaphthene-d10	19.561	164	381204m	61.49		0.00
32) Phenanthrene-d10	24.648	188	814965m	76.95		0.00
66) Chrysene-d12	33.731	240	961164m	87.69		0.00
88) Perylene-d12	38.580	264	872431m	72.96		0.00
90) 5(b)H-Cholane	34.119	217	243354m	88.34		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.064	138	16270m	9.07		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.794	128	320201m	29.18		
9) 2-Methylnaphthalene	16.023	142	1303739m	176.74		
10) 1-Methylnaphthalene	16.357	142	907299m	130.36		
11) 2,6-Dimethylnaphthalene	18.112	156	2393702m	363.28		
12) 1,6,7-Trimethylnaphtha...	20.981	170	1282519m	208.83		
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	13.961	134	59891m	6.97		
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	17.583	154	352205m	37.37		
23) Acenaphthylene	19.059	152	162884m	14.65		
24) Acenaphthene	19.672	154	145674m	22.08		
25) Dibenzofuran	20.257	168	398920m	37.99		
26) Fluorene	21.427	166	729871m	88.03		
27) 1-Methylfluorene	23.402	180	1447386m	249.81		
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	25.479	167	157238m	14.67		
34) Dibenzothiophene	24.302	184	3089581m	286.41		
35) 4-Methyldibenzothiophene	25.791	198	4391957m	494.59		
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.718	178	3889230m	298.03		
42) Anthracene	24.891	178	162027m	13.16		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ENV3095C.D
Acq On : 5 Sep 2013 10:24 am
Operator : YM
Sample : SED-DA-048 (0-0.5) MS
Misc :
ALS Vial : 14 Sample Multiplier: 0.33311

Quant Time: Sep 13 05:03:34 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	26.865	192	1606267m	191.64		
48) 3,6-Dimethylphenanthrene	27.938	206	931559m	130.82		
49) Retene	30.604	234	439335m	118.75		
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.838	202	856321m	71.31		
59) Pyrene	29.600	202	1336823m	86.66		
60) 2-Methylfluoranthene	30.397	216	288048m	30.10		
61) Benzo(b)fluorene	30.985	216	396070m	47.74		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.692	228	395415m	35.88		
68) Chrysene/Triphenylene	33.809	228	1645142m	125.98		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	37.223	252	975216m	64.66		
78) Benzo(k,j)fluoranthene	37.261	252	345200m	29.37		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.192	252	939518m	68.61		
81) Benzo(a)pyrene	38.386	252	504053m	35.04		
82) Indeno(1,2,3-c,d)pyrene	43.041	276	439124m	34.53		
83) Dibenzo(a,h)anthracene	43.115	278	211054m	18.95		
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	44.442	276	936150m	78.60		
89) Perylene	38.697	252	1405598m	96.71		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.356	231	2891386m	174.13		
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ENV3095C.D
Acq On : 5 Sep 2013 10:24 am
Operator : YM
Sample : SED-DA-048 (0-0.5) MS
Misc :
ALS Vial : 14 Sample Multiplier: 0.33311

Quant Time: Sep 13 05:03:34 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

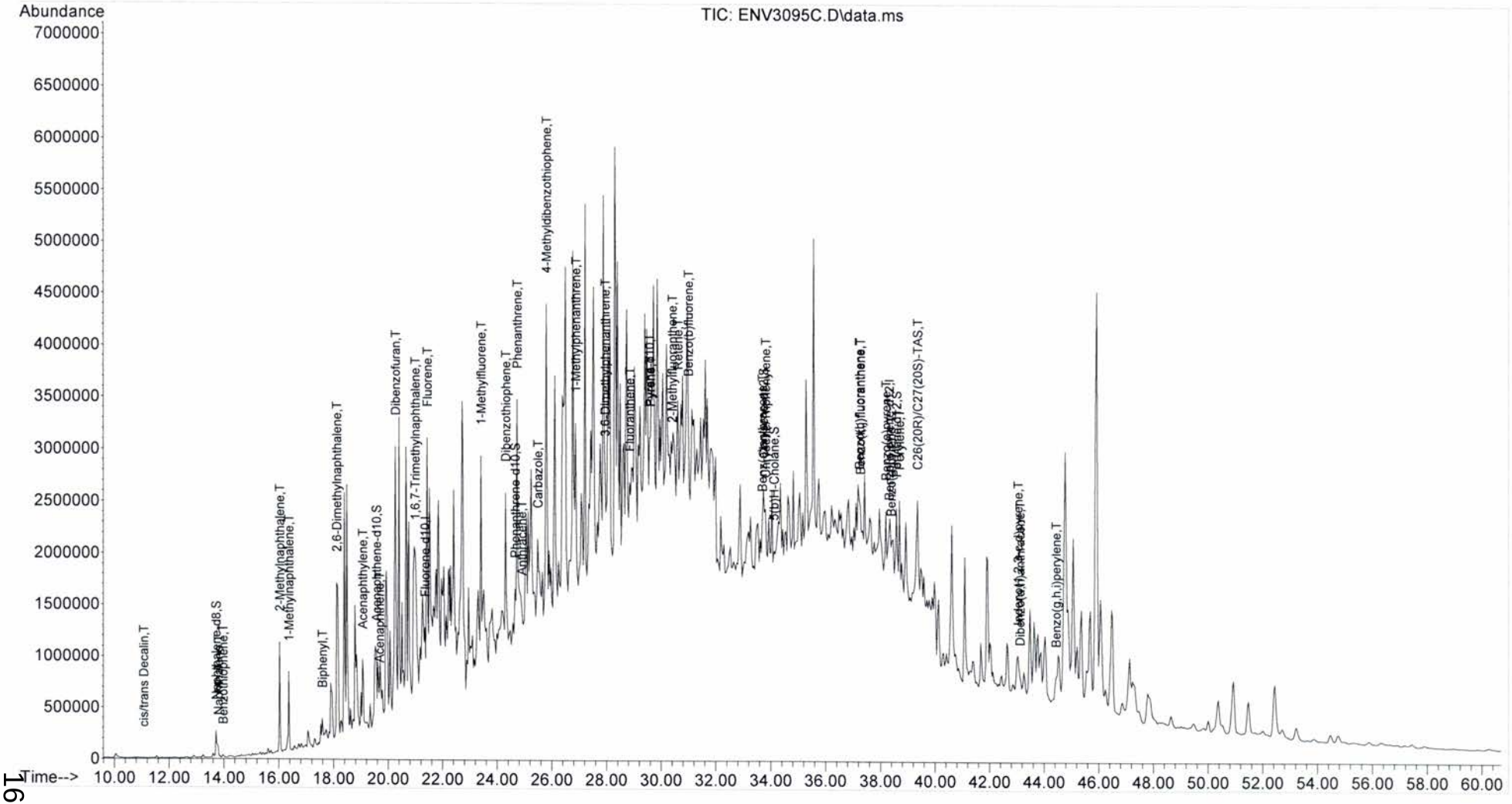
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ENV3095C.D
Acq On : 5 Sep 2013 10:24 am
Operator : YM
Sample : SED-DA-048 (0-0.5) MS
Misc :
ALS Vial : 14 Sample Multiplier: 0.33311

Quant Time: Sep 13 05:03:34 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration



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

Data File Name	ENV3095D.D	**Surrogate/Internal Multiplier Factor:**	1.00		
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS70063\	**AR-WKSU-2500-001:**	**(ng/mL)**		
Operator	YM	Naphthalene-d8	250.125		
Date Acquired	9/5/2013 11:33	Acenaphthene-d10	250.163	***Copy data below***	
Acq. Method File	PAH-2012.M	Phenanthrene-d10	250.194	***to Spread Sheet***	
Sample Name	SED-DA-048 (0-0.5) MSD	Chrysene-d12	250.038		
Misc Info	0	Perylene-d12	250.031	ENV3095D.D	
Instrument Name	GCMSD	5(b)H-Cholane	250.000	SED-DA-048 (0-0.5) MSD	
Vial Number	15			9/5/2013	
Sample Multiplier	0.33245			PAH-2012.M	
Sample Amount	0			3.007971123	

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.06	16088	9.4105	10.3769
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	321630	30.7684	33.9279
9)+10)	C1-Naphthalenes	16.19	2187047	209.2217	230.7059
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	62876	7.6831	8.4720
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.58	335926	37.4172	41.2595
23)	Acenaphthylene	19.06	178155	16.8183	18.5454
24)	Acenaphthene	19.67	148936	23.6995	26.1331
25)	Dibenzofuran	20.26	363727	36.3611	40.0948
26)	Fluorene	21.46	664461	84.1285	92.7673
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	25.48	137555	12.4843	13.7663
42)	Anthracene	24.89	172509	13.6286	15.0281
41)	Phenanthrene	24.72	3215010	239.7004	264.3144
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	5.37	1489440	111.0477	122.4508
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	24.30	2703840	243.8694	268.9114
35)+36)+37)	C1-Dibenzothiophenes	8.60	3779510	340.8880	375.8925
38)	C2-Dibenzothiophenes	0.00	0	0.0000	0.0000
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.84	748871	60.6721	66.9023
59)	Pyrene	29.60	1179210	74.3714	82.0083
62)	C1-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.69	389530	34.3946	37.9265
68)	Chrysene/Triphenylene	33.81	1492980	111.2325	122.6545
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.22	817431	55.4291	61.1209
78)	Benzo(k,j)fluoranthene	37.26	300439	26.1392	28.8233
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.19	833940	62.2828	68.6784
81)	Benzo(a)pyrene	38.39	421891	29.9934	33.0733
89)	Perylene	38.70	1326270	93.3204	102.9031
82)	Indeno(1,2,3-c,d)pyrene	43.04	408198	32.8318	36.2032
83)	Dibenzo(a,h)anthracene	43.11	203634	18.6964	20.6163
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.41	829739	71.2517	78.5683

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	1291160	183.7474	202.6158
10)	1-Methylnaphthalene	16.36	895887	135.1319	149.0081
11)	2,6-Dimethylnaphthalene	18.14	2281620	363.5042	400.8310
12)	1,6,7-Trimethylnaphthalene	20.98	1158100	197.9534	218.2805
27)	1-Methylfluorene	23.40	1288370	233.4308	257.4009
35)	4-Methyldibenzothiophene	25.79	3779510	414.1097	456.6331
36)	2/3-Methyldibenzothiophene	0.00	0	0.0000	0.0000
37)	1-Methyldibenzothiophene	0.00	0	0.0000	0.0000
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	26.86	1489440	172.8983	190.6525
48)	3,6-Dimethylphenanthrene	27.94	795561	108.7025	119.8648
49)	Retene	30.60	367158	96.5554	106.4704
60)	2-Methylfluoranthene	30.40	249752	25.3894	27.9965
61)	Benzo(b)fluorene	30.99	343629	40.3029	44.4415
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	39.36	2667120	164.2772	181.1462
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	694256	68.28	82.11
21)	Acenaphthene-d10	19.56	378794	64.14	77.12
32)	Phenanthrene-d10	24.65	821094	75.43	90.69
66)	Chrysene-d12	33.73	947814	84.13	101.21
88)	Perylene-d12	38.58	861416	73.67	88.63
90)	5(b)H-Cholane	34.12	207231	76.93	92.57
	Internal Standards				
1)	Fluorene-d10	21.34	513090	83.46	
31)	Pyrene-d10	29.57	905825	83.32	
73)	Benzo(a)pyrene-d12	38.31	891398	83.22	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ENV3095D.D
Acq On : 5 Sep 2013 11:33 am
Operator : YM
Sample : SED-DA-048 (0-0.5) MSD
Misc :
ALS Vial : 15 Sample Multiplier: 0.33245

Quant Time: Sep 13 07:26:15 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.344	176	513090m	251.05		0.00
31) Pyrene-d10	29.566	212	905825m	250.63		0.03
73) Benzo(a)pyrene-d12	38.309	264	891398m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.711	136	694256m	68.28		0.00
21) Acenaphthene-d10	19.561	164	378794m	64.14		0.00
32) Phenanthrene-d10	24.648	188	821094m	75.43		0.00
66) Chrysene-d12	33.731	240	947814m	84.13		0.00
88) Perylene-d12	38.581	264	861416m	73.67		0.00
90) 5(b)H-Cholane	34.119	217	207231m	76.93		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.064	138	16088m	9.41		
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	321630m	30.77		
9) 2-Methylnaphthalene	16.023	142	1291155m	183.75		
10) 1-Methylnaphthalene	16.357	142	895887m	135.13		
11) 2,6-Dimethylnaphthalene	18.140	156	2281615m	363.51		
12) 1,6,7-Trimethylnaphtha...	20.981	170	1158095m	197.95		
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	13.961	134	62876m	7.68		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.583	154	335926m	37.42		
23) Acenaphthylene	19.059	152	178155m	16.82		
24) Acenaphthene	19.672	154	148936m	23.70		
25) Dibenzofuran	20.257	168	363727m	36.36		
26) Fluorene	21.455	166	664461m	84.13		
27) 1-Methylfluorene	23.402	180	1288371m	233.43		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.480	167	137555m	12.48		
34) Dibenzothiophene	24.302	184	2703841m	243.87		
35) 4-Methyldibenzothiophene	25.791	198	3779513m	414.11		
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	24.718	178	3215010m	239.70		
42) Anthracene	24.891	178	172509m	13.63		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ENV3095D.D
Acq On : 5 Sep 2013 11:33 am
Operator : YM
Sample : SED-DA-048 (0-0.5) MSD
Misc :
ALS Vial : 15 Sample Multiplier: 0.33245

Quant Time: Sep 13 07:26:15 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	26.865	192	1489442m	172.90		
48) 3,6-Dimethylphenanthrene	27.938	206	795561m	108.70		
49) Retene	30.604	234	367158m	96.56		
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.838	202	748871m	60.67		
59) Pyrene	29.600	202	1179205m	74.37		
60) 2-Methylfluoranthene	30.397	216	249752m	25.39		
61) Benzo(b)fluorene	30.985	216	343629m	40.30		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.692	228	389530m	34.39		
68) Chrysene/Triphenylene	33.809	228	1492982m	111.23		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	37.223	252	817431m	55.43		
78) Benzo(k,j)fluoranthene	37.261	252	300439m	26.14		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.193	252	833940m	62.28		
81) Benzo(a)pyrene	38.387	252	421891m	29.99		
82) Indeno(1,2,3-c,d)pyrene	43.041	276	408198m	32.83		
83) Dibenzo(a,h)anthracene	43.115	278	203634m	18.70		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.405	276	829739m	71.25		
89) Perylene	38.697	252	1326268m	93.32		
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	39.356	231	2667124m	164.28		
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ENV3095D.D
Acq On : 5 Sep 2013 11:33 am
Operator : YM
Sample : SED-DA-048 (0-0.5) MSD
Misc :
ALS Vial : 15 Sample Multiplier: 0.33245

Quant Time: Sep 13 07:26:15 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

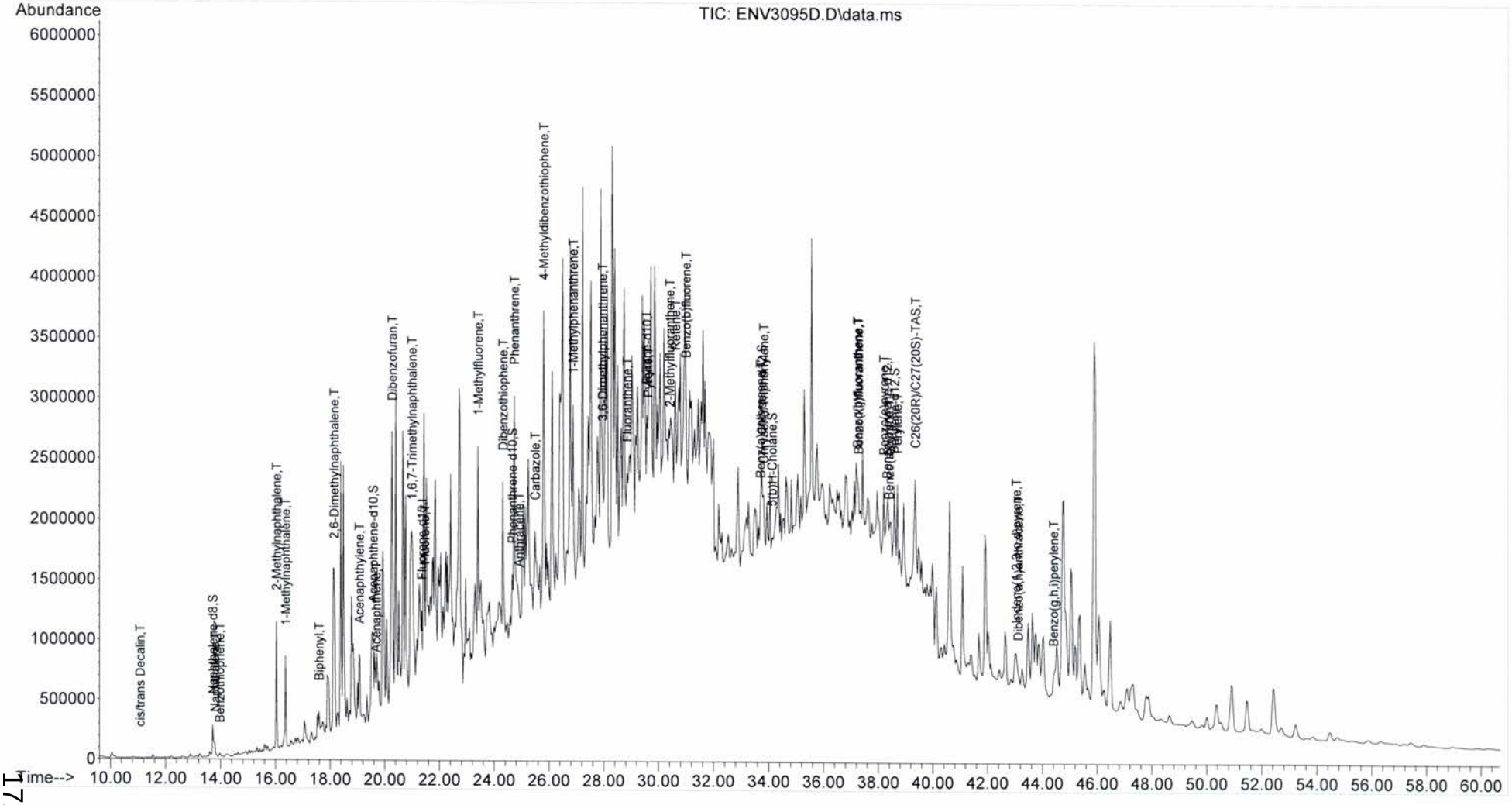
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ENV3095D.D
Acq On : 5 Sep 2013 11:33 am
Operator : YM
Sample : SED-DA-048 (0-0.5) MSD
Misc :
ALS Vial : 15 Sample Multiplier: 0.33245

Quant Time: Sep 13 07:26:15 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration



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

Data File Name	ENV3095E.D
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS70063\
Operator	YM
Date Acquired	9/5/2013 12:42
Acq. Method File	PAH-2012.M
Sample Name	Dupl. (SED-DA-047 (0-0.5))
Misc Info	0
Instrument Name	GCMSD
Vial Number	16
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

ENV3095E.D
upl. (SED-DA-047 (0-0.5))
9/5/2013
PAH-2012.M
14.99925004

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	10.93	25611	3.0506	3.3818
4)	C1-Decalins	12.60	20278	2.4154	2.6776
5)	C2-Decalins	14.63	70636	8.4137	9.3270
6)	C3-Decalins	15.72	420992	50.1458	55.5891
7)	C4-Decalins	17.61	1242320	147.9767	164.0395
8)	Naphthalene	13.79	251947	4.9080	5.4408
9)+10)	C1-Naphthalenes	16.19	1320217	25.7183	28.5100
13)	C2-Naphthalenes	18.39	10201900	198.7359	220.3086
14)	C3-Naphthalenes	20.76	22695000	442.1068	490.0971
15)	C4-Naphthalenes	22.74	30393600	592.0769	656.3464
16)	Benzothiophene	13.96	36556	0.9096	1.0084
17)	C1-Benzothiophenes	16.30	329256	8.1928	9.0821
18)	C2-Benzothiophenes	18.53	1469370	36.5620	40.5307
19)	C3-Benzothiophenes	20.23	4899820	121.9214	135.1559
20)	C4-Benzothiophenes	21.54	9089030	226.1606	250.7102
22)	Biphenyl	17.58	288036	6.5332	7.2424
23)	Acenaphthylene	19.09	185736	3.5705	3.9581
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	20.28	465011	9.4661	10.4937
26)	Fluorene	21.45	483050	12.4542	13.8060
28)	C1-Fluorenes	23.44	2715590	70.0142	77.6141
29)	C2-Fluorenes	25.31	11664500	300.7364	333.3810
30)	C3-Fluorenes	27.25	17190200	443.2015	491.3106
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.93	139263	2.9704	3.2929
41)	Phenanthrene	24.75	6189130	124.5829	138.1063
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.65	24204963	487.2291	540.1174
50)	C2-Phenanthrenes/Anthracenes	28.32	45253100	910.9122	1009.7910
51)	C3-Phenanthrenes/Anthracenes	29.88	52829700	1063.4265	1178.8605
52)	C4-Phenanthrenes/Anthracenes	31.71	37430400	753.4443	835.2301
34)	Dibenzothiophene	24.30	5546270	135.0574	149.7178
35)+36)+37)	C1-Dibenzothiophenes	26.13	24814610	604.2615	669.8535
38)	C2-Dibenzothiophenes	27.56	45791200	1115.0624	1236.1015
39)	C3-Dibenzothiophenes	29.43	53018300	1291.0512	1431.1937
40)	C4-Dibenzothiophenes	29.74	36992800	900.8117	998.5940
58)	Fluoranthene	28.87	1842830	40.3096	44.6852
59)	Pyrene	29.63	3534730	60.1886	66.7220
62)	C1-Fluoranthenes/Pyrenes	31.47	11323800	247.6951	274.5821
63)	C2-Fluoranthenes/Pyrenes	32.53	16569400	362.4348	401.7768
64)	C3-Fluoranthenes/Pyrenes	34.08	14851700	324.8622	360.1258
65)	C4-Fluoranthenes/Pyrenes	35.32	15106900	330.4439	366.3133
53)	Naphthobenzothiophene	32.92	9023690	209.3225	232.0442
54)	C1-Naphthobenzothiophenes	34.66	22967200	532.7700	590.6017
55)	C2-Naphthobenzothiophenes	35.79	33740600	782.6791	867.6383
56)	C3-Naphthobenzothiophenes	37.15	25688800	595.9031	660.5879
57)	C4-Naphthobenzothiophenes	38.15	14615300	339.0303	375.8317
67)	Benz(a)anthracene	33.73	799347	19.0558	21.1242
68)	Chrysene/Triphenylene	33.85	4509410	90.7065	100.5527
69)	C1-Chrysenes	35.09	9587690	192.8556	213.7900
70)	C2-Chrysenes	36.87	14513500	291.9379	323.6275
71)	C3-Chrysenes	37.96	11538200	232.0909	257.2842
72)	C4-Chrysenes	39.40	5190040	104.3972	115.7294
77)	Benzo(b)fluoranthene	37.26	1967320	37.5014	41.5722
78)	Benzo(k,j)fluoranthene	37.30	560577	13.7106	15.1989
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.27	2014870	42.3026	46.8946
81)	Benzo(a)pyrene	38.43	927848	18.5434	20.5563
89)	Perylene	38.74	2703150	53.4691	59.2731
82)	Indeno(1,2,3-c,d)pyrene	43.15	603681	13.6495	15.1312
83)	Dibenzo(a,h)anthracene	43.19	321965	8.3101	9.2121
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.52	1523660	36.7815	40.7741

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	783245	22.6981	25.1619
10)	1-Methylnaphthalene	16.36	536972	16.4932	18.2836
11)	2,6-Dimethylnaphthalene	18.14	2489390	80.7627	89.5294
12)	1,6,7-Trimethylnaphthalene	20.98	1966770	68.4574	75.8884
27)	1-Methylfluorene	23.44	1089130	40.1831	44.5449
35)	4-Methyldibenzothiophene	25.83	11057500	327.0984	362.6046
36)	2/3-Methyldibenzothiophene	26.10	7598220	224.7666	249.1648
37)	1-Methyldibenzothiophene	26.45	6158890	182.1891	201.9656
43)	3-Methylphenanthrene	26.41	5242070	164.2902	182.1238
44)	2-Methylphenanthrene	26.52	5956770	186.6900	206.9550
45)	2-Methylanthracene	26.66	467843	14.6625	16.2541
46)	4/9-Methylphenanthrene	26.80	7853620	246.1383	272.8564
47)	1-Methylphenanthrene	26.86	4684660	146.8207	162.7579
48)	3,6-Dimethylphenanthrene	27.97	1967300	72.5736	80.4514
49)	Retene	30.64	1115800	79.2233	87.8229
60)	2-Methylfluoranthene	30.40	677224	18.5873	20.6050
61)	Benzo(b)fluorene	31.02	335306	10.6177	11.7702
74)	C29-Hopane	40.68	10936300	717.6159	795.5125
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	41.97	14936000	980.0690	1086.4547
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	612902	12.27	73.61
21)	Acenaphthene-d10	19.56	303477	10.46	62.74
32)	Phenanthrene-d10	24.68	606670	15.05	90.21
66)	Chrysene-d12	33.77	723983	17.35	104.08
88)	Perylene-d12	38.66	588455	14.15	84.87
90)	5(b)H-Cholane	34.16	274654	28.66	171.98
	Internal Standards				
1)	Fluorene-d10	21.34	505300	16.74	
31)	Pyrene-d10	29.50	672832	16.71	
73)	Benzo(a)pyrene-d12	38.35	635900	16.69	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ENV3095E.D
Acq On : 5 Sep 2013 12:42 pm
Operator : YM
Sample : Dupl. (SED-DA-047 (0-0.5))
Misc :
ALS Vial : 16 Sample Multiplier: 0.06667

Quant Time: Sep 13 06:13:37 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.343	176	505300m	251.05	0.00
31) Pyrene-d10	29.496	212	672832m	250.63	-0.03
73) Benzo(a)pyrene-d12	38.348	264	635900m	250.32	0.08
System Monitoring Compounds					
2) Naphthalene-d8	13.711	136	612902m	12.27	0.00
21) Acenaphthene-d10	19.561	164	303477m	10.46	0.00
32) Phenanthrene-d10	24.683	188	606670m	15.05	0.03
66) Chrysene-d12	33.770	240	723983m	17.35	0.04
88) Perylene-d12	38.658	264	588455m	14.15	0.08
90) 5(b)H-Cholane	34.158	217	274654m	28.66	0.04
Target Compounds					Qvalue
3) cis/trans Decalin	10.925	138	25611m	3.05	
4) C1-Decalins	12.596	152	20278m	2.42	
5) C2-Decalins	14.630	166	70636m	8.41	
6) C3-Decalins	15.716	180	420992m	50.15	
7) C4-Decalins	17.611	194	1242315m	147.98	
8) Naphthalene	13.794	128	251947m	4.91	
9) 2-Methylnaphthalene	16.023	142	783245m	22.70	
10) 1-Methylnaphthalene	16.357	142	536972m	16.49	
11) 2,6-Dimethylnaphthalene	18.140	156	2489388m	80.76	
12) 1,6,7-Trimethylnaphtha...	20.981	170	1966774m	68.46	
13) C2-Naphthalenes	18.391	156	10201881m	198.74	
14) C3-Naphthalenes	20.758	170	22695016m	442.11	
15) C4-Naphthalenes	22.736	184	30393564m	592.08	
16) Benzothiophene	13.961	134	36556m	0.91	
17) C1-Benzothiophenes	16.301	148	329256m	8.19	
18) C2-Benzothiophenes	18.530	162	1469366m	36.56	
19) C3-Benzothiophenes	20.229	176	4899820m	121.92	
20) C4-Benzothiophenes	21.538	190	9089027m	226.16	
22) Biphenyl	17.583	154	288036m	6.53	
23) Acenaphthylene	19.087	152	185736m	3.57	
24) Acenaphthene	0.000		0	N.D. d	
25) Dibenzofuran	20.285	168	465011m	9.47	
26) Fluorene	21.455	166	483050m	12.45	
27) 1-Methylfluorene	23.436	180	1089125m	40.18	
28) C1-Fluorenes	23.436	180	2715587m	70.01	
29) C2-Fluorenes	25.306	194	11664463m	300.74	
30) C3-Fluorenes	27.245	208	17190163m	443.20	
33) Carbazole	0.000		0	N.D. d	
34) Dibenzothiophene	24.302	184	5546269m	135.06	
35) 4-Methyldibenzothiophene	25.826	198	11057536m	327.10	
36) 2/3-Methyldibenzothiop...	26.103	198	7598215m	224.77	
37) 1-Methyldibenzothiophene	26.449	198	6158885m	182.19	
38) C2-Dibenzothiophenes	27.557	212	45791175m	1115.06	
39) C3-Dibenzothiophenes	29.427	226	53018272m	1291.05	
40) C4-Dibenzothiophenes	29.739	240	36992772m	900.81	
41) Phenanthrene	24.752	178	6189134m	124.58	
42) Anthracene	24.925	178	139263m	2.97	
43) 3-Methylphenanthrene	26.414	192	5242074m	164.29	

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ENV3095E.D
Acq On : 5 Sep 2013 12:42 pm
Operator : YM
Sample : Dupl. (SED-DA-047 (0-0.5))
Misc :
ALS Vial : 16 Sample Multiplier: 0.06667

Quant Time: Sep 13 06:13:37 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.518	192	5956774m	186.69		
45) 2-Methylanthracene	26.657	192	467843m	14.66		
46) 4/9-Methylphenanthrene	26.795	192	7853617m	246.14		
47) 1-Methylphenanthrene	26.865	192	4684661m	146.82		
48) 3,6-Dimethylphenanthrene	27.973	206	1967301m	72.57		
49) Retene	30.639	234	1115800m	79.22		
50) C2-Phenanthrenes/Anthr...	28.319	206	45253076m	910.91		
51) C3-Phenanthrenes/Anthr...	29.877	220	52829694m	1063.42		
52) C4-Phenanthrenes/Anthr...	31.712	234	37430384m	753.45		
53) Naphthobenzothiophene	32.916	234	9023689m	209.32		
54) C1-Naphthobenzothiophenes	34.662	248	22967237m	532.77		
55) C2-Naphthobenzothiophenes	35.787	262	33740551m	782.68		
56) C3-Naphthobenzothiophenes	37.145	276	25688837m	595.90		
57) C4-Naphthobenzothiophenes	38.154	290	14615289m	339.03		
58) Fluoranthene	28.873	202	1842831m	40.31		
59) Pyrene	29.635	202	3534730m	60.19		
60) 2-Methylfluoranthene	30.397	216	677224m	18.59		
61) Benzo(b)fluorene	31.020	216	335306m	10.62		
62) C1-Fluoranthenes/Pyrenes	31.470	216	11323844m	247.69		
63) C2-Fluoranthenes/Pyrenes	32.528	230	16569397m	362.43		
64) C3-Fluoranthenes/Pyrenes	34.080	244	14851687m	324.86		
65) C4-Fluoranthenes/Pyrenes	35.322	258	15106868m	330.44		
67) Benz(a)anthracene	33.731	228	799347m	19.06		
68) Chrysene/Triphenylene	33.847	228	4509410m	90.71		
69) C1-Chrysenes	35.089	242	9587685m	192.86		
70) C2-Chrysenes	36.873	256	14513477m	291.94		
71) C3-Chrysenes	37.960	270	11538234m	232.09		
72) C4-Chrysenes	39.395	284	5190044m	104.40		
74) C29-Hopane	40.681	191	10936301m	717.61		
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	41.972	191	14936045m	980.07		
77) Benzo(b)fluoranthene	37.261	252	1967321m	37.50		
78) Benzo(k,j)fluoranthene	37.300	252	560577m	13.71		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.270	252	2014872m	42.30		
81) Benzo(a)pyrene	38.425	252	927848m	18.54		
82) Indeno(1,2,3-c,d)pyrene	43.152	276	603681m	13.65		
83) Dibenzo(a,h)anthracene	43.189	278	321965m	8.31		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.516	276	1523661m	36.78		
89) Perylene	38.736	252	2703150m	53.47		
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 : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ENV3095E.D
Acq On : 5 Sep 2013 12:42 pm
Operator : YM
Sample : Dupl. (SED-DA-047 (0-0.5))
Misc :
ALS Vial : 16 Sample Multiplier: 0.06667

Quant Time: Sep 13 06:13:37 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

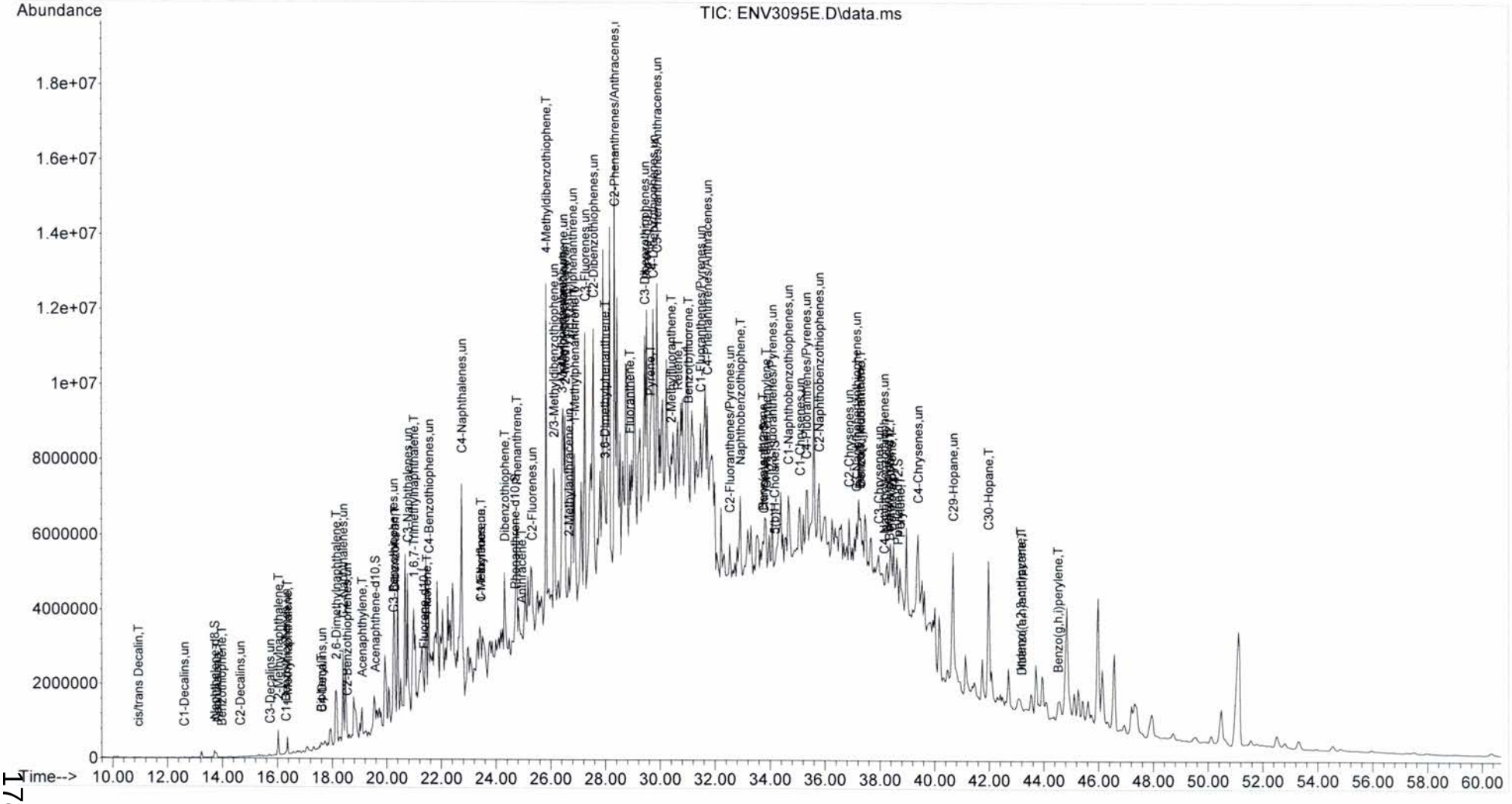
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ENV3095E.D
Acq On : 5 Sep 2013 12:42 pm
Operator : YM
Sample : Dupl. (SED-DA-047 (0-0.5))
Misc :
ALS Vial : 16 Sample Multiplier: 0.06667

Quant Time: Sep 13 06:13:37 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration



178

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

Data File Name	ARC1807.D	**Surrogate/Internal Multiplier Factor:**	1.00		
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS70063\	**AR-WKSU-2500-001:**	**(ng/mL)**		
Operator	YM	Naphthalene-d8	250.125		
Date Acquired	9/5/2013 13:50	Acenaphthene-d10	250.163	***Copy data below***	
Acq. Method File	PAH-2012.M	Phenanthrene-d10	250.194	***to Spread Sheet***	
Sample Name	SED-DA-047 (0-0.5)	Chrysene-d12	250.038		
Misc Info	0	Perylene-d12	250.031	ARC1807.D	
Instrument Name	GCMSD	5(b)H-Cholane	250.000	SED-DA-047 (0-0.5)	
Vial Number	17			9/5/2013	
Sample Multiplier	0.06667			PAH-2012.M	
Sample Amount	0			14.99925004	

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.90	22955	2.7843	3.0975
4)	C1-Decalins	12.60	19095	2.3161	2.5767
5)	C2-Decalins	14.63	83201	10.0918	11.2271
6)	C3-Decalins	15.72	450222	54.6091	60.7527
7)	C4-Decalins	18.00	1274840	154.6297	172.0259
8)	Naphthalene	13.79	251831	4.9955	5.5576
9)+10)	C1-Naphthalenes	16.19	1363573	27.0490	30.0921
13)	C2-Naphthalenes	18.39	10230500	202.9401	225.7714
14)	C3-Naphthalenes	20.67	22834100	452.9580	503.9168
15)	C4-Naphthalenes	22.74	30397200	602.9861	670.8235
16)	Benzothiophene	13.96	36736	0.9308	1.0355
17)	C1-Benzothiophenes	16.30	327904	8.3085	9.2432
18)	C2-Benzothiophenes	18.53	1583820	40.1313	44.6462
19)	C3-Benzothiophenes	20.23	3906690	98.9889	110.1254
20)	C4-Benzothiophenes	21.54	8958260	226.9867	252.5232
22)	Biphenyl	17.58	300962	6.9513	7.7333
23)	Acenaphthylene	19.09	192134	3.7611	4.1842
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	20.28	494764	10.2562	11.4100
26)	Fluorene	21.45	460085	12.0791	13.4381
28)	C1-Fluorenes	23.44	2361380	61.9960	68.9707
29)	C2-Fluorenes	25.31	10222900	268.3928	298.5876
30)	C3-Fluorenes	27.25	15032300	394.6611	439.0614
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.93	133251	3.3407	3.7166
41)	Phenanthrene	24.75	5778660	136.7242	152.1060
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.65	23861935	564.5778	628.0942
50)	C2-Phenanthrenes/Anthracenes	28.32	41966400	992.9296	1104.6366
51)	C3-Phenanthrenes/Anthracenes	30.99	55257300	1307.3987	1454.4842
52)	C4-Phenanthrenes/Anthracenes	31.71	32387700	766.2983	852.5087
34)	Dibenzothiophene	24.30	5335480	152.7150	169.8958
35)+36)+37)	C1-Dibenzothiophenes	26.14	24579170	703.5182	782.6657
38)	C2-Dibenzothiophenes	27.25	46834900	1340.5337	1491.3469
39)	C3-Dibenzothiophenes	29.43	35917400	1028.0447	1143.7022
40)	C4-Dibenzothiophenes	29.74	36306800	1039.1920	1156.1035
58)	Fluoranthene	28.87	1759830	45.2463	50.3366
59)	Pyrene	29.63	3482160	69.6942	77.5349
62)	C1-Fluoranthenes/Pyrenes	31.16	11023300	283.4148	315.2997
63)	C2-Fluoranthenes/Pyrenes	32.53	14735600	378.8623	421.4852
64)	C3-Fluoranthenes/Pyrenes	34.08	14583700	374.9554	417.1388
65)	C4-Fluoranthenes/Pyrenes	35.32	12875800	331.0452	368.2886
53)	Naphthobenzothiophene	32.92	8478000	231.1609	257.1670
54)	C1-Naphthobenzothiophenes	34.66	22783700	621.2184	691.1069
55)	C2-Naphthobenzothiophenes	35.79	33028400	900.5517	1001.8659
56)	C3-Naphthobenzothiophenes	37.18	22458300	612.3479	681.2386
57)	C4-Naphthobenzothiophenes	38.15	11167500	304.4926	338.7487
67)	Benz(a)anthracene	33.73	758309	21.2485	23.6390
68)	Chrysene/Triphenylene	33.85	4426520	104.6579	116.4322
69)	C1-Chrysenes	35.09	9534240	225.4213	250.7817
70)	C2-Chrysenes	36.56	13156800	311.0716	346.0678
71)	C3-Chrysenes	37.96	8497660	200.9127	223.5159
72)	C4-Chrysenes	39.40	5292080	125.1223	139.1988
77)	Benzo(b)fluoranthene	37.30	1812660	37.7378	41.9834
78)	Benzo(k,j)fluoranthene	37.38	445628	11.9037	13.2429
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.27	1993840	45.7192	50.8627
81)	Benzo(a)pyrene	38.43	714503	15.5957	17.3503
89)	Perylene	38.74	2484200	53.6670	59.7047
82)	Indeno(1,2,3-c,d)pyrene	43.15	529420	13.0737	14.5445
83)	Dibenzo(a,h)anthracene	43.19	260633	7.3470	8.1736
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.52	1239520	32.6800	36.3566

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	795703	23.4811	26.1228
10)	1-Methylnaphthalene	16.36	567870	17.7615	19.7597
11)	2,6-Dimethylnaphthalene	18.14	2542750	84.0035	93.4541
12)	1,6,7-Trimethylnaphthalene	20.98	1998790	70.8449	78.8151
27)	1-Methylfluorene	23.44	1059780	39.8159	44.2952
35)	4-Methyldibenzothiophene	25.83	10788800	375.1321	417.3353
36)	2/3-Methyldibenzothiophene	26.14	8204870	285.2869	317.3824
37)	1-Methyldibenzothiophene	26.45	5585500	194.2104	216.0595
43)	3-Methylphenanthrene	26.41	4928110	181.5431	201.9671
44)	2-Methylphenanthrene	26.52	6027530	222.0438	247.0242
45)	2-Methylanthracene	26.66	325165	11.9785	13.3261
46)	4/9-Methylphenanthrene	26.80	8169640	300.9550	334.8132
47)	1-Methylphenanthrene	26.86	4411490	162.5115	180.7944
48)	3,6-Dimethylphenanthrene	27.97	2006100	86.9857	96.7718
49)	Retene	30.64	1106310	92.3273	102.7143
60)	2-Methylfluoranthene	30.43	700240	22.5903	25.1317
61)	Benzo(b)fluorene	31.02	292436	10.8845	12.1090
74)	C29-Hopane	40.68	10162800	728.3231	810.2612
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	41.97	13774400	987.1494	1098.2060
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	529983	10.81	64.81
21)	Acenaphthene-d10	19.56	310764	10.91	65.42
32)	Phenanthrene-d10	24.68	514299	14.99	89.89
66)	Chrysene-d12	33.77	695224	19.58	117.48
88)	Perylene-d12	38.66	556738	14.62	87.70
90)	5(b)H-Cholane	34.16	245309	27.96	167.76
	Internal Standards				
1)	Fluorene-d10	21.37	496218	16.74	
31)	Pyrene-d10	29.60	572423	16.71	
73)	Benzo(a)pyrene-d12	38.35	582238	16.69	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1807.D
Acq On : 5 Sep 2013 1:50 pm
Operator : YM
Sample : SED-DA-047 (0-0.5)
Misc :
ALS Vial : 17 Sample Multiplier: 0.06667

Quant Time: Sep 13 06:14:41 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.371	176	496218m	251.05		0.03
31) Pyrene-d10	29.600	212	572423m	250.63		0.07
73) Benzo(a)pyrene-d12	38.348	264	582238m	250.32		0.08
System Monitoring Compounds						
2) Naphthalene-d8	13.711	136	529983m	10.81		0.00
21) Acenaphthene-d10	19.561	164	310764m	10.91		0.00
32) Phenanthrene-d10	24.683	188	514299m	14.99		0.03
66) Chrysene-d12	33.770	240	695224m	19.58		0.04
88) Perylene-d12	38.658	264	556738m	14.62		0.08
90) 5(b)H-Cholane	34.158	217	245309m	27.96		0.04
Target Compounds						Qvalue
3) cis/trans Decalin	11.900	138	22955m	2.78		
4) C1-Decalins	12.596	152	19095m	2.32		
5) C2-Decalins	14.630	166	83201m	10.09		
6) C3-Decalins	15.716	180	450222m	54.61		
7) C4-Decalins	18.001	194	1274837m	154.63		
8) Naphthalene	13.794	128	251831m	5.00		
9) 2-Methylnaphthalene	16.023	142	795703m	23.48		
10) 1-Methylnaphthalene	16.357	142	567870m	17.76		
11) 2,6-Dimethylnaphthalene	18.140	156	2542748m	84.00		
12) 1,6,7-Trimethylnaphtha...	20.981	170	1998786m	70.85		
13) C2-Naphthalenes	18.391	156	10230451m	202.94		
14) C3-Naphthalenes	20.675	170	22834131m	452.96		
15) C4-Naphthalenes	22.736	184	30397232m	602.99		
16) Benzothiophene	13.961	134	36736m	0.93		
17) C1-Benzothiophenes	16.301	148	327904m	8.31		
18) C2-Benzothiophenes	18.530	162	1583824m	40.13		
19) C3-Benzothiophenes	20.229	176	3906690m	98.99		
20) C4-Benzothiophenes	21.538	190	8958260m	226.99		
22) Biphenyl	17.583	154	300962m	6.95		
23) Acenaphthylene	19.087	152	192134m	3.76		
24) Acenaphthene	0.000		0	N.D.	d	
25) Dibenzofuran	20.285	168	494764m	10.26		
26) Fluorene	21.455	166	460085m	12.08		
27) 1-Methylfluorene	23.436	180	1059776m	39.82		
28) C1-Fluorenes	23.436	180	2361376m	62.00		
29) C2-Fluorenes	25.306	194	10222871m	268.39		
30) C3-Fluorenes	27.245	208	15032334m	394.66		
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.302	184	5335483m	152.71		
35) 4-Methyldibenzothiophene	25.826	198	10788822m	375.13		
36) 2/3-Methyldibenzothiop...	26.137	198	8204870m	285.29		
37) 1-Methyldibenzothiophene	26.449	198	5585497m	194.21		
38) C2-Dibenzothiophenes	27.245	212	46834938m	1340.53		
39) C3-Dibenzothiophenes	29.427	226	35917434m	1028.05		
40) C4-Dibenzothiophenes	29.739	240	36306797m	1039.19		
41) Phenanthrene	24.752	178	5778660m	136.72		
42) Anthracene	24.925	178	133251m	3.34		
43) 3-Methylphenanthrene	26.414	192	4928108m	181.54		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1807.D
Acq On : 5 Sep 2013 1:50 pm
Operator : YM
Sample : SED-DA-047 (0-0.5)
Misc :
ALS Vial : 17 Sample Multiplier: 0.06667

Quant Time: Sep 13 06:14:41 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.518	192	6027529m	222.04		
45) 2-Methylanthracene	26.657	192	325165m	11.98		
46) 4/9-Methylphenanthrene	26.795	192	8169637m	300.95		
47) 1-Methylphenanthrene	26.864	192	4411487m	162.51		
48) 3,6-Dimethylphenanthrene	27.973	206	2006099m	86.99		
49) Retene	30.639	234	1106306m	92.33		
50) C2-Phenanthrenes/Anthr...	28.319	206	41966385m	992.93		
51) C3-Phenanthrenes/Anthr...	30.985	220	55257298m	1307.40		
52) C4-Phenanthrenes/Anthr...	31.712	234	32387722m	766.30		
53) Naphthobenzothiophene	32.916	234	8477998m	231.16		
54) C1-Naphthobenzothiophenes	34.662	248	22783674m	621.22		
55) C2-Naphthobenzothiophenes	35.787	262	33028428m	900.55		
56) C3-Naphthobenzothiophenes	37.184	276	22458330m	612.35		
57) C4-Naphthobenzothiophenes	38.154	290	11167514m	304.49		
58) Fluoranthene	28.873	202	1759829m	45.25		
59) Pyrene	29.635	202	3482155m	69.69		
60) 2-Methylfluoranthene	30.431	216	700240m	22.59		
61) Benzo(b)fluorene	31.020	216	292436m	10.88		
62) C1-Fluoranthenes/Pyrenes	31.158	216	11023255m	283.41		
63) C2-Fluoranthenes/Pyrenes	32.528	230	14735635m	378.86		
64) C3-Fluoranthenes/Pyrenes	34.080	244	14583679m	374.96		
65) C4-Fluoranthenes/Pyrenes	35.322	258	12875815m	331.05		
67) Benz(a)anthracene	33.731	228	758309m	21.25		
68) Chrysene/Triphenylene	33.847	228	4426523m	104.66		
69) C1-Chrysenes	35.089	242	9534236m	225.42		
70) C2-Chrysenes	36.563	256	13156838m	311.07		
71) C3-Chrysenes	37.960	270	8497658m	200.91		
72) C4-Chrysenes	39.395	284	5292077m	125.12		
74) C29-Hopane	40.681	191	10162828m	728.32		
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	41.972	191	13774441m	987.15		
77) Benzo(b)fluoranthene	37.300	252	1812659m	37.74		
78) Benzo(k,j)fluoranthene	37.378	252	445628m	11.90		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.270	252	1993839m	45.72		
81) Benzo(a)pyrene	38.425	252	714503m	15.60		
82) Indeno(1,2,3-c,d)pyrene	43.152	276	529420m	13.07		
83) Dibenzo(a,h)anthracene	43.188	278	260633m	7.35		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.516	276	1239518m	32.68		
89) Perylene	38.736	252	2484200m	53.67		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1807.D
Acq On : 5 Sep 2013 1:50 pm
Operator : YM
Sample : SED-DA-047 (0-0.5)
Misc :
ALS Vial : 17 Sample Multiplier: 0.06667

Quant Time: Sep 13 06:14:41 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

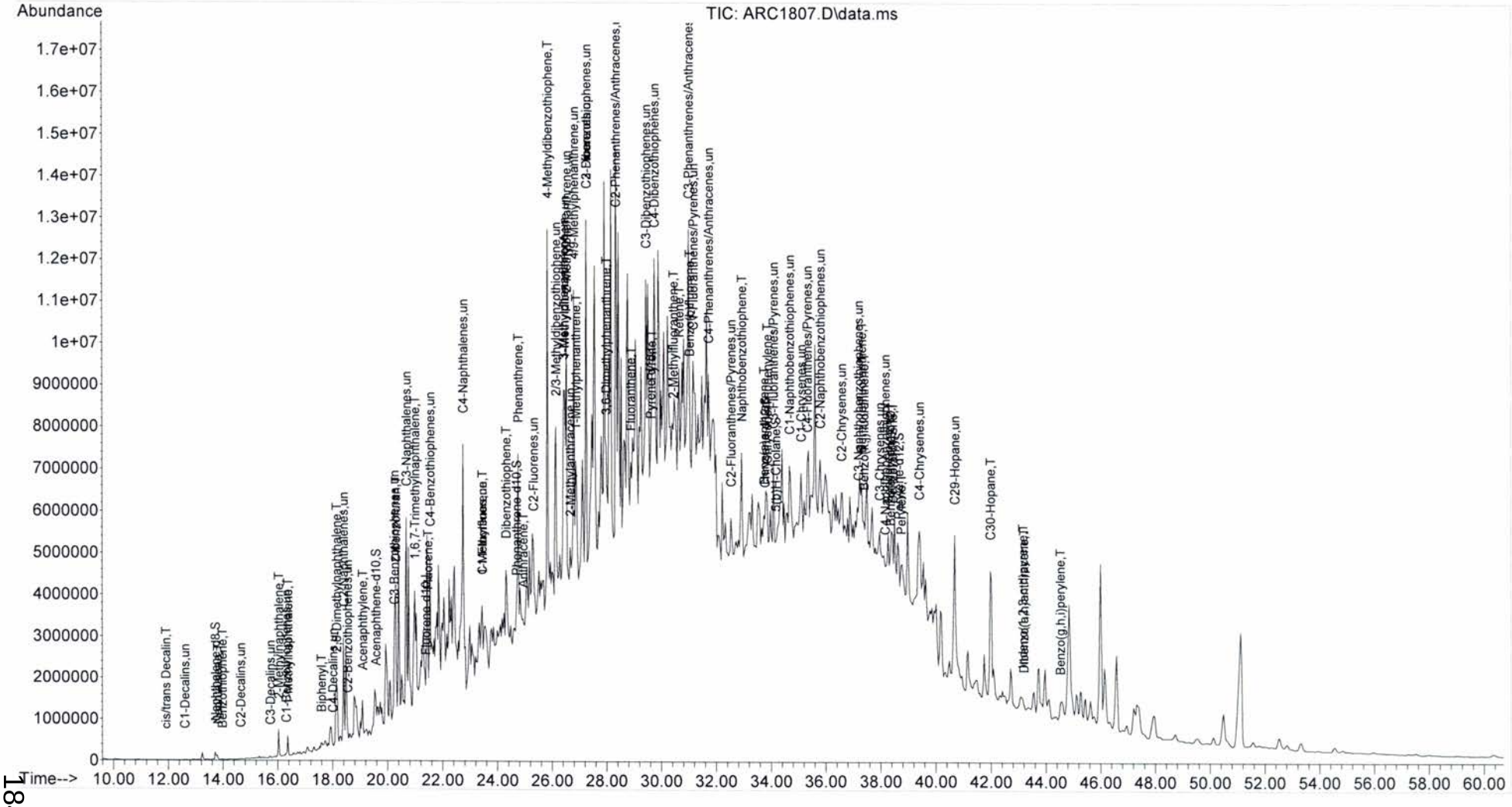
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1807.D
Acq On : 5 Sep 2013 1:50 pm
Operator : YM
Sample : SED-DA-047 (0-0.5)
Misc :
ALS Vial : 17 Sample Multiplier: 0.06667

Quant Time: Sep 13 06:14:41 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration



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

Data File Name	ARC1810.D
Data File Path	C:\msdchem\2\data\MS70063\
Operator	YM
Date Acquired	9/5/2013 14:59
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-048 (0-0.5)
Misc Info	0
Instrument Name	GCMSD
Vial Number	18
Sample Multiplier	0.33201
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

ARC1810.D
SED-DA-048 (0-0.5)
9/5/2013
PAH-2012.M
3.011957471

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.32	5865	3.9130	4.1475
4)	C1-Decalins	12.60	10122	6.7531	7.1578
5)	C2-Decalins	14.63	45293	30.2185	32.0293
6)	C3-Decalins	16.58	305248	203.6543	215.8580
7)	C4-Decalins	17.61	517513	345.2738	365.9640
8)	Naphthalene	13.79	203774	22.2344	23.5668
9)+10)	C1-Naphthalenes	16.19	1691194	184.5314	195.5893
13)	C2-Naphthalenes	0.00	0	0.0000	0.0000
14)	C3-Naphthalenes	20.76	13324500	1453.8751	1540.9971
15)	C4-Naphthalenes	22.74	12045500	1314.3180	1393.0772
16)	Benzothiophene	13.96	22071	3.0761	3.2604
17)	C1-Benzothiophenes	16.30	294722	41.0763	43.5377
18)	C2-Benzothiophenes	18.53	1146760	159.8280	169.4055
19)	C3-Benzothiophenes	20.23	3046460	424.5943	450.0377
20)	C4-Benzothiophenes	21.54	4379480	610.3838	646.9604
22)	Biphenyl	17.61	248611	31.5848	33.4775
23)	Acenaphthylene	19.09	127556	13.7346	14.5576
24)	Acenaphthene	19.67	77230	14.0169	14.8569
25)	Dibenzofuran	20.26	275686	31.4344	33.3181
26)	Fluorene	21.45	543886	78.5433	83.2499
28)	C1-Fluorenes	23.40	2036000	294.0214	311.6404
29)	C2-Fluorenes	25.24	5192390	749.8413	794.7748
30)	C3-Fluorenes	27.21	5224030	754.4097	799.6170
33)	Carbazole	25.48	95573	10.1769	10.7868
42)	Anthracene	24.86	116046	10.7563	11.4009
41)	Phenanthrene	24.72	2571120	224.9062	238.3835
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.64	8624644	754.4324	799.6410
50)	C2-Phenanthrenes/Anthracenes	28.32	13430600	1174.8307	1245.2312
51)	C3-Phenanthrenes/Anthracenes	29.84	13706600	1198.9678	1270.8147
52)	C4-Phenanthrenes/Anthracenes	31.71	10360400	906.2678	960.5750
34)	Dibenzothiophene	24.30	2591570	274.2409	290.6745
35)+36)+37)	C1-Dibenzothiophenes	26.13	7745880	819.6720	868.7900
38)	C2-Dibenzothiophenes	27.21	14245000	1507.4117	1597.7419
39)	C3-Dibenzothiophenes	28.73	17149700	1814.7866	1923.5358
40)	C4-Dibenzothiophenes	30.78	12029300	1272.9429	1349.2228
58)	Fluoranthene	28.84	635762	60.4321	64.0535
59)	Pyrene	29.63	1036950	76.7305	81.3285
62)	C1-Fluoranthenes/Pyrenes	31.12	3407220	323.8728	343.2805
63)	C2-Fluoranthenes/Pyrenes	32.84	5264170	500.3856	530.3707
64)	C3-Fluoranthenes/Pyrenes	34.04	5218370	496.0296	525.7537
65)	C4-Fluoranthenes/Pyrenes	35.09	4951610	470.6740	498.8786
53)	Naphthobenzothiophene	32.88	2595340	261.6235	277.3011
54)	C1-Naphthobenzothiophenes	34.04	6171110	622.0772	659.3545
55)	C2-Naphthobenzothiophenes	35.94	9841650	992.0890	1051.5390
56)	C3-Naphthobenzothiophenes	37.11	8147730	821.3330	870.5505
57)	C4-Naphthobenzothiophenes	38.11	4136900	417.0212	442.0107
67)	Benz(a)anthracene	33.69	310493	32.1658	34.0933
68)	Chrysene/Triphenylene	33.81	1164950	101.8301	107.9322
69)	C1-Chrysenes	35.05	3174810	277.5155	294.1454
70)	C2-Chrysenes	36.83	4806690	420.1620	445.3398
71)	C3-Chrysenes	37.92	3265470	285.4403	302.5450
72)	C4-Chrysenes	39.36	1902180	166.2733	176.2370
77)	Benzo(b)fluoranthene	37.22	705296	55.6824	59.0191
78)	Benzo(k,j)fluoranthene	37.34	136163	13.7929	14.6195
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.19	634897	55.2076	58.5159
81)	Benzo(a)pyrene	38.39	329693	27.2896	28.9249
89)	Perylene	38.70	1311780	107.4653	113.9051
82)	Indeno(1,2,3-c,d)pyrene	43.08	233427	21.8593	23.1692
83)	Dibenzo(a,h)anthracene	43.11	95503	10.2091	10.8208
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.44	517914	51.7813	54.8842

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	992922	161.1706	170.8286
10)	1-Methylnaphthalene	16.36	698272	120.1318	127.3306
11)	2,6-Dimethylnaphthalene	18.14	1918050	348.5441	369.4303
12)	1,6,7-Trimethylnaphthalene	20.98	1004470	195.8318	207.5668
27)	1-Methylfluorene	23.40	966144	199.6582	211.6225
35)	4-Methyldibenzothiophene	25.83	3188340	409.8597	434.4201
36)	2/3-Methyldibenzothiophene	26.10	2575370	331.0634	350.9021
37)	1-Methyldibenzothiophene	26.45	1982170	254.8080	270.0772
43)	3-Methylphenanthrene	26.41	1608880	219.1206	232.2512
44)	2-Methylphenanthrene	26.48	2347350	319.6964	338.8539
45)	2-Methylanthracene	26.66	197844	26.9453	28.5600
46)	4/9-Methylphenanthrene	26.76	2910230	396.3569	420.1081
47)	1-Methylphenanthrene	26.86	1560340	212.5106	225.2451
48)	3,6-Dimethylphenanthrene	27.94	745130	119.4512	126.6092
49)	Retene	30.60	288115	88.8960	94.2230
60)	2-Methylfluoranthene	30.40	190385	22.7075	24.0682
61)	Benzo(b)fluorene	30.99	270782	37.2615	39.4943
74)	C29-Hopane	40.61	3159950	858.7671	910.2279
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	41.94	3941670	1071.2103	1135.4016
91)	C20-TAS	33.27	562499	40.3382	42.7554
92)	C21-TAS	34.35	796402	57.1120	60.5344
93)	C26(20S)-TAS	38.46	662760	47.5282	50.3763
94)	C26(20R)/C27(20S)-TAS	39.36	2189360	157.0045	166.4129
95)	C28(20S)-TAS	40.13	1815210	130.1735	137.9740
96)	C27(20R)-TAS	40.57	1395450	100.0715	106.0681
97)	C28(20R)-TAS	41.09	1684160	120.7749	128.0123
	Surrogate Standards				
2)	Naphthalene-d8	13.71	596459	66.91	80.57
21)	Acenaphthene-d10	19.56	392204	75.75	91.20
32)	Phenanthrene-d10	24.65	727113	78.37	94.35
66)	Chrysene-d12	33.73	805967	83.94	101.11
88)	Perylene-d12	38.62	718995	71.59	86.24
90)	5(b)H-Cholane	34.12	186060	80.42	96.89
	Internal Standards				
1)	Fluorene-d10	21.34	449252	83.35	
31)	Pyrene-d10	29.57	771039	83.21	
73)	Benzo(a)pyrene-d12	38.31	764601	83.11	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1810.D
Acq On : 5 Sep 2013 2:59 pm
Operator : YM
Sample : SED-DA-048 (0-0.5)
Misc :
ALS Vial : 18 Sample Multiplier: 0.33201

Quant Time: Sep 13 05:01:00 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.343	176	449252m	251.05		0.00
31) Pyrene-d10	29.566	212	771039m	250.63		0.03
73) Benzo(a)pyrene-d12	38.309	264	764601m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.711	136	596459m	66.91		0.00
21) Acenaphthene-d10	19.561	164	392204m	75.75		0.00
32) Phenanthrene-d10	24.648	188	727113m	78.37		0.00
66) Chrysene-d12	33.731	240	805967m	83.94		0.00
88) Perylene-d12	38.619	264	718995m	71.59		0.04
90) 5(b)H-Cholane	34.119	217	186060m	80.42		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.315	138	5865m	3.91		
4) C1-Decalins	12.596	152	10122m	6.75		
5) C2-Decalins	14.630	166	45293m	30.22		
6) C3-Decalins	16.580	180	305248m	203.65		
7) C4-Decalins	17.611	194	517513m	345.27		
8) Naphthalene	13.794	128	203774m	22.23		
9) 2-Methylnaphthalene	16.023	142	992922m	161.17		
10) 1-Methylnaphthalene	16.357	142	698272m	120.13		
11) 2,6-Dimethylnaphthalene	18.140	156	1918048m	348.54		
12) 1,6,7-Trimethylnaphtha...	20.981	170	1004468m	195.83		
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	20.758	170	13324480m	1453.87		
15) C4-Naphthalenes	22.736	184	12045472m	1314.32		
16) Benzothiophene	13.961	134	22071m	3.08		
17) C1-Benzothiophenes	16.301	148	294722m	41.08		
18) C2-Benzothiophenes	18.530	162	1146761m	159.83		
19) C3-Benzothiophenes	20.229	176	3046461m	424.60		
20) C4-Benzothiophenes	21.538	190	4379480m	610.38		
22) Biphenyl	17.611	154	248611m	31.58		
23) Acenaphthylene	19.087	152	127556m	13.73		
24) Acenaphthene	19.672	154	77230m	14.02		
25) Dibenzofuran	20.257	168	275686m	31.43		
26) Fluorene	21.455	166	543886m	78.54		
27) 1-Methylfluorene	23.402	180	966144m	199.66		
28) C1-Fluorenes	23.402	180	2035999m	294.02		
29) C2-Fluorenes	25.237	194	5192391m	749.84		
30) C3-Fluorenes	27.211	208	5224029m	754.41		
33) Carbazole	25.479	167	95573m	10.18		
34) Dibenzothiophene	24.302	184	2591573m	274.24		
35) 4-Methyldibenzothiophene	25.826	198	3188342m	409.86		
36) 2/3-Methyldibenzothiop...	26.103	198	2575371m	331.06		
37) 1-Methyldibenzothiophene	26.449	198	1982174m	254.81		
38) C2-Dibenzothiophenes	27.211	212	14245024m	1507.41		
39) C3-Dibenzothiophenes	28.734	226	17149708m	1814.79		
40) C4-Dibenzothiophenes	30.778	240	12029291m	1272.94		
41) Phenanthrene	24.718	178	2571117m	224.91		
42) Anthracene	24.856	178	116046m	10.76		
43) 3-Methylphenanthrene	26.414	192	1608879m	219.12		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1810.D
Acq On : 5 Sep 2013 2:59 pm
Operator : YM
Sample : SED-DA-048 (0-0.5)
Misc :
ALS Vial : 18 Sample Multiplier: 0.33201

Quant Time: Sep 13 05:01:00 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.484	192	2347348m	319.70		
45) 2-Methylanthracene	26.657	192	197844m	26.95		
46) 4/9-Methylphenanthrene	26.761	192	2910230m	396.36		
47) 1-Methylphenanthrene	26.865	192	1560344m	212.51		
48) 3,6-Dimethylphenanthrene	27.938	206	745130m	119.45		
49) Retene	30.604	234	288115m	88.90		
50) C2-Phenanthrenes/Anthr...	28.319	206	13430619m	1174.83		
51) C3-Phenanthrenes/Anthr...	29.843	220	13706557m	1198.97		
52) C4-Phenanthrenes/Anthr...	31.712	234	10360399m	906.27		
53) Naphthobenzothiophene	32.878	234	2595344m	261.62		
54) C1-Naphthobenzothiophenes	34.041	248	6171110m	622.08		
55) C2-Naphthobenzothiophenes	35.942	262	9841654m	992.09		
56) C3-Naphthobenzothiophenes	37.106	276	8147728m	821.33		
57) C4-Naphthobenzothiophenes	38.115	290	4136899m	417.02		
58) Fluoranthene	28.838	202	635762m	60.43		
59) Pyrene	29.635	202	1036951m	76.73		
60) 2-Methylfluoranthene	30.397	216	190385m	22.71		
61) Benzo(b)fluorene	30.985	216	270782m	37.26		
62) C1-Fluoranthenes/Pyrenes	31.124	216	3407223m	323.87		
63) C2-Fluoranthenes/Pyrenes	32.839	230	5264165m	500.38		
64) C3-Fluoranthenes/Pyrenes	34.041	244	5218365m	496.03		
65) C4-Fluoranthenes/Pyrenes	35.089	258	4951608m	470.67		
67) Benz(a)anthracene	33.692	228	310493m	32.17		
68) Chrysene/Triphenylene	33.809	228	1164946m	101.83		
69) C1-Chrysenes	35.050	242	3174806m	277.52		
70) C2-Chrysenes	36.835	256	4806692m	420.16		
71) C3-Chrysenes	37.921	270	3265466m	285.44		
72) C4-Chrysenes	39.356	284	1902182m	166.27		
74) C29-Hopane	40.608	191	3159946m	858.77		
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	41.935	191	3941667m	1071.21		
77) Benzo(b)fluoranthene	37.223	252	705296m	55.68		
78) Benzo(k,j)fluoranthene	37.339	252	136163m	13.79		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.192	252	634897m	55.21		
81) Benzo(a)pyrene	38.386	252	329693m	27.29		
82) Indeno(1,2,3-c,d)pyrene	43.078	276	233427m	21.86		
83) Dibenzo(a,h)anthracene	43.115	278	95503m	10.21		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.442	276	517914m	51.78		
89) Perylene	38.697	252	1311780m	107.47		
91) C20-TAS	33.266	231	562499m	40.34		
92) C21-TAS	34.352	231	796402m	57.11		
93) C26(20S)-TAS	38.464	231	662760m	47.53		
94) C26(20R)/C27(20S)-TAS	39.356	231	2189357m	157.00		
95) C28(20S)-TAS	40.128	231	1815212m	130.17		
96) C27(20R)-TAS	40.571	231	1395454m	100.07		
97) C28(20R)-TAS	41.087	231	1684155m	120.78		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1810.D
Acq On : 5 Sep 2013 2:59 pm
Operator : YM
Sample : SED-DA-048 (0-0.5)
Misc :
ALS Vial : 18 Sample Multiplier: 0.33201

Quant Time: Sep 13 05:01:00 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

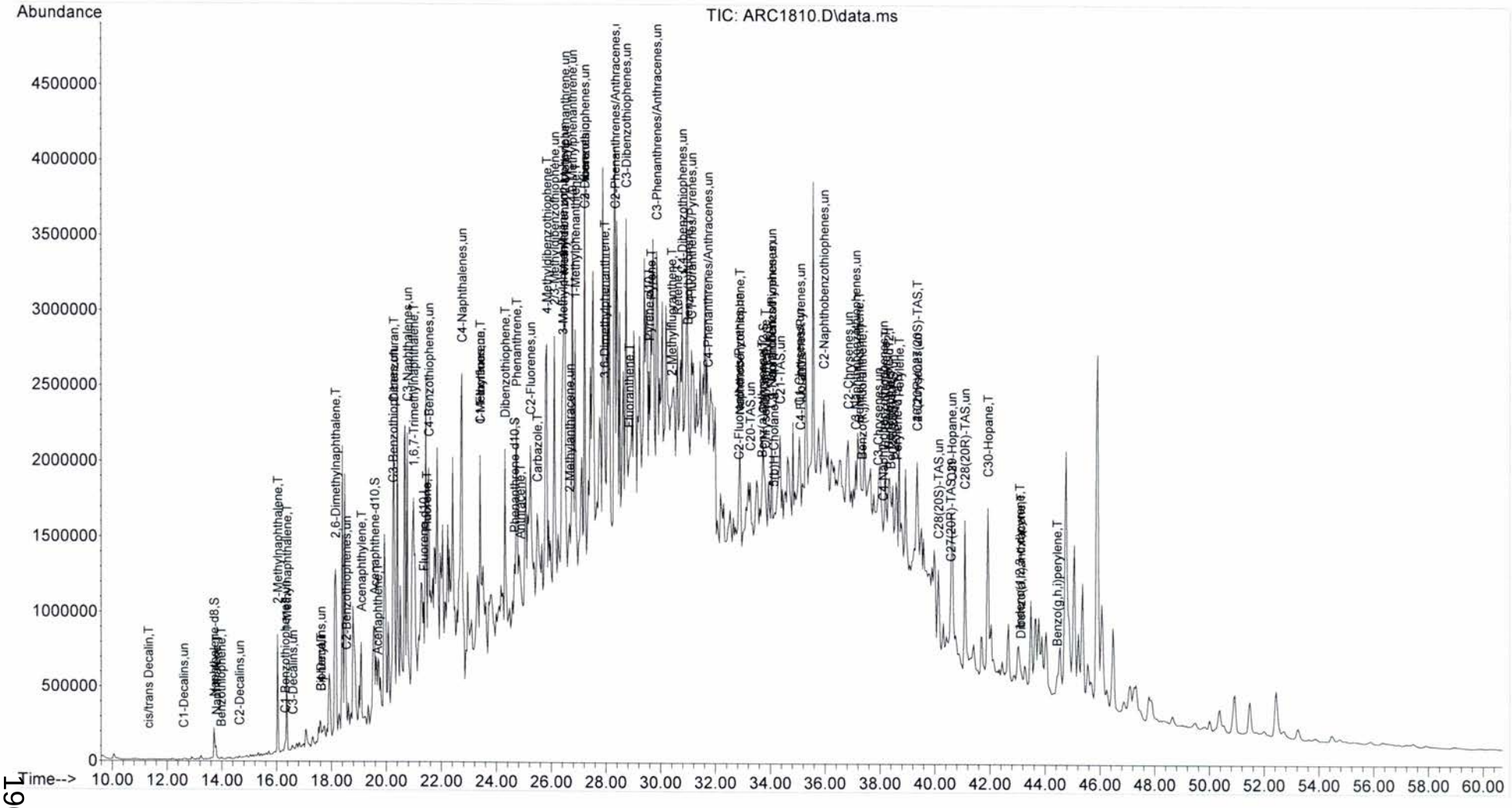
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1810.D
Acq On : 5 Sep 2013 2:59 pm
Operator : YM
Sample : SED-DA-048 (0-0.5)
Misc :
ALS Vial : 18 Sample Multiplier: 0.33201

Quant Time: Sep 13 05:01:00 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration



190

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

Data File Name	ARC1814.D
Data File Path	C:\GCMS7\MS70063\
Operator	YM
Date Acquired	9/5/2013 17:16
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-048 (1.0-1.5)
Misc Info	0
Instrument Name	GCMSD
Vial Number	20
Sample Multiplier	0.06627
Sample Amount	0

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

Copy data below to Spread Sheet

ARC1814.D
SED-DA-048 (1.0-1.5)
9/5/2013
PAH-2012.M
15.08978422

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	134466	4.2878	4.7473
9)+10)	C1-Naphthalenes	16.19	113045	3.6047	3.9911
13)	C2-Naphthalenes	18.39	176952	5.6425	6.2473
14)	C3-Naphthalenes	20.06	257797	8.2205	9.1015
15)	C4-Naphthalenes	21.45	91163	2.9069	3.2185
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	3343	0.1052	0.1165
24)	Acenaphthene	19.67	5999	0.3182	0.3523
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.45	87097	3.6757	4.0697
28)	C1-Fluorenes	23.40	35156	1.4837	1.6427
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	26.62	128973	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	26.10	13077	0.0000	0.0000
38)	C2-Dibenzothiophenes	27.87	20554	0.6018	0.6663
39)	C3-Dibenzothiophenes	29.39	22287	0.6525	0.7225
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.84	31878	0.8384	0.9283
59)	Pyrene	29.60	20937	0.4287	0.4746
62)	C1-Fluoranthenes/Pyrenes	30.74	12840	0.3377	0.3739
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	0.00	0	0.0000	0.0000
68)	Chrysene/Triphenylene	0.00	0	0.0000	0.0000
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.22	14790	0.3362	0.3722
78)	Benzo(k,j)fluoranthene	37.26	1957	0.0571	0.0632
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	38.66	9117440	215.0693	238.1206
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	44.37	6845	0.1971	0.2182

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	76167	3.6131	4.0003
10)	1-Methylnaphthalene	16.36	36878	1.8541	2.0529
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	25.79	4822	0.1715	0.1899
36)	2/3-Methyldibenzothiophene	26.10	4072	0.1448	0.1604
37)	1-Methyldibenzothiophene	26.41	4183	0.1488	0.1647
43)	3-Methylphenanthrene	26.38	15840	0.5969	0.6609
44)	2-Methylphenanthrene	26.48	18896	0.7121	0.7884
45)	2-Methylanthracene	26.66	74378	2.8028	3.1032
46)	4/9-Methylphenanthrene	26.76	8667	0.3266	0.3616
47)	1-Methylphenanthrene	26.83	11192	0.4217	0.4670
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	406552	13.33	80.40
21)	Acenaphthene-d10	19.56	253834	14.33	86.42
32)	Phenanthrene-d10	24.65	502155	14.98	90.32
66)	Chrysene-d12	33.73	493118	14.21	85.75
88)	Perylene-d12	38.58	101678	2.92	17.59
90)	5(b)H-Cholane	34.12	131946	16.42	99.12
	Internal Standards				
1)	Fluorene-d10	21.34	306842	16.64	
31)	Pyrene-d10	29.53	556231	16.61	
73)	Benzo(a)pyrene-d12	38.27	530033	16.59	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1814.D
Acq On : 5 Sep 2013 5:16 pm
Operator : YM
Sample : SED-DA-048 (1.0-1.5)
Misc :
ALS Vial : 20 Sample Multiplier: 0.06627

Quant Time: Sep 13 06:20:46 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.343	176	306842m	251.05		0.00
31) Pyrene-d10	29.531	212	556231m	250.63		0.00
73) Benzo(a)pyrene-d12	38.270	264	530033m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.711	136	406552m	13.33		0.00
21) Acenaphthene-d10	19.561	164	253834m	14.33		0.00
32) Phenanthrene-d10	24.648	188	502155m	14.98		0.00
66) Chrysene-d12	33.731	240	493118m	14.21		0.00
88) Perylene-d12	38.580	264	101678m	2.92		0.00
90) 5(b)H-Cholane	34.119	217	131946m	16.42		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.794	128	134466m	4.29		
9) 2-Methylnaphthalene	16.023	142	76167m	3.61		
10) 1-Methylnaphthalene	16.357	142	36878m	1.85		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.391	156	176952m	5.64		
14) C3-Naphthalenes	20.062	170	257797m	8.22		
15) C4-Naphthalenes	21.455	184	91163m	2.91		
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	19.087	152	3343m	0.11		
24) Acenaphthene	19.672	154	5999m	0.32		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.455	166	87097m	3.68		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.402	180	35156m	1.48		
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	25.791	198	4822m	0.17		
36) 2/3-Methyldibenzothiop...	26.103	198	4072m	0.14		
37) 1-Methyldibenzothiophene	26.414	198	4183m	0.15		
38) C2-Dibenzothiophenes	27.869	212	20554m	0.60		
39) C3-Dibenzothiophenes	29.392	226	22287m	0.65		
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	26.380	192	15840m	0.60		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1814.D
Acq On : 5 Sep 2013 5:16 pm
Operator : YM
Sample : SED-DA-048 (1.0-1.5)
Misc :
ALS Vial : 20 Sample Multiplier: 0.06627

Quant Time: Sep 13 06:20:46 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.484	192	18896m	0.71		
45) 2-Methylanthracene	26.657	192	74378m	2.80		
46) 4/9-Methylphenanthrene	26.761	192	8667m	0.33		
47) 1-Methylphenanthrene	26.830	192	11192m	0.42		
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.838	202	31878m	0.84		
59) Pyrene	29.600	202	20937m	0.43		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	30.743	216	12840m	0.34		
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	0.000		0	N.D.	d	
68) Chrysene/Triphenylene	0.000		0	N.D.	d	
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	37.223	252	14790m	0.34		
78) Benzo(k,j)fluoranthene	37.261	252	1957m	0.06		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	0.000		0	N.D.	d	
81) Benzo(a)pyrene	0.000		0	N.D.	d	
82) Indeno(1,2,3-c,d)pyrene	0.000		0	N.D.	d	
83) Dibenzo(a,h)anthracene	0.000		0	N.D.	d	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.		
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.368	276	6845m	0.20		
89) Perylene	38.658	252	9117441m	215.07		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1814.D
Acq On : 5 Sep 2013 5:16 pm
Operator : YM
Sample : SED-DA-048 (1.0-1.5)
Misc :
ALS Vial : 20 Sample Multiplier: 0.06627

Quant Time: Sep 13 06:20:46 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

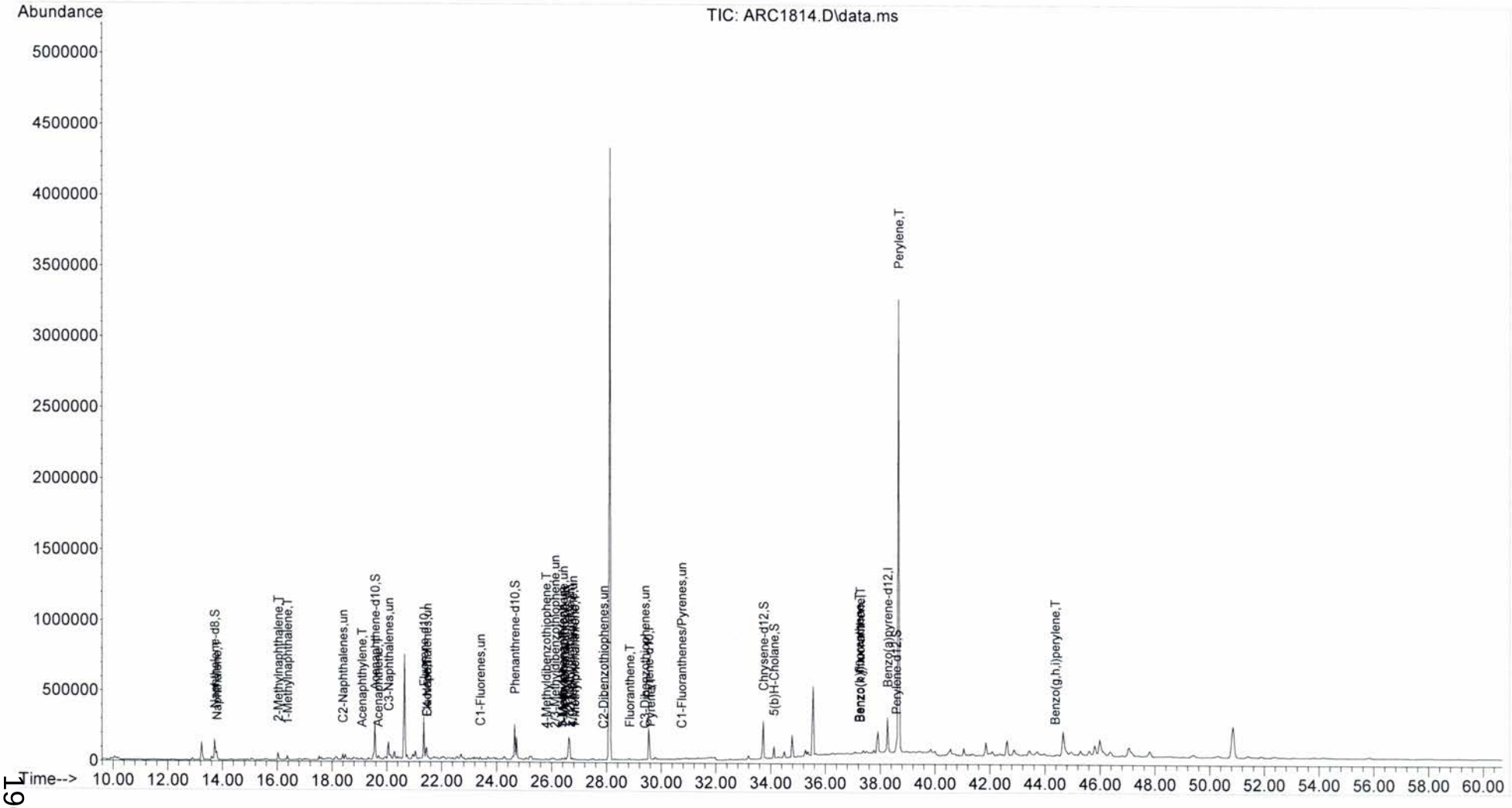
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1814.D
Acq On : 5 Sep 2013 5:16 pm
Operator : YM
Sample : SED-DA-048 (1.0-1.5)
Misc :
ALS Vial : 20 Sample Multiplier: 0.06627

Quant Time: Sep 13 06:20:46 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration



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

Data File Name	ARC1815.D
Data File Path	C:\GCMS7\MS70063\
Operator	YM
Date Acquired	9/5/2013 18:25
Acq. Method File	PAH-2012.M
Sample Name	SED-DA-DUP-07-081213
Misc Info	0
Instrument Name	GCMSD
Vial Number	21
Sample Multiplier	0.33267
Sample Amount	0

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

Copy data below to Spread Sheet

ARC1815.D
SED-DA-DUP-07-081213
9/5/2013
PAH-2012.M
3.005981904

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.90	7187	4.6913	5.1311
4)	C1-Decalins	12.23	15081	9.8442	10.7670
5)	C2-Decalins	14.63	63383	41.3735	45.2520
6)	C3-Decalins	16.58	354236	231.2296	252.9061
7)	C4-Decalins	17.61	535129	349.3102	382.0560
8)	Naphthalene	13.79	175002	18.6822	20.4336
9)+10)	C1-Naphthalenes	16.19	1774731	189.4605	207.2213
13)	C2-Naphthalenes	18.39	8218610	877.3739	959.6226
14)	C3-Naphthalenes	20.40	12533500	1338.0120	1463.4430
15)	C4-Naphthalenes	22.74	13104400	1398.9505	1530.0941
16)	Benzothiophene	13.96	20518	2.7979	3.0601
17)	C1-Benzothiophenes	16.33	240214	32.7558	35.8265
18)	C2-Benzothiophenes	18.53	1258490	171.6082	187.6954
19)	C3-Benzothiophenes	20.23	3314590	451.9788	494.3492
20)	C4-Benzothiophenes	21.54	4719340	643.5335	703.8611
22)	Biphenyl	17.58	247155	30.7211	33.6011
23)	Acenaphthylene	19.09	103864	10.9418	11.9675
24)	Acenaphthene	19.67	74201	13.1761	14.4113
25)	Dibenzofuran	20.26	263599	29.4066	32.1633
26)	Fluorene	21.45	533870	75.4306	82.5018
28)	C1-Fluorenes	23.40	2064920	291.7516	319.1016
29)	C2-Fluorenes	25.24	4087600	577.5351	631.6757
30)	C3-Fluorenes	27.21	4466790	631.1116	690.2747
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.86	165898	15.2444	16.6735
41)	Phenanthrene	24.72	2483860	215.3988	235.5912
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.64	8420317	730.2048	798.6573
50)	C2-Phenanthrenes/Anthracenes	28.32	13517800	1172.2526	1282.1445
51)	C3-Phenanthrenes/Anthracenes	30.95	15100200	1309.4789	1432.2351
52)	C4-Phenanthrenes/Anthracenes	31.71	10514100	911.7786	997.2526
34)	Dibenzothiophene	24.30	2262700	237.3734	259.6257
35)+36)+37)	C1-Dibenzothiophenes	26.13	7719020	809.7802	885.6924
38)	C2-Dibenzothiophenes	27.21	14372900	1507.8201	1649.1696
39)	C3-Dibenzothiophenes	29.39	14592400	1530.8509	1674.3594
40)	C4-Dibenzothiophenes	30.78	11870700	1245.3269	1362.0691
58)	Fluoranthene	28.84	516811	48.7016	53.2670
59)	Pyrene	29.63	920427	67.5204	73.8500
62)	C1-Fluoranthenes/Pyrenes	31.12	3821990	360.1652	393.9286
63)	C2-Fluoranthenes/Pyrenes	32.84	4486340	422.7703	462.4026
64)	C3-Fluoranthenes/Pyrenes	33.92	4872570	459.1644	502.2085
65)	C4-Fluoranthenes/Pyrenes	35.09	3560100	335.4844	366.9341
53)	Naphthobenzothiophene	32.88	2492170	249.0561	272.4036
54)	C1-Naphthobenzothiophenes	34.62	5926270	592.2424	647.7617
55)	C2-Naphthobenzothiophenes	35.75	8377230	837.1807	915.6616
56)	C3-Naphthobenzothiophenes	37.11	6575140	657.0898	718.6882
57)	C4-Naphthobenzothiophenes	38.08	2386780	238.5231	260.8832
67)	Benz(a)anthracene	33.69	265540	27.2715	29.8281
68)	Chrysene/Triphenylene	33.81	1089910	94.4490	103.3031
69)	C1-Chrysenes	35.05	3117830	270.1843	295.5125
70)	C2-Chrysenes	36.83	3951300	342.4106	374.5096
71)	C3-Chrysenes	37.92	3238990	280.6830	306.9954
72)	C4-Chrysenes	39.32	1459030	126.4362	138.2889
77)	Benzo(b)fluoranthene	37.22	532454	44.0339	48.1618
78)	Benzo(k,j)fluoranthene	37.26	149003	15.8107	17.2928
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.19	556645	50.7026	55.4556
81)	Benzo(a)pyrene	38.39	274339	23.7866	26.0165
89)	Perylene	38.70	370839	31.8237	34.8070
82)	Indeno(1,2,3-c,d)pyrene	43.04	170556	16.7305	18.2989
83)	Dibenzo(a,h)anthracene	43.11	82502	9.2383	10.1044
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.41	392179	41.0731	44.9235

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	1061830	168.6304	184.4386
10)	1-Methylnaphthalene	16.36	712901	119.9974	131.2465
11)	2,6-Dimethylnaphthalene	18.14	2105050	374.2571	409.3415
12)	1,6,7-Trimethylnaphthalene	20.98	1047670	199.8389	218.5726
27)	1-Methylfluorene	23.40	977204	197.5787	216.1006
35)	4-Methyldibenzothiophene	25.83	3191550	406.7323	444.8611
36)	2/3-Methyldibenzothiophene	26.10	2591160	330.2196	361.1757
37)	1-Methyldibenzothiophene	26.45	1936310	246.7640	269.8967
43)	3-Methylphenanthrene	26.41	1620950	218.8599	239.3768
44)	2-Methylphenanthrene	26.48	2265690	305.9127	334.5902
45)	2-Methylanthracene	26.66	183967	24.8392	27.1677
46)	4/9-Methylphenanthrene	26.76	2866540	387.0383	423.3209
47)	1-Methylphenanthrene	26.86	1483170	200.2577	219.0307
48)	3,6-Dimethylphenanthrene	27.94	711846	113.1311	123.7365
49)	Retene	30.60	290925	88.9886	97.3307
60)	2-Methylfluoranthene	30.40	195984	23.1736	25.3460
61)	Benzo(b)fluorene	30.99	250801	34.2141	37.4215
74)	C29-Hopane	40.61	3102230	883.1357	965.9246
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	41.93	3781400	1076.4802	1177.3940
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	612927	67.27	80.84
21)	Acenaphthene-d10	19.56	433758	81.96	98.49
32)	Phenanthrene-d10	24.65	712176	76.10	91.43
66)	Chrysene-d12	33.73	828339	85.52	102.81
88)	Perylene-d12	38.62	709861	74.04	89.02
90)	5(b)H-Cholane	34.12	181661	82.25	98.90
	Internal Standards				
1)	Fluorene-d10	21.34	460090	83.52	
31)	Pyrene-d10	29.57	779295	83.38	
73)	Benzo(a)pyrene-d12	38.31	731374	83.28	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1815.D
Acq On : 5 Sep 2013 6:25 pm
Operator : YM
Sample : SED-DA-DUP-07-081213
Misc :
ALS Vial : 21 Sample Multiplier: 0.33267

Quant Time: Sep 13 06:27:48 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.343	176	460090m	251.05		0.00
31) Pyrene-d10	29.565	212	779295m	250.63		0.03
73) Benzo(a)pyrene-d12	38.309	264	731374m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.711	136	612927m	67.27		0.00
21) Acenaphthene-d10	19.561	164	433758m	81.96		0.00
32) Phenanthrene-d10	24.648	188	712176m	76.10		0.00
66) Chrysene-d12	33.731	240	828339m	85.52		0.00
88) Perylene-d12	38.619	264	709861m	74.04		0.04
90) 5(b)H-Cholane	34.119	217	181661m	82.25		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.900	138	7187m	4.69		
4) C1-Decalins	12.234	152	15081m	9.84		
5) C2-Decalins	14.630	166	63383m	41.37		
6) C3-Decalins	16.580	180	354236m	231.23		
7) C4-Decalins	17.611	194	535129m	349.31		
8) Naphthalene	13.794	128	175002m	18.68		
9) 2-Methylnaphthalene	16.023	142	1061830m	168.63		
10) 1-Methylnaphthalene	16.357	142	712901m	120.00		
11) 2,6-Dimethylnaphthalene	18.140	156	2105046m	374.26		
12) 1,6,7-Trimethylnaphtha...	20.981	170	1047667m	199.84		
13) C2-Naphthalenes	18.391	156	8218607m	877.37		
14) C3-Naphthalenes	20.396	170	12533520m	1338.01		
15) C4-Naphthalenes	22.736	184	13104364m	1398.95		
16) Benzothiophene	13.961	134	20518m	2.80		
17) C1-Benzothiophenes	16.329	148	240214m	32.76		
18) C2-Benzothiophenes	18.530	162	1258487m	171.61		
19) C3-Benzothiophenes	20.229	176	3314592m	451.98		
20) C4-Benzothiophenes	21.538	190	4719342m	643.53		
22) Biphenyl	17.583	154	247155m	30.72		
23) Acenaphthylene	19.087	152	103864m	10.94		
24) Acenaphthene	19.672	154	74201m	13.18		
25) Dibenzofuran	20.257	168	263599m	29.41		
26) Fluorene	21.455	166	533870m	75.43		
27) 1-Methylfluorene	23.402	180	977204m	197.58		
28) C1-Fluorenes	23.402	180	2064915m	291.75		
29) C2-Fluorenes	25.237	194	4087600m	577.54		
30) C3-Fluorenes	27.211	208	4466786m	631.11		
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.302	184	2262697m	237.37		
35) 4-Methyldibenzothiophene	25.826	198	3191547m	406.73		
36) 2/3-Methyldibenzothiop...	26.103	198	2591162m	330.22		
37) 1-Methyldibenzothiophene	26.449	198	1936305m	246.76		
38) C2-Dibenzothiophenes	27.211	212	14372877m	1507.82		
39) C3-Dibenzothiophenes	29.392	226	14592405m	1530.85		
40) C4-Dibenzothiophenes	30.777	240	11870749m	1245.33		
41) Phenanthrene	24.718	178	2483859m	215.40		
42) Anthracene	24.856	178	165898m	15.24		
43) 3-Methylphenanthrene	26.414	192	1620948m	218.86		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1815.D
Acq On : 5 Sep 2013 6:25 pm
Operator : YM
Sample : SED-DA-DUP-07-081213
Misc :
ALS Vial : 21 Sample Multiplier: 0.33267

Quant Time: Sep 13 06:27:48 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.484	192	2265689m	305.91		
45) 2-Methylanthracene	26.657	192	183967m	24.84		
46) 4/9-Methylphenanthrene	26.761	192	2866539m	387.04		
47) 1-Methylphenanthrene	26.864	192	1483174m	200.26		
48) 3,6-Dimethylphenanthrene	27.938	206	711846m	113.13		
49) Retene	30.604	234	290925m	88.99		
50) C2-Phenanthrenes/Anthr...	28.319	206	13517753m	1172.25		
51) C3-Phenanthrenes/Anthr...	30.951	220	15100182m	1309.48		
52) C4-Phenanthrenes/Anthr...	31.712	234	10514124m	911.78		
53) Naphthobenzothiophene	32.877	234	2492172m	249.06		
54) C1-Naphthobenzothiophenes	34.623	248	5926267m	592.24		
55) C2-Naphthobenzothiophenes	35.748	262	8377232m	837.18		
56) C3-Naphthobenzothiophenes	37.106	276	6575138m	657.09		
57) C4-Naphthobenzothiophenes	38.076	290	2386776m	238.52		
58) Fluoranthene	28.838	202	516811m	48.70		
59) Pyrene	29.635	202	920427m	67.52		
60) 2-Methylfluoranthene	30.396	216	195984m	23.17		
61) Benzo(b)fluorene	30.985	216	250801m	34.21		
62) C1-Fluoranthenes/Pyrenes	31.124	216	3821990m	360.16		
63) C2-Fluoranthenes/Pyrenes	32.839	230	4486340m	422.77		
64) C3-Fluoranthenes/Pyrenes	33.925	244	4872569m	459.17		
65) C4-Fluoranthenes/Pyrenes	35.089	258	3560102m	335.49		
67) Benz(a)anthracene	33.692	228	265540m	27.27		
68) Chrysene/Triphenylene	33.809	228	1089908m	94.45		
69) C1-Chrysenes	35.050	242	3117832m	270.18		
70) C2-Chrysenes	36.835	256	3951301m	342.41		
71) C3-Chrysenes	37.921	270	3238986m	280.68		
72) C4-Chrysenes	39.317	284	1459032m	126.44		
74) C29-Hopane	40.608	191	3102232m	883.14		
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	41.935	191	3781402m	1076.48		
77) Benzo(b)fluoranthene	37.222	252	532454m	44.03		
78) Benzo(k,j)fluoranthene	37.261	252	149003m	15.81		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.192	252	556645m	50.70		
81) Benzo(a)pyrene	38.386	252	274339m	23.79		
82) Indeno(1,2,3-c,d)pyrene	43.041	276	170556m	16.73		
83) Dibenzo(a,h)anthracene	43.115	278	82502m	9.24		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.405	276	392179m	41.07		
89) Perylene	38.697	252	370839m	31.82		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1815.D
Acq On : 5 Sep 2013 6:25 pm
Operator : YM
Sample : SED-DA-DUP-07-081213
Misc :
ALS Vial : 21 Sample Multiplier: 0.33267

Quant Time: Sep 13 06:27:48 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

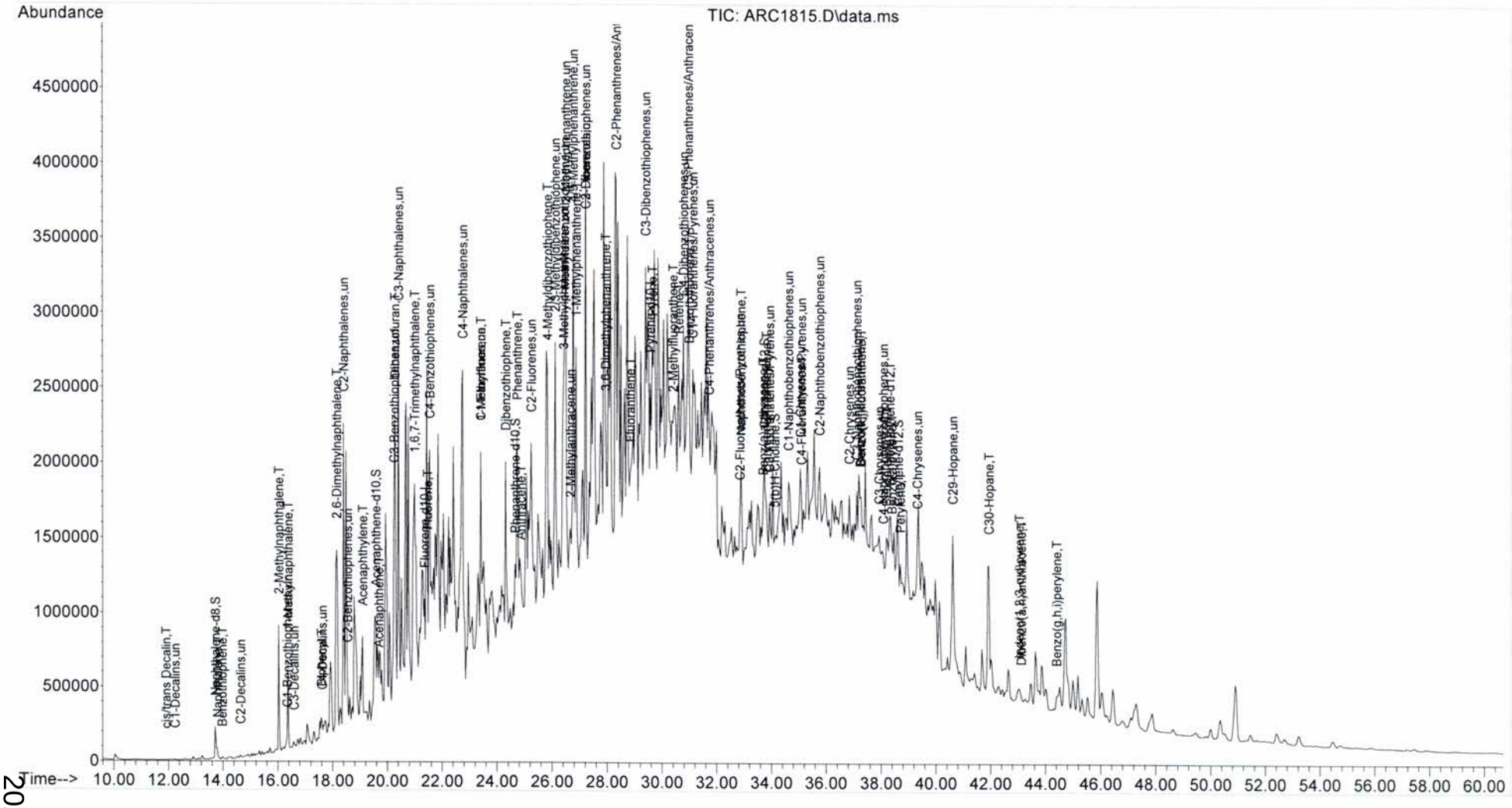
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1815.D
Acq On : 5 Sep 2013 6:25 pm
Operator : YM
Sample : SED-DA-DUP-07-081213
Misc :
ALS Vial : 21 Sample Multiplier: 0.33267

Quant Time: Sep 13 06:27:48 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration



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

Data File Name	ARC1841.D	**Surrogate/Internal Multiplier Factor:**	1.00		
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS70063\	**AR-WKSU-2500-001:**	**(ng/mL)**		
Operator	YM	Naphthalene-d8	250.125		
Date Acquired	9/5/2013 19:33	Acenaphthene-d10	250.163	***Copy data below***	
Acq. Method File	PAH-2012.M	Phenanthrene-d10	250.194	***to Spread Sheet***	
Sample Name	SO-DA-003 (0-0.5)	Chrysene-d12	250.038		
Misc Info	0	Perylene-d12	250.031	ARC1841.D	
Instrument Name	GCMSD	5(b)H-Cholane	250.000	SO-DA-003 (0-0.5)	
Vial Number	22			9/5/2013	
Sample Multiplier	0.33267			PAH-2012.M	
Sample Amount	0			3.005981904	

#	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	102034	12.1901	12.8662
9)+10)	C1-Naphthalenes	16.19	167924	20.0621	21.1748
13)	C2-Naphthalenes	18.39	589655	70.4469	74.3540
14)	C3-Naphthalenes	20.40	1555510	185.8378	196.1446
15)	C4-Naphthalenes	22.95	2774070	331.4215	349.8026
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	47208	7.4645	7.8785
28)	C1-Fluorenes	23.40	228386	36.1123	38.1152
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.89	19130	1.7457	1.8425
41)	Phenanthrene	24.72	222510	19.1620	20.2248
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.63	1253691	107.9648	113.9527
50)	C2-Phenanthrenes/Anthracenes	28.28	3188230	274.5629	289.7906
51)	C3-Phenanthrenes/Anthracenes	29.84	4900550	422.0218	445.4278
52)	C4-Phenanthrenes/Anthracenes	31.68	4734870	407.7569	430.3718
34)	Dibenzothiophene	24.30	168969	17.6031	18.5794
35)+36)+37)	C1-Dibenzothiophenes	26.11	1148086	119.6068	126.2403
38)	C2-Dibenzothiophenes	27.87	3782330	394.0410	415.8951
39)	C3-Dibenzothiophenes	29.39	3802540	396.1468	418.1177
40)	C4-Dibenzothiophenes	29.70	3986310	415.2919	438.3247
58)	Fluoranthene	28.84	478431	44.7721	47.2552
59)	Pyrene	29.60	887093	64.6235	68.2076
62)	C1-Fluoranthenes/Pyrenes	31.44	1846660	172.8114	182.3958
63)	C2-Fluoranthenes/Pyrenes	32.49	3215320	300.8920	317.5800
64)	C3-Fluoranthenes/Pyrenes	34.04	2573850	240.8627	254.2214
65)	C4-Fluoranthenes/Pyrenes	35.52	2642570	247.2936	261.0089
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.69	338768	34.5508	36.4670
68)	Chrysene/Triphenylene	33.77	1041040	89.5877	94.5564
69)	C1-Chrysenes	35.05	1854480	159.5898	168.4409
70)	C2-Chrysenes	36.21	2582410	222.2325	234.5579
71)	C3-Chrysenes	37.92	2010870	173.0479	182.6455
72)	C4-Chrysenes	39.32	1173910	101.0226	106.6254
77)	Benzo(b)fluoranthene	37.22	678445	58.5908	61.8404
78)	Benzo(k,j)fluoranthene	37.26	222297	24.6320	25.9981
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.19	776221	73.8328	77.9277
81)	Benzo(a)pyrene	38.39	457543	41.4274	43.7250
89)	Perylene	38.70	219969	19.7123	20.8056
82)	Indeno(1,2,3-c,d)pyrene	43.04	244070	25.0016	26.3882
83)	Dibenzo(a,h)anthracene	43.11	87922	10.2810	10.8512
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.41	511343	55.9238	59.0254

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	121902	21.6655	22.8671
10)	1-Methylnaphthalene	16.36	46022	8.6693	9.1501
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	25.79	503306	63.6967	67.2294
36)	2/3-Methyldibenzothiophene	26.10	319284	40.4074	42.6485
37)	1-Methyldibenzothiophene	26.45	325496	41.1935	43.4782
43)	3-Methylphenanthrene	26.38	225836	30.2807	31.9601
44)	2-Methylphenanthrene	26.48	294681	39.5115	41.7029
45)	2-Methylanthracene	26.66	66953	8.9772	9.4751
46)	4/9-Methylphenanthrene	26.76	454712	60.9691	64.3505
47)	1-Methylphenanthrene	26.86	211509	28.3597	29.9326
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	624173	76.66	92.13
21)	Acenaphthene-d10	19.56	374444	79.18	95.15
32)	Phenanthrene-d10	24.65	743163	78.86	94.75
66)	Chrysene-d12	33.73	872338	89.44	107.52
88)	Perylene-d12	38.58	668644	72.83	87.56
90)	5(b)H-Cholane	34.12	201482	95.26	114.55
	Internal Standards				
1)	Fluorene-d10	21.34	411118	83.52	
31)	Pyrene-d10	29.57	784741	83.38	
73)	Benzo(a)pyrene-d12	38.31	700372	83.28	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1841.D
Acq On : 5 Sep 2013 7:33 pm
Operator : YM
Sample : SO-DA-003 (0-0.5)
Misc :
ALS Vial : 22 Sample Multiplier: 0.33267

Quant Time: Sep 13 06:34:14 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.343	176	411118m	251.05		0.00
31) Pyrene-d10	29.566	212	784741m	250.63		0.03
73) Benzo(a)pyrene-d12	38.309	264	700372m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.711	136	624173m	76.66		0.00
21) Acenaphthene-d10	19.561	164	374444m	79.18		0.00
32) Phenanthrene-d10	24.648	188	743163m	78.86		0.00
66) Chrysene-d12	33.731	240	872338m	89.44		0.00
88) Perylene-d12	38.580	264	668644m	72.83		0.00
90) 5(b)H-Cholane	34.119	217	201482m	95.26		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	13.794	128	102034m	12.19		
9) 2-Methylnaphthalene	16.023	142	121902m	21.67		
10) 1-Methylnaphthalene	16.357	142	46022m	8.67		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.391	156	589655m	70.45		
14) C3-Naphthalenes	20.396	170	1555505m	185.84		
15) C4-Naphthalenes	22.952	184	2774073m	331.42		
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	21.455	166	47208m	7.46		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.402	180	228386m	36.11		
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	24.302	184	168969m	17.60		
35) 4-Methyldibenzothiophene	25.791	198	503306m	63.70		
36) 2/3-Methyldibenzothiop...	26.103	198	319284m	40.41		
37) 1-Methyldibenzothiophene	26.449	198	325496m	41.19		
38) C2-Dibenzothiophenes	27.869	212	3782329m	394.04		
39) C3-Dibenzothiophenes	29.392	226	3802540m	396.15		
40) C4-Dibenzothiophenes	29.704	240	3986313m	415.29		
41) Phenanthrene	24.718	178	222510m	19.16		
42) Anthracene	24.891	178	19130m	1.75		
43) 3-Methylphenanthrene	26.380	192	225836m	30.28		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1841.D
Acq On : 5 Sep 2013 7:33 pm
Operator : YM
Sample : SO-DA-003 (0-0.5)
Misc :
ALS Vial : 22 Sample Multiplier: 0.33267

Quant Time: Sep 13 06:34:14 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.484	192	294681m	39.51		
45) 2-Methylanthracene	26.657	192	66953m	8.98		
46) 4/9-Methylphenanthrene	26.761	192	454712m	60.97		
47) 1-Methylphenanthrene	26.865	192	211509m	28.36		
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	28.284	206	3188231m	274.56		
51) C3-Phenanthrenes/Anthr...	29.843	220	4900547m	422.02		
52) C4-Phenanthrenes/Anthr...	31.678	234	4734870m	407.76		
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.838	202	478431m	44.77		
59) Pyrene	29.600	202	887093m	64.62		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	31.435	216	1846655m	172.81		
63) C2-Fluoranthenes/Pyrenes	32.490	230	3215318m	300.89		
64) C3-Fluoranthenes/Pyrenes	34.041	244	2573850m	240.86		
65) C4-Fluoranthenes/Pyrenes	35.516	258	2642569m	247.29		
67) Benz(a)anthracene	33.692	228	338768m	34.55		
68) Chrysene/Triphenylene	33.770	228	1041035m	89.59		
69) C1-Chrysenes	35.050	242	1854483m	159.59		
70) C2-Chrysenes	36.214	256	2582407m	222.23		
71) C3-Chrysenes	37.921	270	2010868m	173.05		
72) C4-Chrysenes	39.318	284	1173914m	101.02		
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	37.223	252	678445m	58.59		
78) Benzo(k,j)fluoranthene	37.261	252	222297m	24.63		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.192	252	776221m	73.83		
81) Benzo(a)pyrene	38.386	252	457543m	41.43		
82) Indeno(1,2,3-c,d)pyrene	43.041	276	244070m	25.00		
83) Dibenzo(a,h)anthracene	43.115	278	87922m	10.28		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.405	276	511343m	55.92		
89) Perylene	38.697	252	219969m	19.71		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1841.D
Acq On : 5 Sep 2013 7:33 pm
Operator : YM
Sample : SO-DA-003 (0-0.5)
Misc :
ALS Vial : 22 Sample Multiplier: 0.33267

Quant Time: Sep 13 06:34:14 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

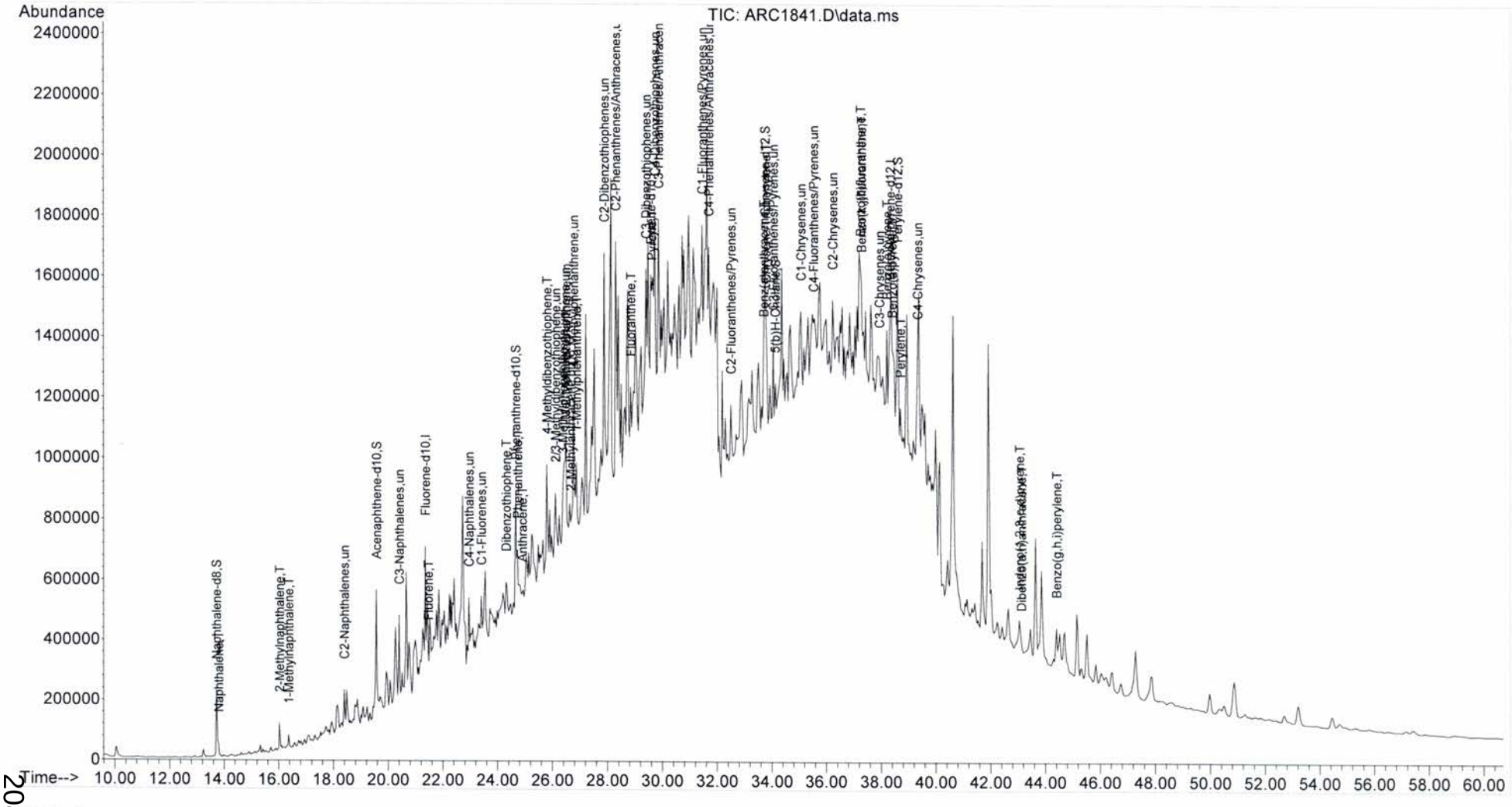
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1841.D
Acq On : 5 Sep 2013 7:33 pm
Operator : YM
Sample : SO-DA-003 (0-0.5)
Misc :
ALS Vial : 22 Sample Multiplier: 0.33267

Quant Time: Sep 13 06:34:14 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration



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

Data File Name	ARC1842.D	**Surrogate/Internal Multiplier Factor:**	1.00		
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS70063\	**AR-WKSU-2500-001:**	**(ng/mL)**		
Operator	YM	Naphthalene-d8	250.125		
Date Acquired	9/5/2013 20:42	Acenaphthene-d10	250.163	***Copy data below***	
Acq. Method File	PAH-2012.M	Phenanthrene-d10	250.194	***to Spread Sheet***	
Sample Name	SO-DA-003 (0.5-1.0)	Chrysene-d12	250.038		
Misc Info	0	Perylene-d12	250.031	ARC1842.D	
Instrument Name	GCMSD	5(b)H-Cholane	250.000	SO-DA-003 (0.5-1.0)	
Vial Number	23			9/5/2013	
Sample Multiplier	0.06645			PAH-2012.M	
Sample Amount	0			15.04890895	

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	515175	18.0227	20.0110
9)+10)	C1-Naphthalenes	16.19	467323	16.3487	18.1523
13)	C2-Naphthalenes	18.39	606666	21.2233	23.5647
14)	C3-Naphthalenes	20.40	375931	13.1514	14.6022
15)	C4-Naphthalenes	22.71	488379	17.0852	18.9701
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	89064	3.0747	3.4139
24)	Acenaphthene	19.67	147012	8.5548	9.4985
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.43	333792	15.4549	17.1599
28)	C1-Fluorenes	23.40	189280	8.7638	9.7307
29)	C2-Fluorenes	25.27	264738	12.2576	13.6098
30)	C3-Fluorenes	26.66	277943	12.8690	14.2887
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.89	533132	15.5213	17.2336
41)	Phenanthrene	24.72	5526570	151.8436	168.5950
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.62	1993807	54.7802	60.8236
50)	C2-Phenanthrenes/Anthracenes	28.28	1286920	35.3584	39.2592
51)	C3-Phenanthrenes/Anthracenes	29.84	668456	18.3660	20.3921
52)	C4-Phenanthrenes/Anthracenes	31.68	777627	21.3655	23.7225
34)	Dibenzothiophene	24.30	247047	8.2112	9.1171
35)+36)+37)	C1-Dibenzothiophenes	26.10	201600	6.7007	7.4399
38)	C2-Dibenzothiophenes	27.52	242564	8.0622	8.9517
39)	C3-Dibenzothiophenes	29.39	303372	10.0834	11.1958
40)	C4-Dibenzothiophenes	29.70	330540	10.9864	12.1984
58)	Fluoranthene	28.84	5389350	160.9060	178.6572
59)	Pyrene	29.60	4918050	114.3046	126.9147
62)	C1-Fluoranthenes/Pyrenes	30.74	1991440	59.4567	66.0160
63)	C2-Fluoranthenes/Pyrenes	33.19	2143000	63.9818	71.0403
64)	C3-Fluoranthenes/Pyrenes	34.70	665370	19.8654	22.0570
65)	C4-Fluoranthenes/Pyrenes	36.10	897257	26.7887	29.7441
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.69	1894990	61.6609	68.4633
68)	Chrysene/Triphenylene	33.81	2763130	75.8633	84.2326
69)	C1-Chrysenes	35.05	1256940	34.5101	38.3173
70)	C2-Chrysenes	36.49	859571	23.6000	26.2036
71)	C3-Chrysenes	37.88	512893	14.0818	15.6353
72)	C4-Chrysenes	39.32	197286	5.4166	6.0142
77)	Benzo(b)fluoranthene	37.22	2655590	78.9373	87.6457
78)	Benzo(k,j)fluoranthene	37.30	1011040	38.5603	42.8143
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.19	1247730	40.8498	45.3564
81)	Benzo(a)pyrene	38.35	1095250	34.1329	37.8985
89)	Perylene	38.66	230532	7.1107	7.8951
82)	Indeno(1,2,3-c,d)pyrene	43.04	776572	27.3805	30.4011
83)	Dibenzo(a,h)anthracene	43.08	242774	9.7711	10.8491
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.37	643709	24.2315	26.9047

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	304225	15.8326	17.5793
10)	1-Methylnaphthalene	16.36	163098	8.9964	9.9889
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	25.79	94838	3.8293	4.2517
36)	2/3-Methyldibenzothiophene	26.10	72811	2.9399	3.2642
37)	1-Methyldibenzothiophene	26.41	33951	1.3708	1.5221
43)	3-Methylphenanthrene	26.38	552555	23.6373	26.2449
44)	2-Methylphenanthrene	26.48	583371	24.9555	27.7086
45)	2-Methylanthracene	26.62	169207	7.2383	8.0369
46)	4/9-Methylphenanthrene	26.76	377032	16.1287	17.9080
47)	1-Methylphenanthrene	26.83	311642	13.3315	14.8022
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	364809	13.12	78.94
21)	Acenaphthene-d10	19.56	205448	12.72	76.53
32)	Phenanthrene-d10	24.65	442294	14.97	90.06
66)	Chrysene-d12	33.73	452233	14.79	89.03
88)	Perylene-d12	38.58	7888	0.30	1.78
90)	5(b)H-Cholane	34.12	120499	19.61	118.05
	Internal Standards				
1)	Fluorene-d10	21.34	280444	16.68	
31)	Pyrene-d10	29.53	491314	16.65	
73)	Benzo(a)pyrene-d12	38.27	406448	16.63	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1842.D
Acq On : 5 Sep 2013 8:42 pm
Operator : YM
Sample : SO-DA-003 (0.5-1.0)
Misc :
ALS Vial : 23 Sample Multiplier: 0.06645

Quant Time: Sep 13 07:21:56 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.344	176	280444m	251.05		0.00
31) Pyrene-d10	29.531	212	491314m	250.63		0.00
73) Benzo(a)pyrene-d12	38.270	264	406448m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.711	136	364809m	13.12		0.00
21) Acenaphthene-d10	19.561	164	205448m	12.72		0.00
32) Phenanthrene-d10	24.648	188	442294m	14.97		0.00
66) Chrysene-d12	33.731	240	452233m	14.79		0.00
88) Perylene-d12	38.581	264	7888m	0.30		0.00
90) 5(b)H-Cholane	34.119	217	120499m	19.61		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.794	128	515175m	18.02		
9) 2-Methylnaphthalene	16.023	142	304225m	15.83		
10) 1-Methylnaphthalene	16.357	142	163098m	9.00		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.391	156	606666m	21.22		
14) C3-Naphthalenes	20.396	170	375931m	13.15		
15) C4-Naphthalenes	22.709	184	488379m	17.09		
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	89064m	3.07		
24) Acenaphthene	19.672	154	147012m	8.55		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.427	166	333792m	15.45		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.402	180	189280m	8.76		
29) C2-Fluorenes	25.272	194	264738m	12.26		
30) C3-Fluorenes	26.657	208	277943m	12.87		
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.302	184	247047m	8.21		
35) 4-Methyldibenzothiophene	25.791	198	94838m	3.83		
36) 2/3-Methyldibenzothiop...	26.103	198	72811m	2.94		
37) 1-Methyldibenzothiophene	26.414	198	33951m	1.37		
38) C2-Dibenzothiophenes	27.523	212	242564m	8.06		
39) C3-Dibenzothiophenes	29.392	226	303372m	10.08		
40) C4-Dibenzothiophenes	29.704	240	330540m	10.99		
41) Phenanthrene	24.718	178	5526574m	151.84		
42) Anthracene	24.891	178	533132m	15.52		
43) 3-Methylphenanthrene	26.380	192	552555m	23.64		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1842.D
Acq On : 5 Sep 2013 8:42 pm
Operator : YM
Sample : SO-DA-003 (0.5-1.0)
Misc :
ALS Vial : 23 Sample Multiplier: 0.06645

Quant Time: Sep 13 07:21:56 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.484	192	583371m	24.96		
45) 2-Methylanthracene	26.622	192	169207m	7.24		
46) 4/9-Methylphenanthrene	26.761	192	377032m	16.13		
47) 1-Methylphenanthrene	26.830	192	311642m	13.33		
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	28.284	206	1286924m	35.36		
51) C3-Phenanthrenes/Anthr...	29.843	220	668456m	18.37		
52) C4-Phenanthrenes/Anthr...	31.678	234	777627m	21.37		
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.838	202	5389351m	160.91		
59) Pyrene	29.600	202	4918049m	114.30		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	30.743	216	1991435m	59.46		
63) C2-Fluoranthenes/Pyrenes	33.188	230	2142998m	63.98		
64) C3-Fluoranthenes/Pyrenes	34.701	244	665370m	19.87		
65) C4-Fluoranthenes/Pyrenes	36.098	258	897257m	26.79		
67) Benz(a)anthracene	33.692	228	1894988m	61.66		
68) Chrysene/Triphenylene	33.809	228	2763130m	75.86		
69) C1-Chrysenes	35.050	242	1256942m	34.51		
70) C2-Chrysenes	36.486	256	859571m	23.60		
71) C3-Chrysenes	37.882	270	512893m	14.08		
72) C4-Chrysenes	39.318	284	197286m	5.42		
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	37.223	252	2655586m	78.94		
78) Benzo(k,j)fluoranthene	37.300	252	1011043m	38.56		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.193	252	1247732m	40.85		
81) Benzo(a)pyrene	38.348	252	1095249m	34.13		
82) Indeno(1,2,3-c,d)pyrene	43.041	276	776572m	27.38		
83) Dibenzo(a,h)anthracene	43.078	278	242774m	9.77		
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	44.368	276	643709m	24.23		
89) Perylene	38.658	252	230532m	7.11		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1842.D
Acq On : 5 Sep 2013 8:42 pm
Operator : YM
Sample : SO-DA-003 (0.5-1.0)
Misc :
ALS Vial : 23 Sample Multiplier: 0.06645

Quant Time: Sep 13 07:21:56 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

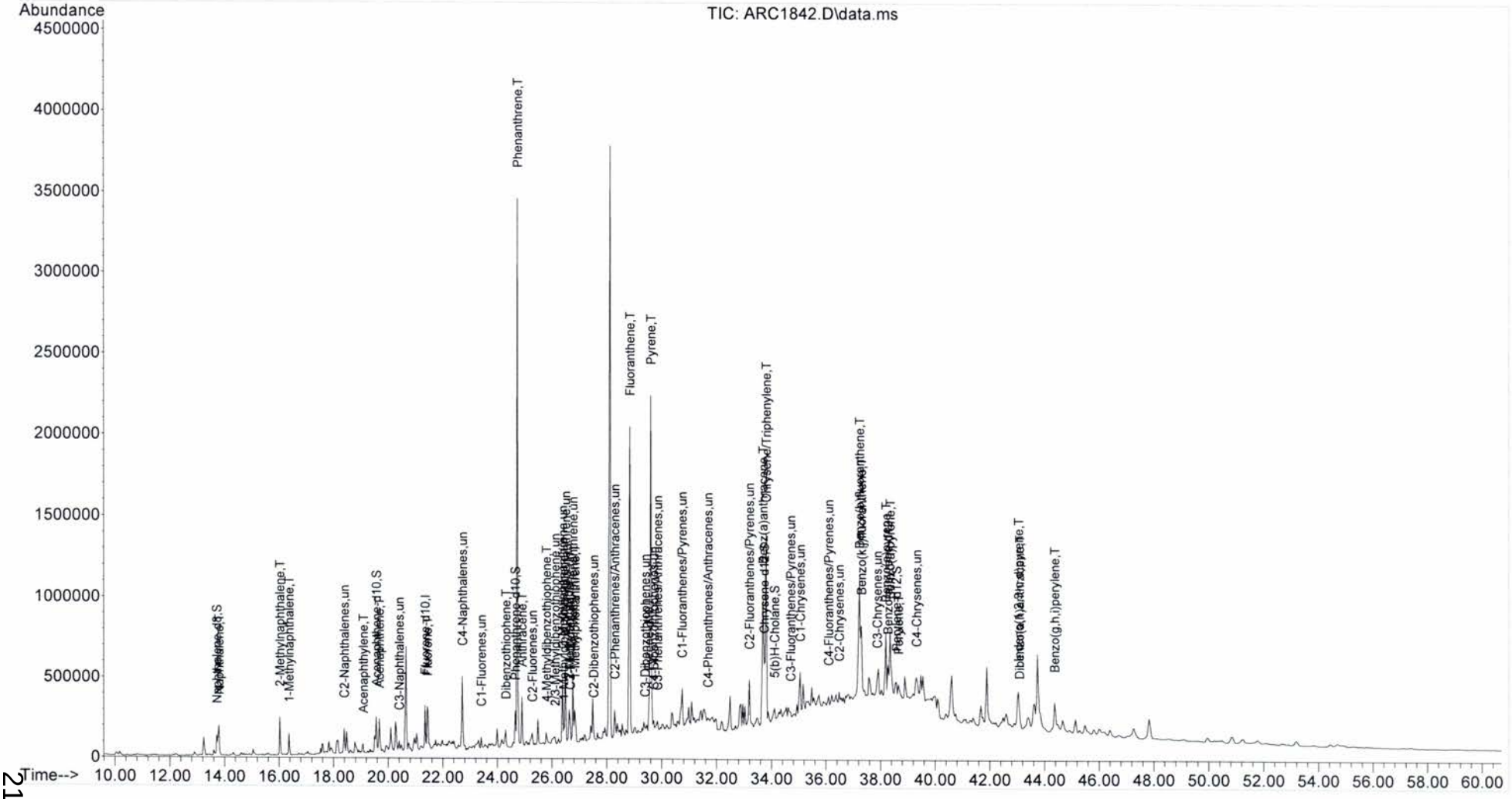
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1842.D
Acq On : 5 Sep 2013 8:42 pm
Operator : YM
Sample : SO-DA-003 (0.5-1.0)
Misc :
ALS Vial : 23 Sample Multiplier: 0.06645

Quant Time: Sep 13 07:21:56 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration



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

Data File Name	ARC1843.D
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS70063\
Operator	YM
Date Acquired	9/5/2013 21:50
Acq. Method File	PAH-2012.M
Sample Name	SO-DA-003 (1.0-1.5)
Misc Info	0
Instrument Name	GCMSD
Vial Number	24
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

ARC1843.D
SO-DA-003 (1.0-1.5)
9/5/2013
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	250660	8.0529	8.8444
9)+10)	C1-Naphthalenes	16.19	216440	6.9535	7.6370
13)	C2-Naphthalenes	18.39	233954	7.5162	8.2549
14)	C3-Naphthalenes	20.06	122405	3.9325	4.3190
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	19.09	8895	0.2820	0.3097
24)	Acenaphthene	19.62	5460	0.2918	0.3205
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.45	118245	5.0278	5.5219
28)	C1-Fluorenes	23.40	47433	2.0168	2.2151
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	24.72	499403	12.6603	13.9047
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.62	232002	5.8815	6.4595
50)	C2-Phenanthrenes/Anthracenes	28.11	245489	6.2234	6.8351
51)	C3-Phenanthrenes/Anthracenes	29.84	128947	3.2689	3.5902
52)	C4-Phenanthrenes/Anthracenes	31.68	105817	2.6826	2.9462
34)	Dibenzothiophene	24.30	27697	0.8494	0.9329
35)+36)+37)	C1-Dibenzothiophenes	26.10	35772	1.0970	1.2049
38)	C2-Dibenzothiophenes	27.87	57518	1.7639	1.9373
39)	C3-Dibenzothiophenes	29.39	56974	1.7473	1.9190
40)	C4-Dibenzothiophenes	31.40	60502	1.8555	2.0378
58)	Fluoranthene	28.84	95398	2.6280	2.8863
59)	Pyrene	29.60	63757	1.3673	1.5016
62)	C1-Fluoranthenes/Pyrenes	31.09	86117	2.3723	2.6055
63)	C2-Fluoranthenes/Pyrenes	32.49	160718	4.4274	4.8626
64)	C3-Fluoranthenes/Pyrenes	33.50	80641	2.2215	2.4398
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.69	27425	0.8234	0.9043
68)	Chrysene/Triphenylene	33.81	82388	2.0871	2.2923
69)	C1-Chrysenes	35.01	109628	2.7772	3.0502
70)	C2-Chrysenes	36.21	112334	2.8457	3.1254
71)	C3-Chrysenes	37.96	68662	1.7394	1.9104
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.22	69884	1.9220	2.1109
78)	Benzo(k,j)fluoranthene	37.30	15773	0.5566	0.6113
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.19	46069	1.3955	1.5327
81)	Benzo(a)pyrene	38.35	15661	0.4516	0.4960
89)	Perylene	38.66	8028	0.2291	0.2516
82)	Indeno(1,2,3-c,d)pyrene	43.00	19683	0.6421	0.7052
83)	Dibenzo(a,h)anthracene	43.08	9344	0.3480	0.3822
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.37	22820	0.7948	0.8729

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	145450	6.9514	7.6347
10)	1-Methylnaphthalene	16.36	70990	3.5960	3.9495
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	25.79	18666	0.6954	0.7638
36)	2/3-Methyldibenzothiophene	26.10	10823	0.4032	0.4428
37)	1-Methyldibenzothiophene	26.41	6283	0.2341	0.2571
43)	3-Methylphenanthrene	26.38	47857	1.8889	2.0746
44)	2-Methylphenanthrene	26.48	57169	2.2565	2.4783
45)	2-Methylanthracene	26.62	76290	3.0112	3.3072
46)	4/9-Methylphenanthrene	26.76	28925	1.1417	1.2539
47)	1-Methylphenanthrene	26.83	21761	0.8589	0.9433
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	381380	12.60	75.54
21)	Acenaphthene-d10	19.56	229287	13.04	78.18
32)	Phenanthrene-d10	24.65	486212	15.19	91.05
66)	Chrysene-d12	33.73	465877	14.06	84.35
88)	Perylene-d12	38.58	24993	0.87	5.20
90)	5(b)H-Cholane	34.12	117906	17.75	106.52
	Internal Standards				
1)	Fluorene-d10	21.34	306393	16.74	
31)	Pyrene-d10	29.53	534247	16.71	
73)	Benzo(a)pyrene-d12	38.27	440744	16.69	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1843.D
Acq On : 5 Sep 2013 9:50 pm
Operator : YM
Sample : SO-DA-003 (1.0-1.5)
Misc :
ALS Vial : 24 Sample Multiplier: 0.06667

Quant Time: Sep 13 15:32:27 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.343	176	306393m	251.05		0.00
31) Pyrene-d10	29.531	212	534247m	250.63		0.00
73) Benzo(a)pyrene-d12	38.270	264	440744m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.711	136	381380m	12.60		0.00
21) Acenaphthene-d10	19.561	164	229287m	13.04		0.00
32) Phenanthrene-d10	24.648	188	486212m	15.19		0.00
66) Chrysene-d12	33.731	240	465877m	14.06		0.00
88) Perylene-d12	38.580	264	24993m	0.87		0.00
90) 5(b)H-Cholane	34.119	217	117906m	17.75		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.794	128	250660m	8.05		
9) 2-Methylnaphthalene	16.023	142	145450m	6.95		
10) 1-Methylnaphthalene	16.357	142	70990m	3.60		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.391	156	233954m	7.52		
14) C3-Naphthalenes	20.062	170	122405m	3.93		
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	19.087	152	8895m	0.28		
24) Acenaphthene	19.616	154	5460m	0.29		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.455	166	118245m	5.03		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.402	180	47433m	2.02		
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	24.302	184	27697m	0.85		
35) 4-Methyldibenzothiophene	25.791	198	18666m	0.70		
36) 2/3-Methyldibenzothiop...	26.103	198	10823m	0.40		
37) 1-Methyldibenzothiophene	26.414	198	6283m	0.23		
38) C2-Dibenzothiophenes	27.869	212	57518m	1.76		
39) C3-Dibenzothiophenes	29.392	226	56974m	1.75		
40) C4-Dibenzothiophenes	31.401	240	60502m	1.86		
41) Phenanthrene	24.718	178	499403m	12.66		
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	26.380	192	47857m	1.89		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1843.D
Acq On : 5 Sep 2013 9:50 pm
Operator : YM
Sample : SO-DA-003 (1.0-1.5)
Misc :
ALS Vial : 24 Sample Multiplier: 0.06667

Quant Time: Sep 13 15:32:27 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.484	192	57169m	2.26		
45) 2-Methylanthracene	26.622	192	76290m	3.01		
46) 4/9-Methylphenanthrene	26.761	192	28925m	1.14		
47) 1-Methylphenanthrene	26.830	192	21761m	0.86		
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	28.111	206	245489m	6.22		
51) C3-Phenanthrenes/Anthr...	29.842	220	128947m	3.27		
52) C4-Phenanthrenes/Anthr...	31.678	234	105817m	2.68		
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.838	202	95398m	2.63		
59) Pyrene	29.600	202	63757m	1.37		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	31.089	216	86117m	2.37		
63) C2-Fluoranthenes/Pyrenes	32.490	230	160718m	4.43		
64) C3-Fluoranthenes/Pyrenes	33.498	244	80641m	2.22		
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.692	228	27425m	0.82		
68) Chrysene/Triphenylene	33.809	228	82388m	2.09		
69) C1-Chrysenes	35.011	242	109628m	2.78		
70) C2-Chrysenes	36.214	256	112334m	2.85		
71) C3-Chrysenes	37.960	270	68662m	1.74		
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	37.223	252	69884m	1.92		
78) Benzo(k,j)fluoranthene	37.300	252	15773m	0.56		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.192	252	46069m	1.40		
81) Benzo(a)pyrene	38.348	252	15661m	0.45		
82) Indeno(1,2,3-c,d)pyrene	43.004	276	19683m	0.64		
83) Dibenzo(a,h)anthracene	43.078	278	9344m	0.35		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.368	276	22820m	0.79		
89) Perylene	38.658	252	8028m	0.23		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1843.D
Acq On : 5 Sep 2013 9:50 pm
Operator : YM
Sample : SO-DA-003 (1.0-1.5)
Misc :
ALS Vial : 24 Sample Multiplier: 0.06667

Quant Time: Sep 13 15:32:27 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

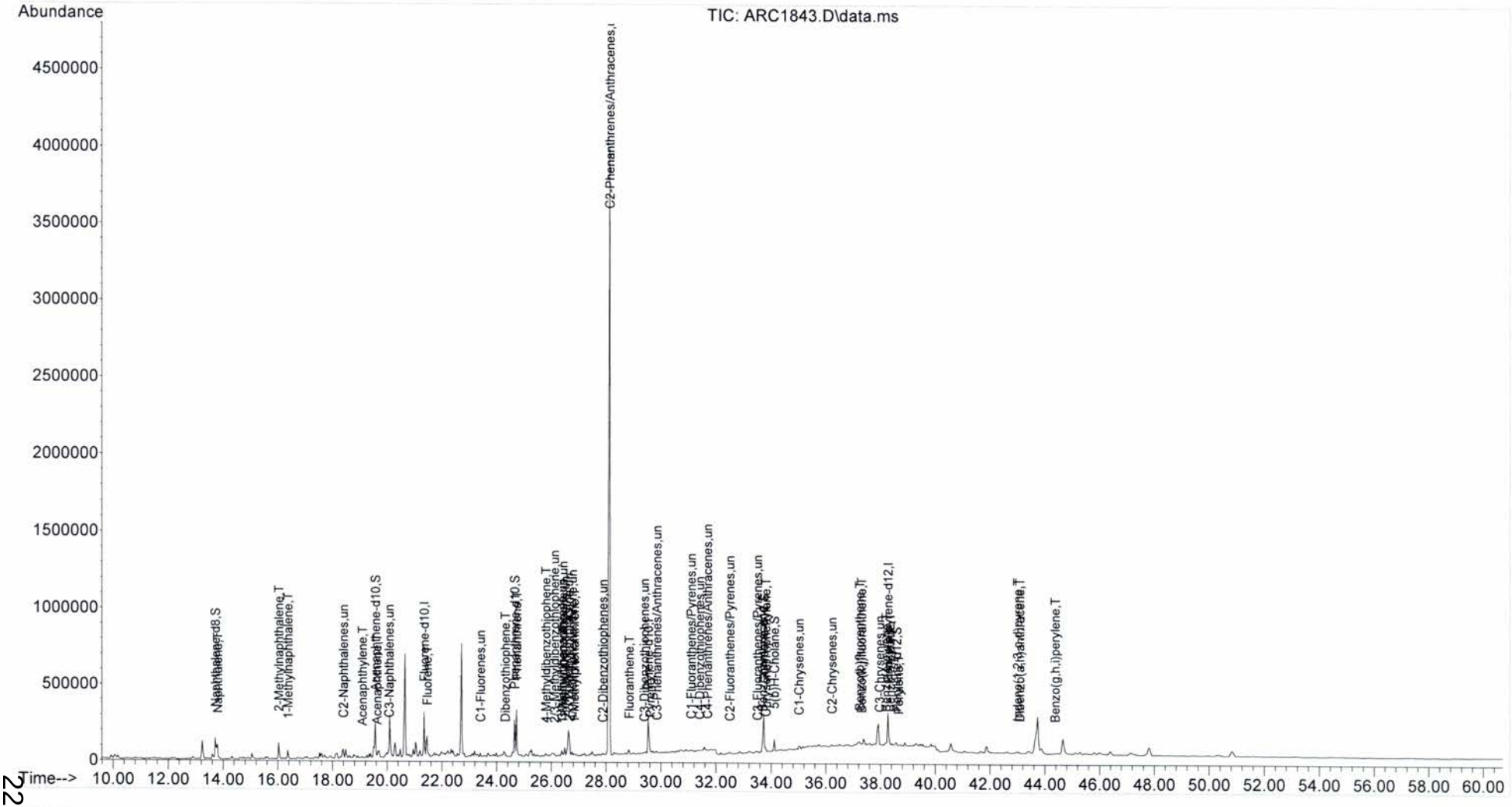
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1843.D
Acq On : 5 Sep 2013 9:50 pm
Operator : YM
Sample : SO-DA-003 (1.0-1.5)
Misc :
ALS Vial : 24 Sample Multiplier: 0.06667

Quant Time: Sep 13 15:32:27 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration



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

Data File Name	ARC1844.D	**Surrogate/Internal Multiplier Factor:**	1.00		
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS70063\	**AR-WKSU-2500-001:**	**(ng/mL)**		
Operator	YM	Naphthalene-d8	250.125		
Date Acquired	9/5/2013 22:59	Acenaphthene-d10	250.163	***Copy data below***	
Acq. Method File	PAH-2012.M	Phenanthrene-d10	250.194	***to Spread Sheet***	
Sample Name	SO-DA-004 (0-0.5)	Chrysene-d12	250.038		
Misc Info	0	Perylene-d12	250.031	ARC1844.D	
Instrument Name	GCMSD	5(b)H-Cholane	250.000	SO-DA-004 (0-0.5)	
Vial Number	25			9/5/2013	
Sample Multiplier	0.06667			PAH-2012.M	
Sample Amount	0			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	129055	3.0111	3.3434
9)+10)	C1-Naphthalenes	16.19	192601	4.4937	4.9897
13)	C2-Naphthalenes	18.39	415972	9.7053	10.7765
14)	C3-Naphthalenes	20.67	1369180	31.9452	35.4711
15)	C4-Naphthalenes	22.74	4063840	94.8154	105.2806
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	95039	2.1882	2.4297
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	20.26	75682	1.8452	2.0489
26)	Fluorene	21.45	73800	2.2789	2.5304
28)	C1-Fluorenes	23.40	353008	10.9007	12.1038
29)	C2-Fluorenes	25.24	1310180	40.4576	44.9231
30)	C3-Fluorenes	27.21	2246030	69.3561	77.0113
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.89	180456	3.2887	3.6516
41)	Phenanthrene	24.72	383552	6.5966	7.3247
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.63	1596063	27.4501	30.4799
50)	C2-Phenanthrenes/Anthracenes	28.32	7557210	129.9738	144.3196
51)	C3-Phenanthrenes/Anthracenes	30.95	15351200	264.0192	293.1602
52)	C4-Phenanthrenes/Anthracenes	31.71	12659700	217.7289	241.7606
34)	Dibenzothiophene	24.30	179404	3.7326	4.1446
35)+36)+37)	C1-Dibenzothiophenes	26.13	1207423	25.1213	27.8941
38)	C2-Dibenzothiophenes	27.21	6484660	134.9181	149.8096
39)	C3-Dibenzothiophenes	29.22	12488700	259.8363	288.5156
40)	C4-Dibenzothiophenes	30.78	14040300	292.1193	324.3618
58)	Fluoranthene	28.84	608104	11.3649	12.6193
59)	Pyrene	29.63	1342650	19.5338	21.6898
62)	C1-Fluoranthenes/Pyrenes	31.12	4100830	76.6412	85.1004
63)	C2-Fluoranthenes/Pyrenes	32.84	5662860	105.8340	117.5153
64)	C3-Fluoranthenes/Pyrenes	34.04	4924530	92.0353	102.1936
65)	C4-Fluoranthenes/Pyrenes	35.28	5900410	110.2735	122.4449
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.69	428641	8.7307	9.6943
68)	Chrysene/Triphenylene	33.81	1646940	28.3049	31.4291
69)	C1-Chrysenes	35.05	3683050	63.2984	70.2849
70)	C2-Chrysenes	36.52	5630250	96.7635	107.4437
71)	C3-Chrysenes	37.92	4259870	73.2117	81.2924
72)	C4-Chrysenes	39.32	2421240	41.6124	46.2054
77)	Benzo(b)fluoranthene	37.26	1297390	24.0831	26.7412
78)	Benzo(k,j)fluoranthene	37.34	346462	8.2518	9.1626
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.23	1190080	24.3313	27.0168
81)	Benzo(a)pyrene	38.39	440022	8.5636	9.5088
89)	Perylene	38.70	239452	4.6123	5.1214
82)	Indeno(1,2,3-c,d)pyrene	43.08	324555	7.1461	7.9348
83)	Dibenzo(a,h)anthracene	43.11	139638	3.5097	3.8971
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.44	696151	16.3650	18.1712

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	137010	4.7554	5.2803
10)	1-Methylnaphthalene	16.36	55591	2.0451	2.2708
11)	2,6-Dimethylnaphthalene	18.14	103025	4.0032	4.4450
12)	1,6,7-Trimethylnaphthalene	20.98	90231	3.7616	4.1768
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	25.83	524814	13.2645	14.7286
36)	2/3-Methyldibenzothiophene	26.10	312955	7.9099	8.7829
37)	1-Methyldibenzothiophene	26.45	369654	9.3429	10.3741
43)	3-Methylphenanthrene	26.38	265754	7.1163	7.9017
44)	2-Methylphenanthrene	26.48	376303	10.0766	11.1888
45)	2-Methylanthracene	26.66	94804	2.5386	2.8188
46)	4/9-Methylphenanthrene	26.76	610991	16.3610	18.1669
47)	1-Methylphenanthrene	26.86	248211	6.6465	7.3801
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	622176	14.92	89.49
21)	Acenaphthene-d10	19.56	364079	15.04	90.15
32)	Phenanthrene-d10	24.65	708879	15.02	90.06
66)	Chrysene-d12	33.73	772951	15.83	94.94
88)	Perylene-d12	38.62	639280	14.97	89.79
90)	5(b)H-Cholane	34.12	152000	15.45	92.68
	Internal Standards				
1)	Fluorene-d10	21.34	421893	16.74	
31)	Pyrene-d10	29.57	787483	16.71	
73)	Benzo(a)pyrene-d12	38.31	653008	16.69	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1844.D
Acq On : 5 Sep 2013 10:59 pm
Operator : YM
Sample : SO-DA-004 (0-0.5)
Misc :
ALS Vial : 25 Sample Multiplier: 0.06667

Quant Time: Sep 13 06:53:01 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.343	176	421893m	251.05		0.00
31) Pyrene-d10	29.566	212	787483m	250.63		0.03
73) Benzo(a)pyrene-d12	38.309	264	653008m	250.32		0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.711	136	622176m	14.92		0.00
21) Acenaphthene-d10	19.561	164	364079m	15.04		0.00
32) Phenanthrene-d10	24.648	188	708879m	15.02		0.00
66) Chrysene-d12	33.731	240	772951m	15.83		0.00
88) Perylene-d12	38.619	264	639280m	14.97		0.04
90) 5(b)H-Cholane	34.119	217	152000m	15.45		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	13.794	128	129055m	3.01		
9) 2-Methylnaphthalene	16.023	142	137010m	4.76		
10) 1-Methylnaphthalene	16.357	142	55591m	2.05		
11) 2,6-Dimethylnaphthalene	18.140	156	103025m	4.00		
12) 1,6,7-Trimethylnaphtha...	20.981	170	90231m	3.76		
13) C2-Naphthalenes	18.391	156	415972m	9.71		
14) C3-Naphthalenes	20.675	170	1369184m	31.95		
15) C4-Naphthalenes	22.736	184	4063841m	94.82		
16) Benzothiophene	0.000		0	N.D.	d	
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	0.000		0	N.D.	d	
23) Acenaphthylene	19.087	152	95039m	2.19		
24) Acenaphthene	0.000		0	N.D.	d	
25) Dibenzofuran	20.257	168	75682m	1.85		
26) Fluorene	21.455	166	73800m	2.28		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.402	180	353008m	10.90		
29) C2-Fluorenes	25.237	194	1310183m	40.46		
30) C3-Fluorenes	27.211	208	2246033m	69.36		
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.302	184	179404m	3.73		
35) 4-Methyldibenzothiophene	25.826	198	524814m	13.26		
36) 2/3-Methyldibenzothiop...	26.103	198	312955m	7.91		
37) 1-Methyldibenzothiophene	26.449	198	369654m	9.34		
38) C2-Dibenzothiophenes	27.211	212	6484661m	134.92		
39) C3-Dibenzothiophenes	29.219	226	12488676m	259.84		
40) C4-Dibenzothiophenes	30.778	240	14040339m	292.12		
41) Phenanthrene	24.718	178	383552m	6.60		
42) Anthracene	24.891	178	180456m	3.29		
43) 3-Methylphenanthrene	26.380	192	265754m	7.12		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1844.D
Acq On : 5 Sep 2013 10:59 pm
Operator : YM
Sample : SO-DA-004 (0-0.5)
Misc :
ALS Vial : 25 Sample Multiplier: 0.06667

Quant Time: Sep 13 06:53:01 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.484	192	376303m	10.08		
45) 2-Methylanthracene	26.657	192	94804m	2.54		
46) 4/9-Methylphenanthrene	26.761	192	610991m	16.36		
47) 1-Methylphenanthrene	26.865	192	248211m	6.65		
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	28.319	206	7557212m	129.97		
51) C3-Phenanthrenes/Anthr...	30.951	220	15351186m	264.02		
52) C4-Phenanthrenes/Anthr...	31.712	234	12659650m	217.73		
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.838	202	608104m	11.36		
59) Pyrene	29.635	202	1342651m	19.53		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	31.124	216	4100832m	76.64		
63) C2-Fluoranthenes/Pyrenes	32.839	230	5662855m	105.83		
64) C3-Fluoranthenes/Pyrenes	34.041	244	4924526m	92.03		
65) C4-Fluoranthenes/Pyrenes	35.283	258	5900413m	110.27		
67) Benz(a)anthracene	33.692	228	428641m	8.73		
68) Chrysene/Triphenylene	33.809	228	1646939m	28.30		
69) C1-Chrysenes	35.050	242	3683053m	63.30		
70) C2-Chrysenes	36.524	256	5630249m	96.76		
71) C3-Chrysenes	37.921	270	4259869m	73.21		
72) C4-Chrysenes	39.318	284	2421242m	41.61		
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	37.261	252	1297386m	24.08		
78) Benzo(k,j)fluoranthene	37.339	252	346462m	8.25		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.231	252	1190076m	24.33		
81) Benzo(a)pyrene	38.386	252	440022m	8.56		
82) Indeno(1,2,3-c,d)pyrene	43.078	276	324555m	7.15		
83) Dibenzo(a,h)anthracene	43.115	278	139638m	3.51		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.442	276	696151m	16.36		
89) Perylene	38.697	252	239452m	4.61		
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	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1844.D
Acq On : 5 Sep 2013 10:59 pm
Operator : YM
Sample : SO-DA-004 (0-0.5)
Misc :
ALS Vial : 25 Sample Multiplier: 0.06667

Quant Time: Sep 13 06:53:01 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

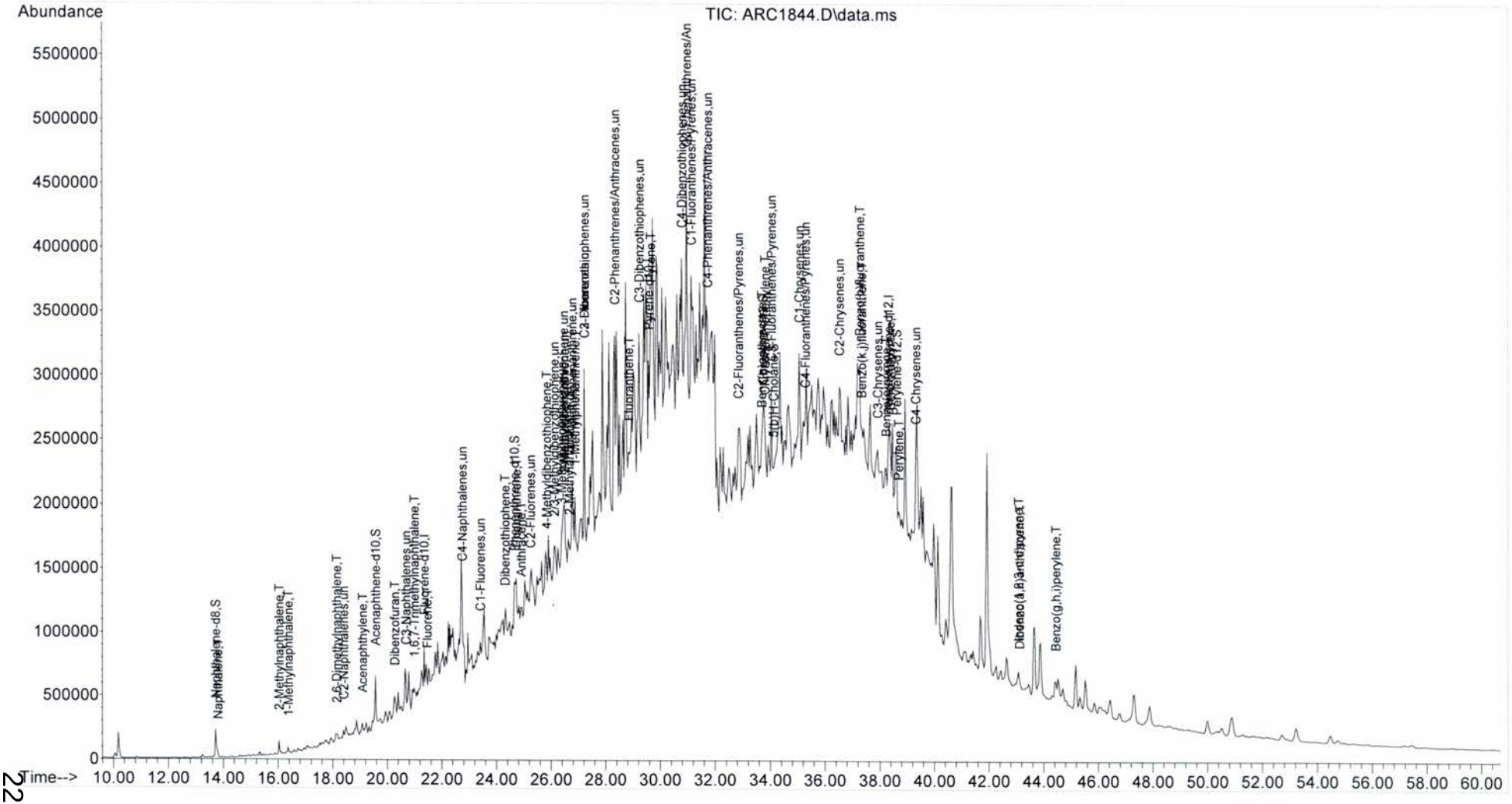
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1844.D
Acq On : 5 Sep 2013 10:59 pm
Operator : YM
Sample : SO-DA-004 (0-0.5)
Misc :
ALS Vial : 25 Sample Multiplier: 0.06667

Quant Time: Sep 13 06:53:01 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration



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

Data File Name	ARC1845.D
Data File Path	C:\GCMS7\MS70063\
Operator	YM
Date Acquired	9/6/2013 0:07
Acq. Method File	PAH-2012.M
Sample Name	SO-DA-004 (0.5-1.0)
Misc Info	0
Instrument Name	GCMSD
Vial Number	26
Sample Multiplier	0.06627
Sample Amount	0

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

Copy data below to Spread Sheet

ARC1845.D
SO-DA-004 (0.5-1.0)
9/6/2013
PAH-2012.M
15.08978422

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.79	754726	24.5691	27.7412
9)+10)	C1-Naphthalenes	16.19	810438	26.3827	29.7890
13)	C2-Naphthalenes	18.39	1156800	37.6581	42.5201
14)	C3-Naphthalenes	20.40	784241	25.5299	28.8261
15)	C4-Naphthalenes	21.45	616464	20.0681	22.6592
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	81195	2.6083	2.9451
24)	Acenaphthene	19.62	10489	0.5680	0.6413
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.43	202154	8.7098	9.8343
28)	C1-Fluorenes	23.40	116523	5.0204	5.6686
29)	C2-Fluorenes	25.27	373860	16.1077	18.1874
30)	C3-Fluorenes	27.49	548238	23.6207	26.6704
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.89	140869	3.8676	4.3670
41)	Phenanthrene	24.72	1664780	43.1351	48.7044
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.62	1289138	33.4021	37.7147
50)	C2-Phenanthrenes/Anthracenes	28.11	1174230	30.4248	34.3530
51)	C3-Phenanthrenes/Anthracenes	29.84	829678	21.4973	24.2728
52)	C4-Phenanthrenes/Anthracenes	30.60	906470	23.4869	26.5194
34)	Dibenzothiophene	24.30	118026	3.6995	4.1771
35)+36)+37)	C1-Dibenzothiophenes	26.10	173299	5.4320	6.1333
38)	C2-Dibenzothiophenes	27.52	207431	6.5018	7.3413
39)	C3-Dibenzothiophenes	29.39	207758	6.5121	7.3529
40)	C4-Dibenzothiophenes	30.40	192548	6.0353	6.8146
58)	Fluoranthene	28.84	587131	16.5311	18.6655
59)	Pyrene	29.60	450340	9.8706	11.1450
62)	C1-Fluoranthenes/Pyrenes	30.74	541914	15.2580	17.2280
63)	C2-Fluoranthenes/Pyrenes	32.49	1152480	32.4490	36.6385
64)	C3-Fluoranthenes/Pyrenes	33.50	693471	19.5253	22.0462
65)	C4-Fluoranthenes/Pyrenes	35.21	1023140	28.8074	32.5267
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.69	245443	7.5316	8.5040
68)	Chrysene/Triphenylene	33.81	683818	17.7054	19.9913
69)	C1-Chrysenes	35.05	675271	17.4841	19.7415
70)	C2-Chrysenes	36.49	725304	18.7795	21.2042
71)	C3-Chrysenes	37.88	497383	12.8782	14.5409
72)	C4-Chrysenes	39.28	202403	5.2406	5.9172
77)	Benzo(b)fluoranthene	37.22	593236	18.6785	21.0901
78)	Benzo(k,j)fluoranthene	37.30	154811	6.2541	7.0616
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.19	307766	10.6729	12.0509
81)	Benzo(a)pyrene	38.35	119963	3.9601	4.4713
89)	Perylene	38.66	19981	0.6528	0.7371
82)	Indeno(1,2,3-c,d)pyrene	43.04	119047	4.4460	5.0200
83)	Dibenzo(a,h)anthracene	43.08	47034	2.0052	2.2640
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.37	116758	4.6555	5.2566

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	503255	24.3715	27.5181
10)	1-Methylnaphthalene	16.36	307183	15.7672	17.8029
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	25.79	83476	3.1785	3.5889
36)	2/3-Methyldibenzothiophene	26.10	58455	2.2258	2.5132
37)	1-Methyldibenzothiophene	26.41	31368	1.1944	1.3486
43)	3-Methylphenanthrene	26.38	345443	13.9358	15.7350
44)	2-Methylphenanthrene	26.48	378863	15.2840	17.2573
45)	2-Methylanthracene	26.62	124292	5.0141	5.6615
46)	4/9-Methylphenanthrene	26.76	249910	10.0818	11.3835
47)	1-Methylphenanthrene	26.83	190630	7.6904	8.6833
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	384525	12.87	77.64
21)	Acenaphthene-d10	19.56	214389	12.35	74.52
32)	Phenanthrene-d10	24.65	459952	14.68	88.57
66)	Chrysene-d12	33.73	422832	13.04	78.72
88)	Perylene-d12	38.58	4984	0.20	1.19
90)	5(b)H-Cholane	34.12	123594	21.31	128.60
	Internal Standards				
1)	Fluorene-d10	21.34	300561	16.64	
31)	Pyrene-d10	29.53	519575	16.61	
73)	Benzo(a)pyrene-d12	38.27	382678	16.59	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1845.D
Acq On : 6 Sep 2013 12:07 am
Operator : YM
Sample : SO-DA-004 (0.5-1.0)
Misc :
ALS Vial : 26 Sample Multiplier: 0.06627

Quant Time: Sep 13 07:22:56 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.343	176	300561m	251.05		0.00
31) Pyrene-d10	29.531	212	519575m	250.63		0.00
73) Benzo(a)pyrene-d12	38.270	264	382678m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.711	136	384525m	12.87		0.00
21) Acenaphthene-d10	19.561	164	214389m	12.35		0.00
32) Phenanthrene-d10	24.648	188	459952m	14.68		0.00
66) Chrysene-d12	33.731	240	422832m	13.04		0.00
88) Perylene-d12	38.580	264	4984m	0.20		0.00
90) 5(b)H-Cholane	34.119	217	123594m	21.31		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	13.794	128	754726m	24.57		
9) 2-Methylnaphthalene	16.023	142	503255m	24.37		
10) 1-Methylnaphthalene	16.357	142	307183m	15.77		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.391	156	1156800m	37.66		
14) C3-Naphthalenes	20.396	170	784241m	25.53		
15) C4-Naphthalenes	21.455	184	616464m	20.07		
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	81195m	2.61		
24) Acenaphthene	19.616	154	10489m	0.57		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.427	166	202154m	8.71		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.402	180	116523m	5.02		
29) C2-Fluorenes	25.272	194	373860m	16.11		
30) C3-Fluorenes	27.488	208	548238m	23.62		
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.302	184	118026m	3.70		
35) 4-Methyldibenzothiophene	25.791	198	83476m	3.18		
36) 2/3-Methyldibenzothiop...	26.103	198	58455m	2.23		
37) 1-Methyldibenzothiophene	26.414	198	31368m	1.19		
38) C2-Dibenzothiophenes	27.522	212	207431m	6.50		
39) C3-Dibenzothiophenes	29.392	226	207758m	6.51		
40) C4-Dibenzothiophenes	30.397	240	192548m	6.04		
41) Phenanthrene	24.718	178	1664784m	43.14		
42) Anthracene	24.891	178	140869m	3.87		
43) 3-Methylphenanthrene	26.380	192	345443m	13.94		

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1845.D
Acq On : 6 Sep 2013 12:07 am
Operator : YM
Sample : SO-DA-004 (0.5-1.0)
Misc :
ALS Vial : 26 Sample Multiplier: 0.06627

Quant Time: Sep 13 07:22:56 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.484	192	378863m	15.28		
45) 2-Methylanthracene	26.622	192	124292m	5.01		
46) 4/9-Methylphenanthrene	26.761	192	249910m	10.08		
47) 1-Methylphenanthrene	26.830	192	190630m	7.69		
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	28.111	206	1174233m	30.42		
51) C3-Phenanthrenes/Anthr...	29.842	220	829678m	21.50		
52) C4-Phenanthrenes/Anthr...	30.604	234	906470m	23.49		
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.838	202	587131m	16.53		
59) Pyrene	29.600	202	450340m	9.87		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	30.743	216	541914m	15.26		
63) C2-Fluoranthenes/Pyrenes	32.490	230	1152478m	32.45		
64) C3-Fluoranthenes/Pyrenes	33.498	244	693471m	19.53		
65) C4-Fluoranthenes/Pyrenes	35.205	258	1023142m	28.81		
67) Benz(a)anthracene	33.692	228	245443m	7.53		
68) Chrysene/Triphenylene	33.809	228	683818m	17.71		
69) C1-Chrysenes	35.050	242	675271m	17.48		
70) C2-Chrysenes	36.485	256	725304m	18.78		
71) C3-Chrysenes	37.882	270	497383m	12.88		
72) C4-Chrysenes	39.279	284	202403m	5.24		
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	37.223	252	593236m	18.68		
78) Benzo(k,j)fluoranthene	37.300	252	154811m	6.25		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.192	252	307766m	10.67		
81) Benzo(a)pyrene	38.348	252	119963m	3.96		
82) Indeno(1,2,3-c,d)pyrene	43.041	276	119047m	4.45		
83) Dibenzo(a,h)anthracene	43.078	278	47034m	2.01		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.368	276	116758m	4.66		
89) Perylene	38.658	252	19981m	0.65		
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 : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1845.D
Acq On : 6 Sep 2013 12:07 am
Operator : YM
Sample : SO-DA-004 (0.5-1.0)
Misc :
ALS Vial : 26 Sample Multiplier: 0.06627

Quant Time: Sep 13 07:22:56 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

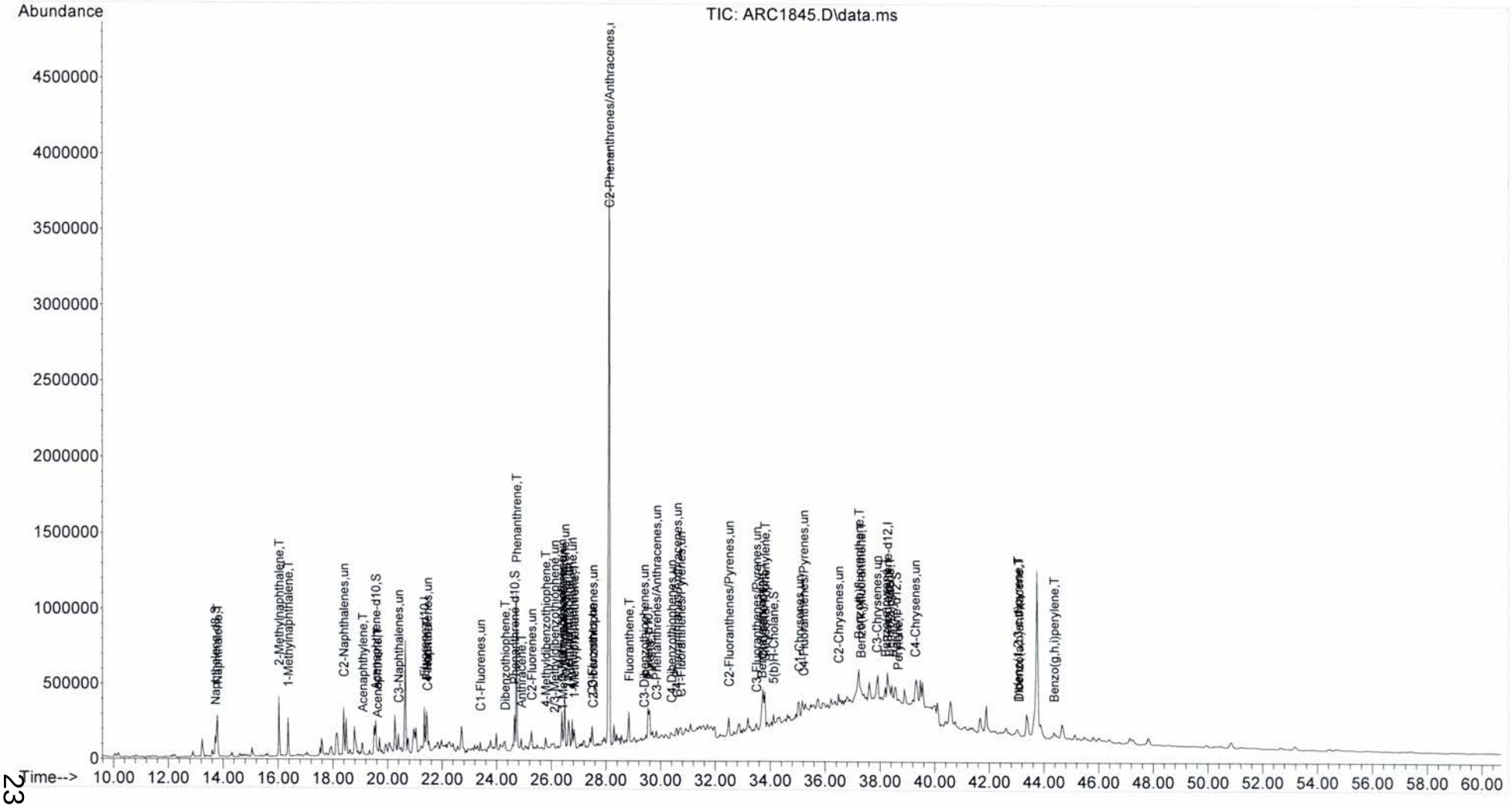
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1845.D
Acq On : 6 Sep 2013 12:07 am
Operator : YM
Sample : SO-DA-004 (0.5-1.0)
Misc :
ALS Vial : 26 Sample Multiplier: 0.06627

Quant Time: Sep 13 07:22:56 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration



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

Data File Name	ARC1846.D	**Surrogate/Internal Multiplier Factor:**	1.00		
Data File Path	P:\2013\J13034\PAH\MSDCHEMSTATION\MS70063\	**AR-WKSU-2500-001:**	**(ng/mL)**		
Operator	YM	Naphthalene-d8	250.125		
Date Acquired	9/6/2013 1:16	Acenaphthene-d10	250.163	***Copy data below***	
Acq. Method File	PAH-2012.M	Phenanthrene-d10	250.194	***to Spread Sheet***	
Sample Name	SO-DA-004 (1.0-1.5)	Chrysene-d12	250.038		
Misc Info	0	Perylene-d12	250.031	ARC1846.D	
Instrument Name	GCMSD	5(b)H-Cholane	250.000	SO-DA-004 (1.0-1.5)	
Vial Number	27			9/6/2013	
Sample Multiplier	0.06601			PAH-2012.M	
Sample Amount	0			15.14921982	

#	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	594728	19.0984	21.7898
9)+10)	C1-Naphthalenes	16.19	547507	17.5820	20.0597
13)	C2-Naphthalenes	18.39	791628	25.4214	29.0038
14)	C3-Naphthalenes	20.40	587276	18.8591	21.5167
15)	C4-Naphthalenes	21.45	410564	13.1844	15.0423
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	105562	3.3452	3.8166
24)	Acenaphthene	19.67	35926	1.9190	2.1894
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.43	143533	6.1003	6.9600
28)	C1-Fluorenes	23.40	97286	4.1348	4.7175
29)	C2-Fluorenes	25.27	248918	10.5794	12.0702
30)	C3-Fluorenes	27.49	428928	18.2300	20.7991
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.89	245121	6.5527	7.4762
41)	Phenanthrene	24.72	2034680	51.3317	58.5655
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.62	1153418	29.0989	33.1996
50)	C2-Phenanthrenes/Anthracenes	28.11	876467	22.1118	25.2279
51)	C3-Phenanthrenes/Anthracenes	29.84	573249	14.4621	16.5002
52)	C4-Phenanthrenes/Anthracenes	31.68	498790	12.5837	14.3570
34)	Dibenzothiophene	24.30	137445	4.1948	4.7859
35)+36)+37)	C1-Dibenzothiophenes	26.10	170189	5.1941	5.9261
38)	C2-Dibenzothiophenes	27.52	185628	5.6653	6.4636
39)	C3-Dibenzothiophenes	29.39	170435	5.2016	5.9346
40)	C4-Dibenzothiophenes	30.40	162084	4.9467	5.6438
58)	Fluoranthene	28.84	1708610	46.8410	53.4420
59)	Pyrene	29.60	1602560	34.2006	39.0203
62)	C1-Fluoranthenes/Pyrenes	30.74	881246	24.1591	27.5637
63)	C2-Fluoranthenes/Pyrenes	33.19	1225810	33.6052	38.3409
64)	C3-Fluoranthenes/Pyrenes	33.50	688913	18.8863	21.5478
65)	C4-Fluoranthenes/Pyrenes	35.21	998642	27.3774	31.2355
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.69	672743	20.1002	22.9328
68)	Chrysene/Triphenylene	33.81	1258950	31.7385	36.2112
69)	C1-Chrysenes	35.05	806518	20.3327	23.1980
70)	C2-Chrysenes	36.49	785852	19.8116	22.6036
71)	C3-Chrysenes	37.88	597485	15.0628	17.1855
72)	C4-Chrysenes	39.32	235561	5.9386	6.7755
77)	Benzo(b)fluoranthene	37.22	1194410	34.6658	39.5510
78)	Benzo(k,j)fluoranthene	37.30	415942	15.4893	17.6721
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.19	588897	18.8251	21.4779
81)	Benzo(a)pyrene	38.35	517631	15.7510	17.9707
89)	Perylene	38.66	125010	3.7649	4.2955
82)	Indeno(1,2,3-c,d)pyrene	43.04	312820	10.7691	12.2867
83)	Dibenzo(a,h)anthracene	43.08	99457	3.9085	4.4593
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.37	314621	11.5640	13.1936

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.02	340424	16.2627	18.5545
10)	1-Methylnaphthalene	16.36	207083	10.4852	11.9628
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	25.79	79723	2.9557	3.3723
36)	2/3-Methyldibenzothiophene	26.10	60075	2.2273	2.5411
37)	1-Methyldibenzothiophene	26.41	30391	1.1267	1.2855
43)	3-Methylphenanthrene	26.38	287021	11.2741	12.8629
44)	2-Methylphenanthrene	26.48	318218	12.4995	14.2610
45)	2-Methylanthracene	26.62	139098	5.4637	6.2337
46)	4/9-Methylphenanthrene	26.76	226185	8.8845	10.1365
47)	1-Methylphenanthrene	26.83	182896	7.1841	8.1965
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	408498	13.49	81.68
21)	Acenaphthene-d10	19.56	236795	13.46	81.51
32)	Phenanthrene-d10	24.65	465661	14.48	87.65
66)	Chrysene-d12	33.73	436410	13.11	79.42
88)	Perylene-d12	38.58	80540	2.95	17.86
90)	5(b)H-Cholane	34.12	117758	18.71	113.39
	Internal Standards				
1)	Fluorene-d10	21.34	303492	16.57	
31)	Pyrene-d10	29.53	531527	16.54	
73)	Benzo(a)pyrene-d12	38.27	413515	16.52	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1846.D
Acq On : 6 Sep 2013 1:16 am
Operator : YM
Sample : SO-DA-004 (1.0-1.5)
Misc :
ALS Vial : 27 Sample Multiplier: 0.06601

Quant Time: Sep 13 07:05:28 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.343	176	303492m	251.05		0.00
31) Pyrene-d10	29.531	212	531527m	250.63		0.00
73) Benzo(a)pyrene-d12	38.270	264	413515m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.711	136	408498m	13.49		0.00
21) Acenaphthene-d10	19.561	164	236795m	13.46		0.00
32) Phenanthrene-d10	24.648	188	465661m	14.48		0.00
66) Chrysene-d12	33.731	240	436410m	13.11		0.00
88) Perylene-d12	38.580	264	80540m	2.95		0.00
90) 5(b)H-Cholane	34.119	217	117758m	18.71		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.794	128	594728m	19.10		
9) 2-Methylnaphthalene	16.023	142	340424m	16.26		
10) 1-Methylnaphthalene	16.357	142	207083m	10.49		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	18.391	156	791628m	25.42		
14) C3-Naphthalenes	20.396	170	587276m	18.86		
15) C4-Naphthalenes	21.455	184	410564m	13.18		
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	105562m	3.35		
24) Acenaphthene	19.672	154	35926m	1.92		
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.427	166	143533m	6.10		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	23.402	180	97286m	4.13		
29) C2-Fluorenes	25.272	194	248918m	10.58		
30) C3-Fluorenes	27.488	208	428928m	18.23		
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	24.302	184	137445m	4.19		
35) 4-Methyldibenzothiophene	25.791	198	79723m	2.96		
36) 2/3-Methyldibenzothiop...	26.103	198	60075m	2.23		
37) 1-Methyldibenzothiophene	26.414	198	30391m	1.13		
38) C2-Dibenzothiophenes	27.522	212	185628m	5.67		
39) C3-Dibenzothiophenes	29.392	226	170435m	5.20		
40) C4-Dibenzothiophenes	30.396	240	162084m	4.95		
41) Phenanthrene	24.718	178	2034681m	51.33		
42) Anthracene	24.891	178	245121m	6.55		
43) 3-Methylphenanthrene	26.380	192	287021m	11.27		

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1846.D
Acq On : 6 Sep 2013 1:16 am
Operator : YM
Sample : SO-DA-004 (1.0-1.5)
Misc :
ALS Vial : 27 Sample Multiplier: 0.06601

Quant Time: Sep 13 07:05:28 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.484	192	318218m	12.50		
45) 2-Methylanthracene	26.622	192	139098m	5.46		
46) 4/9-Methylphenanthrene	26.761	192	226185m	8.88		
47) 1-Methylphenanthrene	26.830	192	182896m	7.18		
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	28.111	206	876467m	22.11		
51) C3-Phenanthrenes/Anthr...	29.842	220	573249m	14.46		
52) C4-Phenanthrenes/Anthr...	31.678	234	498790m	12.58		
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.838	202	1708609m	46.84		
59) Pyrene	29.600	202	1602564m	34.20		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	30.743	216	881246m	24.16		
63) C2-Fluoranthenes/Pyrenes	33.188	230	1225808m	33.61		
64) C3-Fluoranthenes/Pyrenes	33.498	244	688913m	18.89		
65) C4-Fluoranthenes/Pyrenes	35.205	258	998642m	27.38		
67) Benz(a)anthracene	33.692	228	672743m	20.10		
68) Chrysene/Triphenylene	33.809	228	1258945m	31.74		
69) C1-Chrysenes	35.050	242	806518m	20.33		
70) C2-Chrysenes	36.485	256	785852m	19.81		
71) C3-Chrysenes	37.882	270	597485m	15.06		
72) C4-Chrysenes	39.317	284	235561m	5.94		
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	37.222	252	1194407m	34.67		
78) Benzo(k,j)fluoranthene	37.300	252	415942m	15.49		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.192	252	588897m	18.83		
81) Benzo(a)pyrene	38.348	252	517631m	15.75		
82) Indeno(1,2,3-c,d)pyrene	43.041	276	312820m	10.77		
83) Dibenzo(a,h)anthracene	43.078	278	99457m	3.91		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.		
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.368	276	314621m	11.56		
89) Perylene	38.658	252	125010m	3.76		
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	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1846.D
Acq On : 6 Sep 2013 1:16 am
Operator : YM
Sample : SO-DA-004 (1.0-1.5)
Misc :
ALS Vial : 27 Sample Multiplier: 0.06601

Quant Time: Sep 13 07:05:28 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

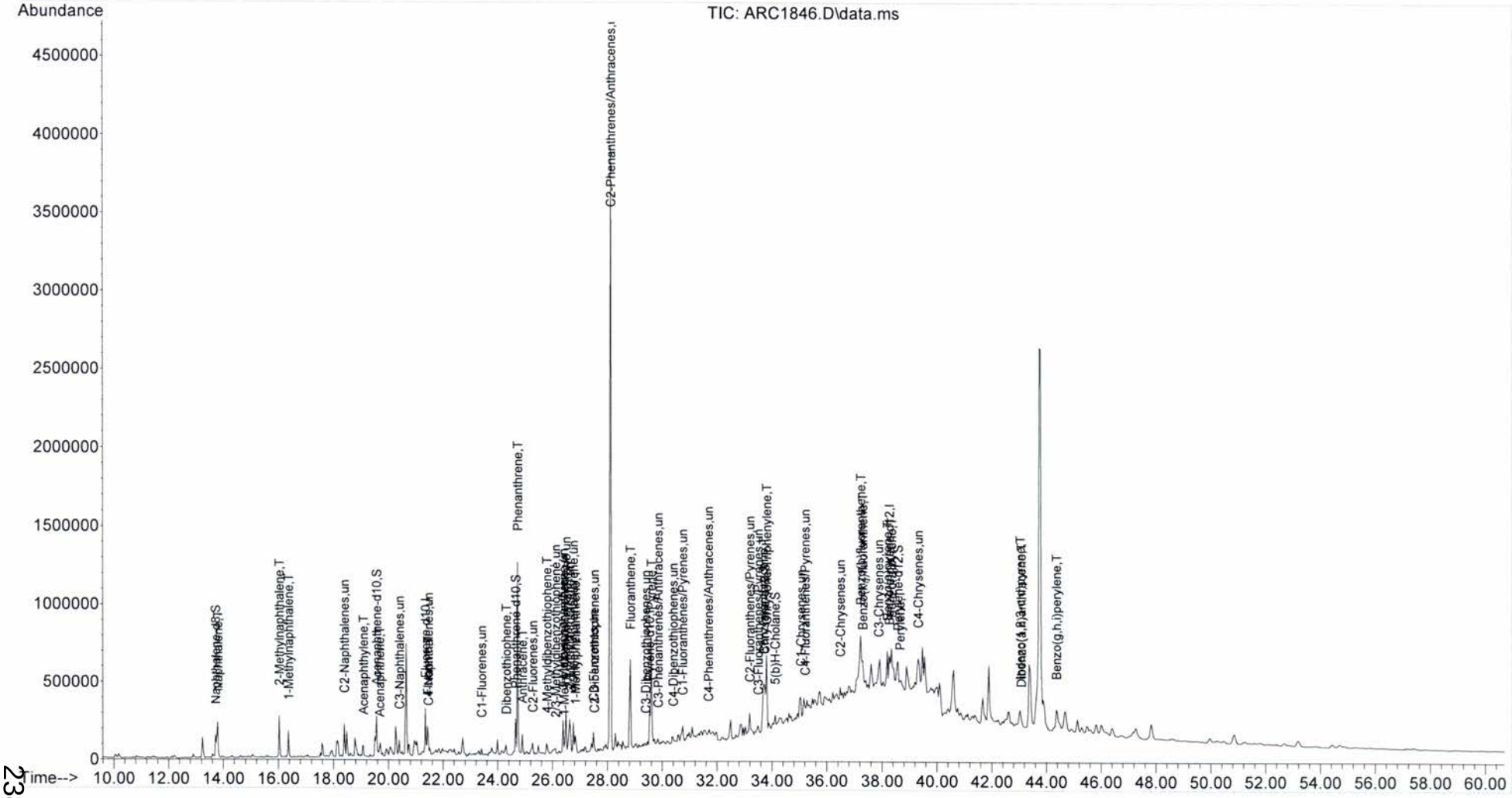
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\PAH\MSDChemstation\MS70063\
Data File : ARC1846.D
Acq On : 6 Sep 2013 1:16 am
Operator : YM
Sample : SO-DA-004 (1.0-1.5)
Misc :
ALS Vial : 27 Sample Multiplier: 0.06601

Quant Time: Sep 13 07:05:28 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration



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

TPH/Aliphatic
ICAL
FID3C08BACK082713.M

GC/FID-3 BACK

Method Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\
Method File : FID3C08BACK082713.M
Title : C8 - C40 aliphatic
Last Update : Tue Aug 27 16:35:13 2013
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	1	1	50	P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID30049C.D
2	2	10	50	P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID30049D.D
3	3	25	50	P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID30049E.D
4	4	40	50	P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID30049F.D
5	5	50	50	P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID30049G.D
6	6	100	50	P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID30049H.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1	Aug 27 15:45 2013	Aug 27 15:44 2013	20-Aug-2013, 21:37:34
2	2	Aug 27 15:56 2013	Aug 27 15:56 2013	20-Aug-2013, 22:48:09
3	3	Aug 27 16:04 2013	Aug 27 16:04 2013	20-Aug-2013, 23:58:46
4	4	Aug 27 16:09 2013	Aug 27 16:09 2013	21-Aug-2013, 01:08:50
5	5	Aug 27 16:20 2013	Aug 27 16:19 2013	21-Aug-2013, 02:19:20
6	6	Aug 27 16:25 2013	Aug 27 16:25 2013	21-Aug-2013, 03:29:24

FID3C08BACK082713.M Tue Aug 27 16:57:33 2013

Method Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\
Method File : FID3C08BACK082713.M
Title : C8 - C40 aliphatic
Last Update : Tue Aug 27 16:35:13 2013
Response Via : Initial Calibration

8/29/13

Calibration Files
1 =FID30049C.D 2 =FID30049D.D 3 =FID30049E.D
4 =FID30049F.D 5 =FID30049G.D 6 =FID30049H.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	n-hexadecane-d34	----------ISTD----------							
2)		n-C8	1.044	1.065	1.061	1.045	1.067	1.025	1.051	1.56
3)		n-C9	1.075	1.123	1.119	1.097	1.122	1.092	1.105	1.78
4)		n-C10	1.138	1.177	1.169	1.160	1.176	1.158	1.163	1.23
5)		n-C11	1.143	1.165	1.160	1.162	1.168	1.158	1.160	0.75
6)	S	n-dodecane-d26	1.070	1.069	1.066	1.097	1.066	1.083	1.075	1.15
7)		n-C12	1.195	1.205	1.199	1.182	1.207	1.200	1.198	0.76
8)		i-13	1.175	1.190	1.182	1.190	1.190	1.185	1.185	0.49
9)		i-14	1.207	1.223	1.210	1.211	1.217	1.213	1.213	0.46
10)		n-C13	1.175	1.190	1.182	1.190	1.190	1.185	1.185	0.49
11)		i-15	1.236	1.230	1.215	1.214	1.219	1.214	1.221	0.78
12)		n-C14	1.207	1.223	1.210	1.211	1.217	1.213	1.213	0.46
13)		i-16	1.244	1.242	1.218	1.214	1.225	1.220	1.227	1.03
14)		n-C15	1.236	1.230	1.215	1.214	1.219	1.214	1.221	0.78
15)		n-C16	1.244	1.242	1.218	1.214	1.225	1.220	1.227	1.03
16)	I	5a-androstane	----------ISTD----------							
17)		i-18	0.985	0.994	0.987	0.995	0.991	0.964	0.986	1.17
18)		n-C17	1.007	1.010	1.002	0.996	1.005	0.980	1.000	1.09
19)		Pristane	0.999	1.005	0.997	0.995	1.002	0.974	0.995	1.09
20)		n-C18	0.985	0.994	0.987	0.995	0.991	0.964	0.986	1.17
21)		Phytane	1.009	1.016	1.006	1.009	1.010	0.982	1.005	1.19
22)		n-C19	0.986	0.994	0.986	0.991	0.989	0.960	0.984	1.25
23)	S	n-eicosane-d42	0.804	0.788	0.782	0.807	0.781	0.776	0.790	1.62
24)		n-C20	0.997	1.001	0.989	0.999	0.996	0.965	0.991	1.34
25)		n-C21	1.014	1.013	1.003	0.998	1.006	0.976	1.002	1.42
26)		n-C22	1.024	1.015	1.006	1.009	1.007	0.974	1.006	1.70
27)		n-C23	1.036	1.020	1.015	1.004	1.013	0.978	1.011	1.89
28)		n-C24	1.030	1.021	1.016	1.002	1.012	0.973	1.009	1.98
29)		n-C25	1.033	1.019	1.016	1.010	1.009	0.965	1.009	2.30
30)		n-C26	1.024	1.017	1.015	1.009	1.004	0.952	1.004	2.59
31)		n-C27	0.987	0.989	0.984	0.977	0.970	0.920	0.971	2.68
32)		n-C28	1.009	0.998	0.993	0.982	0.976	0.925	0.980	3.00
33)		n-C29	0.989	0.988	0.990	0.981	0.971	0.910	0.971	3.18
34)	S	n-triacontane...	0.728	0.760	0.759	0.772	0.742	0.721	0.747	2.68
35)		n-C30	0.962	0.982	0.980	0.962	0.961	0.921	0.961	2.25
36)		n-C31	0.944	0.968	0.962	0.951	0.949	0.911	0.948	2.09
37)		n-C32	0.904	0.955	0.958	0.935	0.947	0.912	0.935	2.41
38)		n-C33	0.880	0.928	0.939	0.925	0.930	0.896	0.917	2.51
39)		n-C34	0.904	0.946	0.961	0.948	0.953	0.921	0.939	2.32
40)		n-C35	0.896	0.934	0.950	0.941	0.943	0.910	0.929	2.30
41)		n-C36	1.017	1.023	1.041	1.015	1.040	1.008	1.024	1.33
42)		n-C37	0.916	0.939	0.961	0.949	0.957	0.923	0.941	1.95
43)		n-C38	0.944	0.951	0.969	0.965	0.963	0.929	0.953	1.60
44)		n-C39	0.884	0.921	0.944	0.937	0.940	0.906	0.922	2.55
45)		n-C40	0.850	0.864	0.890	0.880	0.883	0.852	0.870	1.93
46)		TPH	0.955	0.967	0.969	0.967	0.967	0.932	0.960	1.50
47)		TRH1	0.955	0.967	0.969	0.967	0.967	0.932	0.960	1.50
48)		TRH2	0.955	0.967	0.969	0.967	0.967	0.932	0.960	1.50
49)		TRH3	0.955	0.967	0.969	0.967	0.967	0.932	0.960	1.50
50)		TRH4	0.955	0.967	0.969	0.967	0.967	0.932	0.960	1.50
51)		TRH5	0.955	0.967	0.969	0.967	0.967	0.932	0.960	1.50
52)		TRH6	0.955	0.967	0.969	0.967	0.967	0.932	0.960	1.50

53)	GRO	0.955	0.967	0.969	0.967	0.967	0.932	0.960	1.50
54)	DRO	0.955	0.967	0.969	0.967	0.967	0.932	0.960	1.50
55)	RRO	0.955	0.967	0.969	0.967	0.967	0.932	0.960	1.50

(#) = Out of Range

'ID3C08BACK082713.M Tue Aug 27 16:35:19 2013

Area for TPH Calculations

Last Calibration Update Tue Aug 27 16:25:34 2013
Quant Method FID3C08BACK082713.M

	Level 1 FID30049C.D	Level 2 FID30049D.D	Level 3 FID30049E.D	Level 4 FID30049F.D	Level 5 FID30049G.D	Level 6 FID30049H.D
n-C8	9142	79469	205510	290141	389362	755291
n-C9	9408	83739	216505	304688	409158	803773
n-C10	9958	87738	226123	322038	428585	852899
n-C11	10016	86958	224786	322734	426182	853776
n-C12	10268	88315	228010	328091	432253	868333
n-C13	10298	88876	229123	330518	434350	874593
n-C14	10498	90602	232755	336181	440968	887860
n-C15	10763	91260	233904	337249	442032	889639
n-C16	10775	91686	233324	337217	441930	889093
n-C17	10955	93322	237920	342432	448057	903070
Pristane	10899	93163	237329	341911	448259	900843
n-C18	10855	93110	237256	342039	447809	900252
Phytane	11081	94781	241015	346960	454624	913642
n-C19	10846	92942	236579	340547	446267	895105
n-C20	10997	93857	237942	343240	450440	902613
n-C21	11068	93962	238744	342882	450062	902057
n-C22	11290	95093	241921	346801	454981	909407
n-C23	11286	94475	241349	345206	452682	903556
n-C24	11215	94383	241169	344521	451613	897199
n-C25	11338	94994	243302	346973	454091	896918
n-C26	11291	95378	244234	346735	453886	890430
n-C27	10879	92496	236576	335875	438086	858423
n-C28	11109	93370	238514	337509	440364	863455
n-C29	10898	92522	238103	337323	438656	850014
n-C30	10548	91475	234403	330760	432199	856171
n-C31	10392	90520	231305	327000	428569	850292
n-C32	9831	88207	227315	321345	421789	840313
n-C33	9693	86810	225702	317975	419946	836222
n-C34	9936	88301	230345	325749	429471	857560
n-C35	9864	87408	228217	323582	425969	849196
n-C36	10976	93820	245202	348909	460113	922025
n-C37	10096	87934	231174	326089	432261	861831
n-C38	10415	89061	233182	331562	435474	867443
n-C39	9731	86187	226928	321947	424545	845146
n-C40	9339	80673	213399	302479	397572	793449
Average Area (use for TPH, TRPH, GRO, DRO, RRO)	10513	90482	232833	332206	436646	869768
Average of n-C38 & n-C40	9877	84867	223291	317021	416523	830446
n-C36/n-C20	1.00	1.00	1.03	1.02	1.02	1.02

For Isoprenoids (other than Pristane and Phytane) use area for normal alkane; i-C13 use n-C13

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\
Data File : FID30049C.D
Signal(s) : FID2B.CH
Acq On : 20-Aug-2013, 21:37:34
Operator : Meghan Dailey
Sample : AL-WKC1-1.25-019
Misc :
ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 15:44:04 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 10:21:13 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	12.437	349913	50.000	ug/mlm
16) I	5a-androstane	17.424	441100	50.072	ug/mlm
	System Monitoring Compounds				
6) S	n-dodecane-d26	8.216	9363	1.358	ug/mlm
23) S	n-eicosane-d42	16.890	8910	1.305	ug/mlm
34) S	n-triacontane-d62	28.640	8028	1.292	ug/mlm
	Target Compounds				
2)	n-C8	3.185	9142	1.432	ug/mlm
3)	n-C9	4.458	9408	1.395	ug/mlm
4)	n-C10	5.840	9958	1.392	ug/mlm
5)	n-C11	7.174	10016	1.374	ug/mlm
7)	n-C12	8.419	10268	1.336	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	9.579	10298	1.321	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.664	10497	1.294	ug/mlm
13)	i-16	0.000	0	N.D.	ug/ml
14)	n-C15	11.685	10762	1.304	ug/mlm
15)	n-C16	12.671	10775	1.289	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.718	10955	1.281	ug/mlm
19)	Pristane	13.829	10899	1.283	ug/mlm
20)	n-C18	14.841	10855	1.286	ug/mlm
21)	Phytane	14.996	11081	1.287	ug/mlm
22)	n-C19	16.034	10846	1.281	ug/mlm
24)	n-C20	17.275	10997	1.292	ug/mlm
25)	n-C21	18.545	11068	1.290	ug/mlm
26)	n-C22	19.822	11290	1.315	ug/mlm
27)	n-C23	21.091	11286	1.315	ug/mlm
28)	n-C24	22.339	11215	1.315	ug/mlm
29)	n-C25	23.561	11338	1.342	ug/mlm
30)	n-C26	24.751	11291	1.346	ug/mlm
31)	n-C27	25.907	10879	1.351	ug/mlm
32)	n-C28	27.027	11109	1.374	ug/mlm
33)	n-C29	28.116	10898	1.360	ug/mlm
35)	n-C30	29.171	10548	1.337	ug/mlm
36)	n-C31	30.196	10392	1.339	ug/mlm
37)	n-C32	31.186	9831	1.276	ug/mlm
38)	n-C33	32.150	9693	1.283	ug/mlm
39)	n-C34	33.088	9936	1.291	ug/mlm
40)	n-C35	34.004	9864	1.298	ug/mlm

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\
Data File : FID30049C.D
Signal(s) : FID2B.CH
Acq On : 20-Aug-2013, 21:37:34
Operator : Meghan Dailey
Sample : AL-WKC1-1.25-019
Misc :
ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 15:44:04 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 10:21:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.000	10976	1.331	ug/mlm
42)	n-C37	36.142	10096	1.329	ug/mlm
43)	n-C38	37.463	10415	1.364	ug/mlm
44)	n-C39	39.012	9731	1.298	ug/mlm
45)	n-C40	40.824	9339	1.315	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

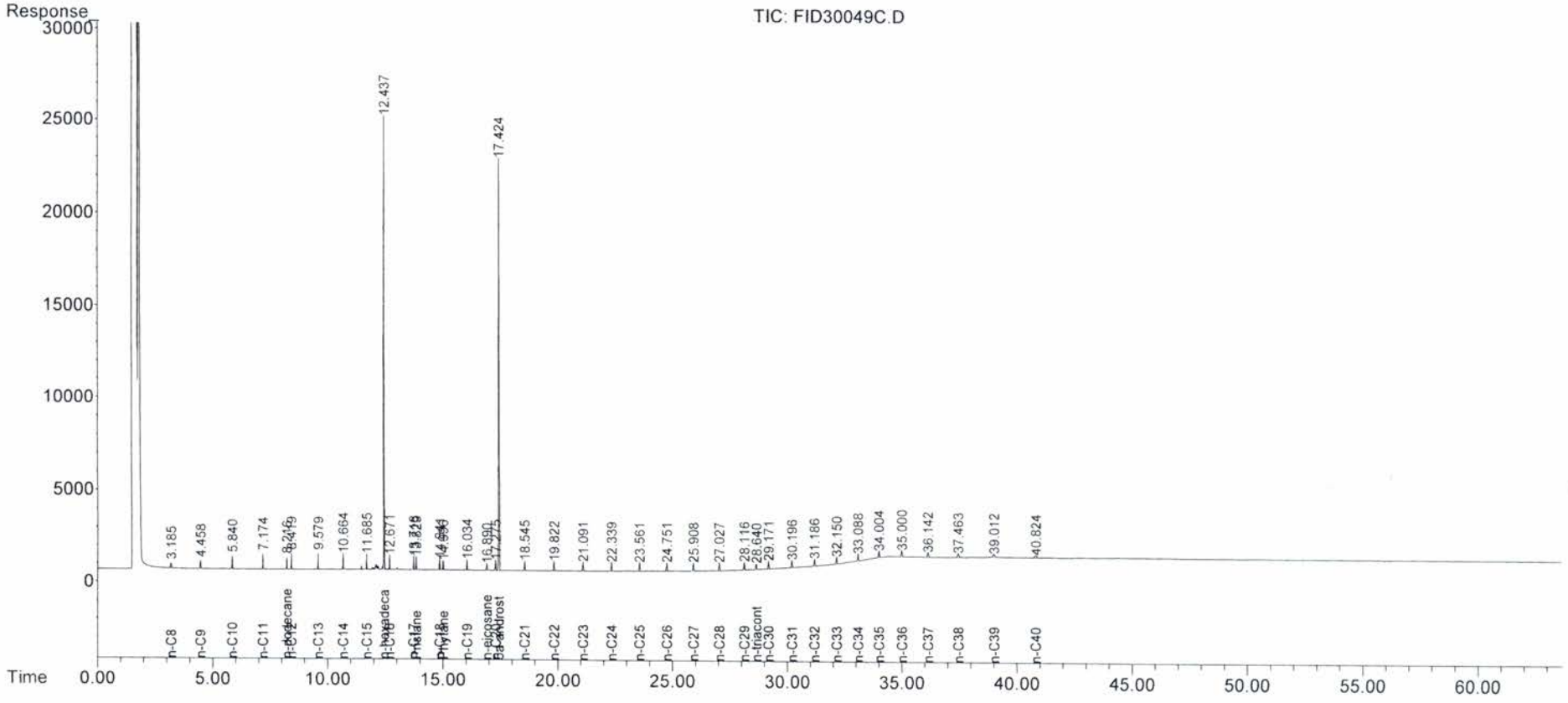
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\
Data File : FID30049C.D
Signal(s) : FID2B.CH
Acq On : 20-Aug-2013, 21:37:34
Operator : Meghan Dailey
Sample : AL-WKC1-1.25-019
Misc :
ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 15:44:04 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 10:21:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\
Data File : FID30049D.D
Signal(s) : FID2B.CH
Acq On : 20-Aug-2013, 22:48:09
Operator : Meghan Dailey
Sample : AL-WKC2-10-019
Misc :
ALS Vial : 54 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 15:56:14 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 15:45:46 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	12.436	372782	50.000	ug/mlm
16)	I 5a-androstane	17.423	468478	50.072	ug/mlm
	System Monitoring Compounds				
6)	S n-dodecane-d26	8.216	79726	10.720	ug/mlm
23)	S n-eicosane-d42	16.890	74206	10.228	ug/mlm
34)	S n-triacontane-d62	28.641	71217	10.907	ug/mlm
	Target Compounds				
2)	n-C8	3.186	79469	11.402	ug/mlm
3)	n-C9	4.456	83739	11.436	ug/mlm
4)	n-C10	5.839	87738	11.288	ug/mlm
5)	n-C11	7.173	86958	11.032	ug/mlm
7)	n-C12	8.419	88315	10.642	ug/mlm
8)	i-13	0.000	0	N.D.	ug/ml
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	9.578	88876	10.621	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.664	90602	10.434	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.685	91260	10.356	ug/mlm
15)	n-C16	12.671	91686	10.281	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.717	93322	10.283	ug/mlm
19)	Pristane	13.829	93162	10.322	ug/mlm
20)	n-C18	14.841	93110	10.367	ug/mlm
21)	Phytane	14.995	94781	10.349	ug/mlm
22)	n-C19	16.034	92942	10.336	ug/mlm
24)	n-C20	17.276	93857	10.358	ug/mlm
25)	n-C21	18.545	93962	10.279	ug/mlm
26)	n-C22	19.822	95093	10.390	ug/mlm
27)	n-C23	21.092	94474	10.324	ug/mlm
28)	n-C24	22.339	94383	10.399	ug/mlm
29)	n-C25	23.561	94994	10.554	ug/mlm
30)	n-C26	24.751	95378	10.720	ug/mlm
31)	n-C27	25.907	92496	10.815	ug/mlm
32)	n-C28	27.028	93370	10.870	ug/mlm
33)	n-C29	28.118	92522	10.876	ug/mlm
35)	n-C30	29.172	91475	10.945	ug/mlm
36)	n-C31	30.196	90520	11.001	ug/mlm
37)	n-C32	31.187	88207	10.851	ug/mlm
38)	n-C33	32.149	86810	10.843	ug/mlm
39)	n-C34	33.087	88301	10.767	ug/mlm
40)	n-C35	34.002	87408	10.758	ug/mlm

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\
Data File : FID30049D.D
Signal(s) : FID2B.CH
Acq On : 20-Aug-2013, 22:48:09
Operator : Meghan Dailey
Sample : AL-WKC2-10-019
Misc :
ALS Vial : 54 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 15:56:14 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 15:45:46 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.002	93820	10.561	ug/mlm
42)	n-C37	36.140	87934	10.799	ug/mlm
43)	n-C38	37.463	89061	10.794	ug/mlm
44)	n-C39	39.007	86187	10.787	ug/mlm
45)	n-C40	40.824	80672	10.673	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

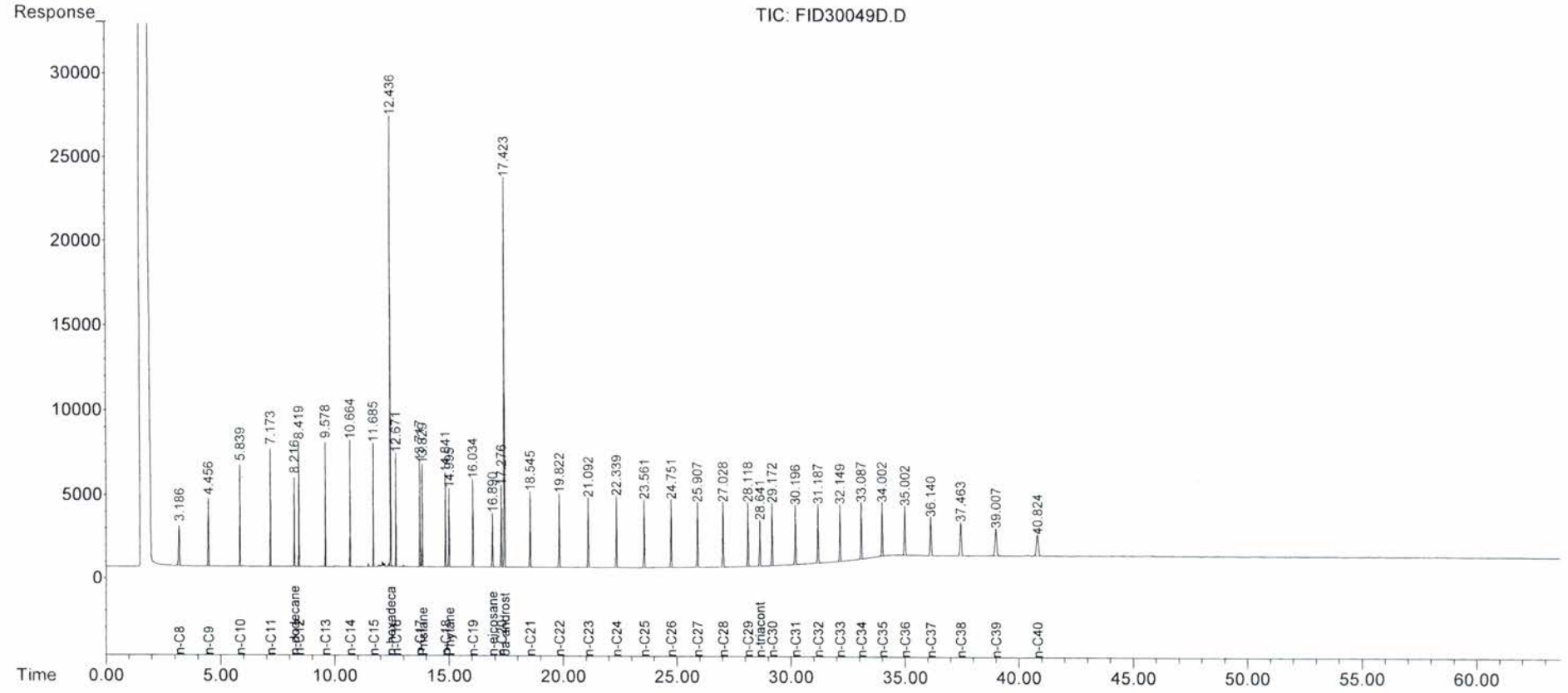
SemiQuant Compounds - Not Calibrated on this Instrument

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

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\
Data File : FID30049D.D
Signal(s) : FID2B.CH
Acq On : 20-Aug-2013, 22:48:09
Operator : Meghan Dailey
Sample : AL-WKC2-10-019
Misc :
ALS Vial : 54 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 15:56:14 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 15:45:46 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\
Data File : FID30049E.D
Signal(s) : FID2B.CH
Acq On : 20-Aug-2013, 23:58:46
Operator : Meghan Dailey
Sample : AL-WKC3-25-019
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 16:04:20 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 15:56:21 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	12.435	386944	50.000 ug/mlm
16) I	5a-androstane	17.422	481194	50.072 ug/mlm
	System Monitoring Compounds			
6) S	n-dodecane-d26	8.216	206277	26.434 ug/mlm
23) S	n-eicosane-d42	16.890	189209	25.397 ug/mlm
34) S	n-triacontane-d62	28.641	182476	27.057 ug/mlm
	Target Compounds			
2)	n-C8	3.186	205510	27.797 ug/mlm
3)	n-C9	4.456	216505	27.851 ug/mlm
4)	n-C10	5.839	226123	27.474 ug/mlm
5)	n-C11	7.173	224786	27.071 ug/mlm
7)	n-C12	8.419	228010	26.194 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	9.579	229123	26.211 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	10.664	232755	25.738 ug/mlm
13)	i-16	0.000	0	N.D. ug/mld
14)	n-C15	11.686	233904	25.535 ug/mlm
15)	n-C16	12.673	233324	25.189 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	13.719	237920	25.492 ug/mlm
19)	Pristane	13.830	237329	25.569 ug/mlm
20)	n-C18	14.843	237256	25.695 ug/mlm
21)	Phytane	14.998	241015	25.587 ug/mlm
22)	n-C19	16.036	236579	25.588 ug/mlm
24)	n-C20	17.277	237942	25.539 ug/mlm
25)	n-C21	18.546	238744	25.398 ug/mlm
26)	n-C22	19.825	241921	25.699 ug/mlm
27)	n-C23	21.095	241349	25.646 ug/mlm
28)	n-C24	22.342	241169	25.843 ug/mlm
29)	n-C25	23.565	243302	26.284 ug/mlm
30)	n-C26	24.753	244234	26.683 ug/mlm
31)	n-C27	25.910	236576	26.868 ug/mlm
32)	n-C28	27.032	238514	26.931 ug/mlm
33)	n-C29	28.118	238103	27.130 ug/mlm
35)	n-C30	29.174	234403	27.103 ug/mlm
36)	n-C31	30.197	231305	27.098 ug/mlm
37)	n-C32	31.190	227315	26.947 ug/mlm
38)	n-C33	32.154	225702	27.181 ug/mlm
39)	n-C34	33.089	230345	27.074 ug/mlm
40)	n-C35	34.003	228217	27.096 ug/mlm

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\
Data File : FID30049E.D
Signal(s) : FID2B.CH
Acq On : 20-Aug-2013, 23:58:46
Operator : Meghan Dailey
Sample : AL-WKC3-25-019
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 16:04:20 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 15:56:21 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.004	245202	26.570	ug/mlm
42)	n-C37	36.142	231174	27.332	ug/mlm
43)	n-C38	37.467	233182	27.230	ug/mlm
44)	n-C39	39.014	226928	27.380	ug/mlm
45)	n-C40	40.828	213399	27.235	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

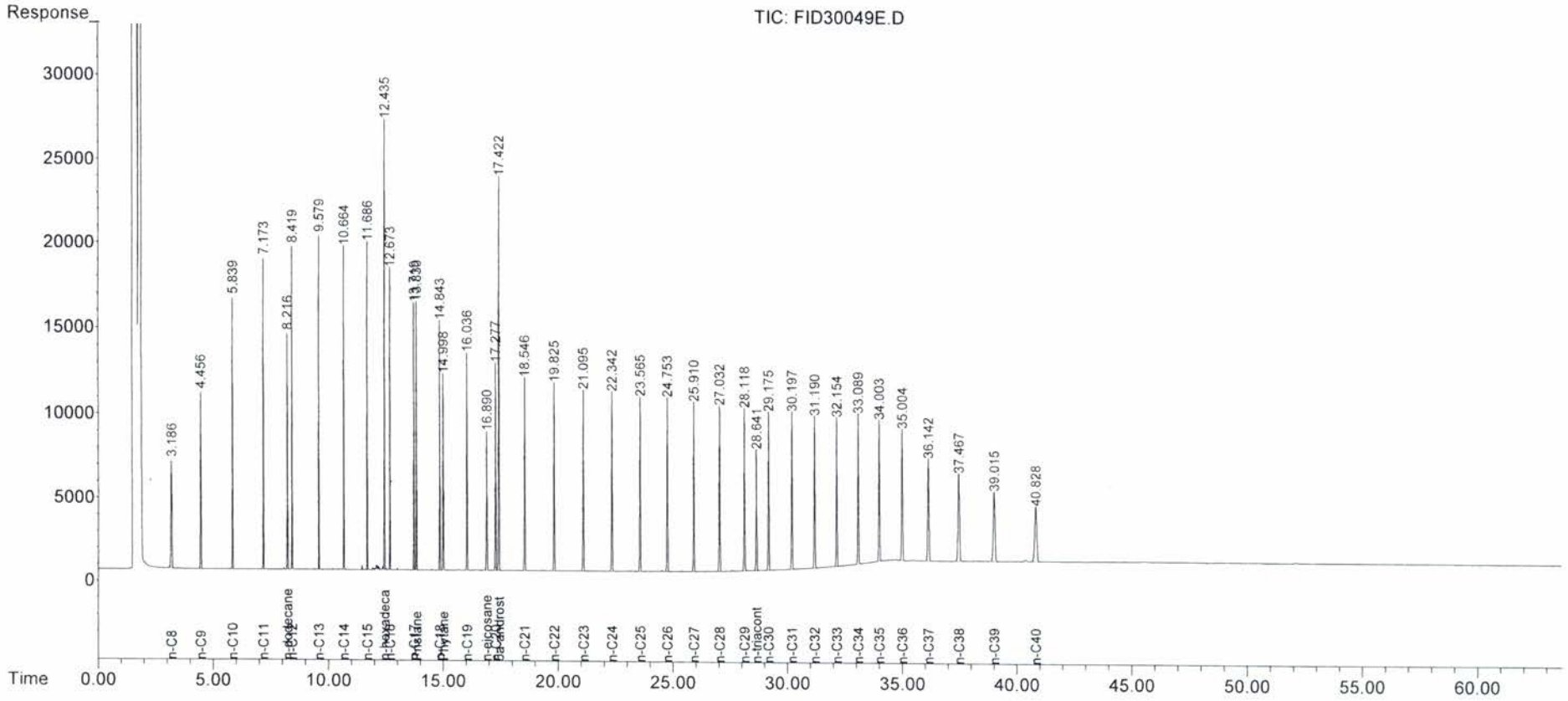
SemiQuant Compounds - Not Calibrated on this Instrument

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

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\
Data File : FID30049E.D
Signal(s) : FID2B.CH
Acq On : 20-Aug-2013, 23:58:46
Operator : Meghan Dailey
Sample : AL-WKC3-25-019
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 16:04:20 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 15:56:21 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\
Data File : FID30049G.D
Signal(s) : FID2B.CH
Acq On : 21-Aug-2013, 02:19:20
Operator : Meghan Dailey
Sample : AL-WKC5-50-019
Misc :
ALS Vial : 57 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 16:19:59 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:09:12 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	12.434	364506	50.000	ug/mlm
16)	I 5a-androstane	17.419	452108	50.072	ug/mlm
	System Monitoring Compounds				
6)	S n-dodecane-d26	8.217	388682	51.666	ug/mlm
23)	S n-eicosane-d42	16.893	354785	50.691	ug/mlm
34)	S n-triacontane-d62	28.644	335550	51.678	ug/mlm
	Target Compounds				
2)	n-C8	3.187	389362	53.508	ug/mlm
3)	n-C9	4.457	409158	53.530	ug/mlm
4)	n-C10	5.840	428585	53.209	ug/mlm
5)	n-C11	7.175	426182	52.809	ug/mlm
7)	n-C12	8.421	432253	51.549	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	9.581	434350	51.976	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.666	440968	51.319	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.687	442032	51.007	ug/mlm
15)	n-C16	12.674	441930	50.599	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.722	448057	50.913	ug/mlm
19)	Pristane	13.832	448259	51.213	ug/mlm
20)	n-C18	14.846	447809	51.453	ug/mlm
21)	Phytane	15.000	454624	51.216	ug/mlm
22)	n-C19	16.039	446267	51.249	ug/mlm
24)	n-C20	17.280	450440	51.363	ug/mlm
25)	n-C21	18.551	450062	50.834	ug/mlm
26)	n-C22	19.829	454981	51.261	ug/mlm
27)	n-C23	21.098	452682	50.916	ug/mlm
28)	n-C24	22.345	451613	51.111	ug/mlm
29)	n-C25	23.568	454091	51.611	ug/mlm
30)	n-C26	24.757	453886	51.971	ug/mlm
31)	n-C27	25.914	438086	51.911	ug/mlm
32)	n-C28	27.035	440364	51.725	ug/mlm
33)	n-C29	28.122	438656	51.862	ug/mlm
35)	n-C30	29.179	432199	51.792	ug/mlm
36)	n-C31	30.200	428569	52.011	ug/mlm
37)	n-C32	31.193	421789	51.814	ug/mlm
38)	n-C33	32.157	419946	52.543	ug/mlm
39)	n-C34	33.095	429471	52.541	ug/mlm
40)	n-C35	34.009	425969	52.707	ug/mlm

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\
Data File : FID30049G.D
Signal(s) : FID2B.CH
Acq On : 21-Aug-2013, 02:19:20
Operator : Meghan Dailey
Sample : AL-WKC5-50-019
Misc :
ALS Vial : 57 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 16:19:59 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:09:12 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.008	460113	51.822	ug/mlm
42)	n-C37	36.147	432261	52.954	ug/mlm
43)	n-C38	37.473	435474	52.594	ug/mlm
44)	n-C39	39.021	424545	53.062	ug/mlm
45)	n-C40	40.846	397572	52.584	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

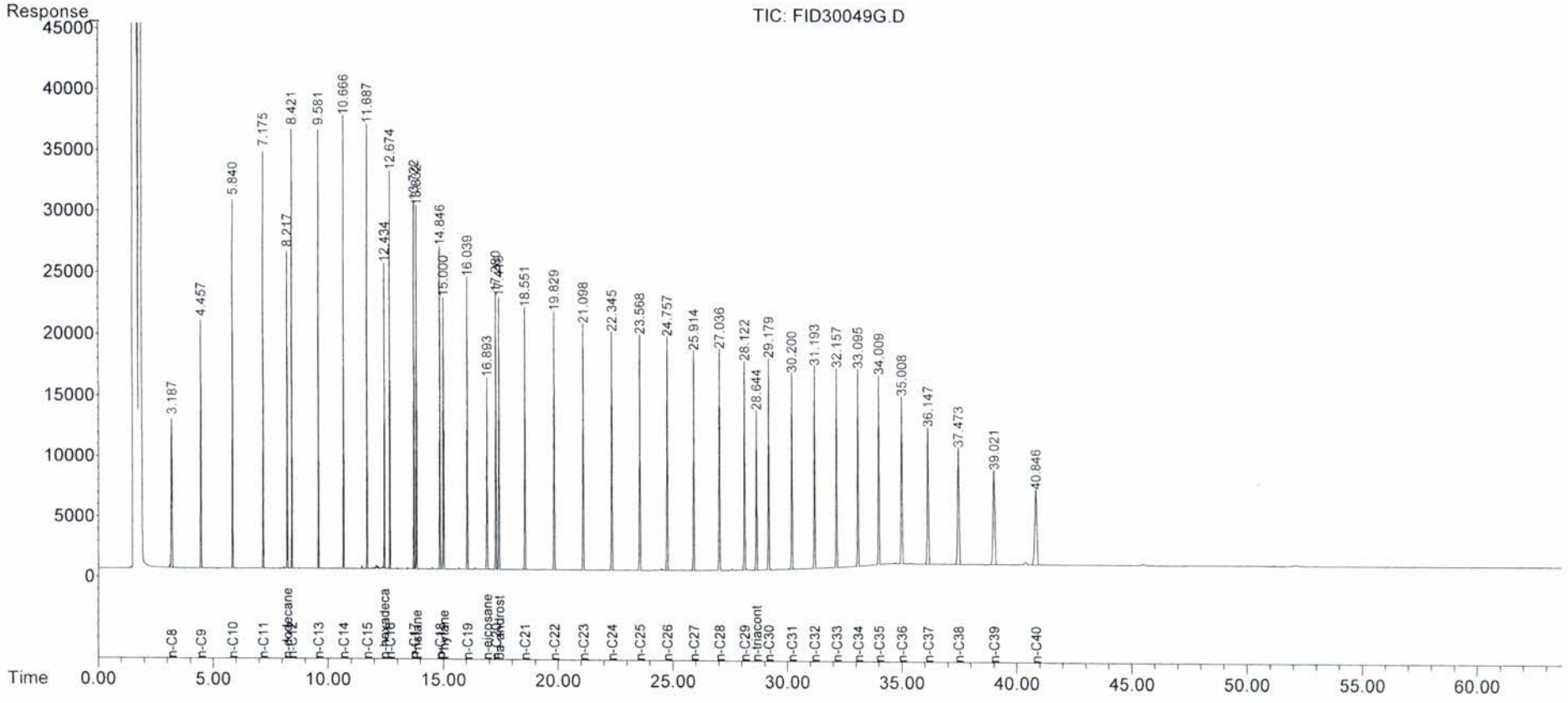
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\
Data File : FID30049G.D
Signal(s) : FID2B.CH
Acq On : 21-Aug-2013, 02:19:20
Operator : Meghan Dailey
Sample : AL-WKC5-50-019
Misc :
ALS Vial : 57 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 16:19:59 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:09:12 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\
Data File : FID30049H.D
Signal(s) : FID2B.CH
Acq On : 21-Aug-2013, 03:29:24
Operator : Meghan Dailey
Sample : AL-WKC6-100-001
Misc :
ALS Vial : 58 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 16:25:20 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:20:07 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	12.434	368143	50.000	ug/mlm
16)	I 5a-androstane	17.421	467214	50.072	ug/mlm
	System Monitoring Compounds				
6)	S n-dodecane-d26	8.221	797045	103.735	ug/mlm
23)	S n-eicosane-d42	16.899	728932	100.741	ug/mlm
34)	S n-triacontane-d62	28.654	673788	99.220	ug/mlm
	Target Compounds				
2)	n-C8	3.188	755291	100.545	ug/mlm
3)	n-C9	4.461	803773	101.891	ug/mlm
4)	n-C10	5.844	852899	102.862	ug/mlm
5)	n-C11	7.179	853776	103.188	ug/mlm
7)	n-C12	8.426	868333	101.436	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	9.586	874593	102.921	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.671	887860	101.929	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.692	889639	101.354	ug/mlm
15)	n-C16	12.680	889093	100.671	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.727	903070	98.909	ug/mlm
19)	Pristane	13.840	900843	99.110	ug/mlm
20)	n-C18	14.853	900252	99.941	ug/mlm
21)	Phytane	15.009	913642	99.453	ug/mlm
22)	n-C19	16.047	895105	99.343	ug/mlm
24)	n-C20	17.291	902613	99.434	ug/mlm
25)	n-C21	18.560	902057	98.426	ug/mlm
26)	n-C22	19.839	909407	98.931	ug/mlm
27)	n-C23	21.107	903556	97.988	ug/mlm
28)	n-C24	22.356	897199	97.701	ug/mlm
29)	n-C25	23.578	896918	97.834	ug/mlm
30)	n-C26	24.770	890430	97.649	ug/mlm
31)	n-C27	25.923	858423	97.299	ug/mlm
32)	n-C28	27.045	863455	96.934	ug/mlm
33)	n-C29	28.134	850014	96.030	ug/mlm
35)	n-C30	29.190	856171	98.021	ug/mlm
36)	n-C31	30.213	850292	98.645	ug/mlm
37)	n-C32	31.204	840313	98.745	ug/mlm
38)	n-C33	32.168	836222	100.190	ug/mlm
39)	n-C34	33.106	857560	100.549	ug/mlm
40)	n-C35	34.020	849196	100.566	ug/mlm

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\
Data File : FID30049H.D
Signal(s) : FID2B.CH
Acq On : 21-Aug-2013, 03:29:24
Operator : Meghan Dailey
Sample : AL-WKC6-100-001
Misc :
ALS Vial : 58 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 16:25:20 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:20:07 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.023	922025	99.240	ug/mlm
42)	n-C37	36.168	861831	100.899	ug/mlm
43)	n-C38	37.496	867443	100.163	ug/mlm
44)	n-C39	39.045	845146	101.043	ug/mlm
45)	n-C40	40.866	793449	100.439	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

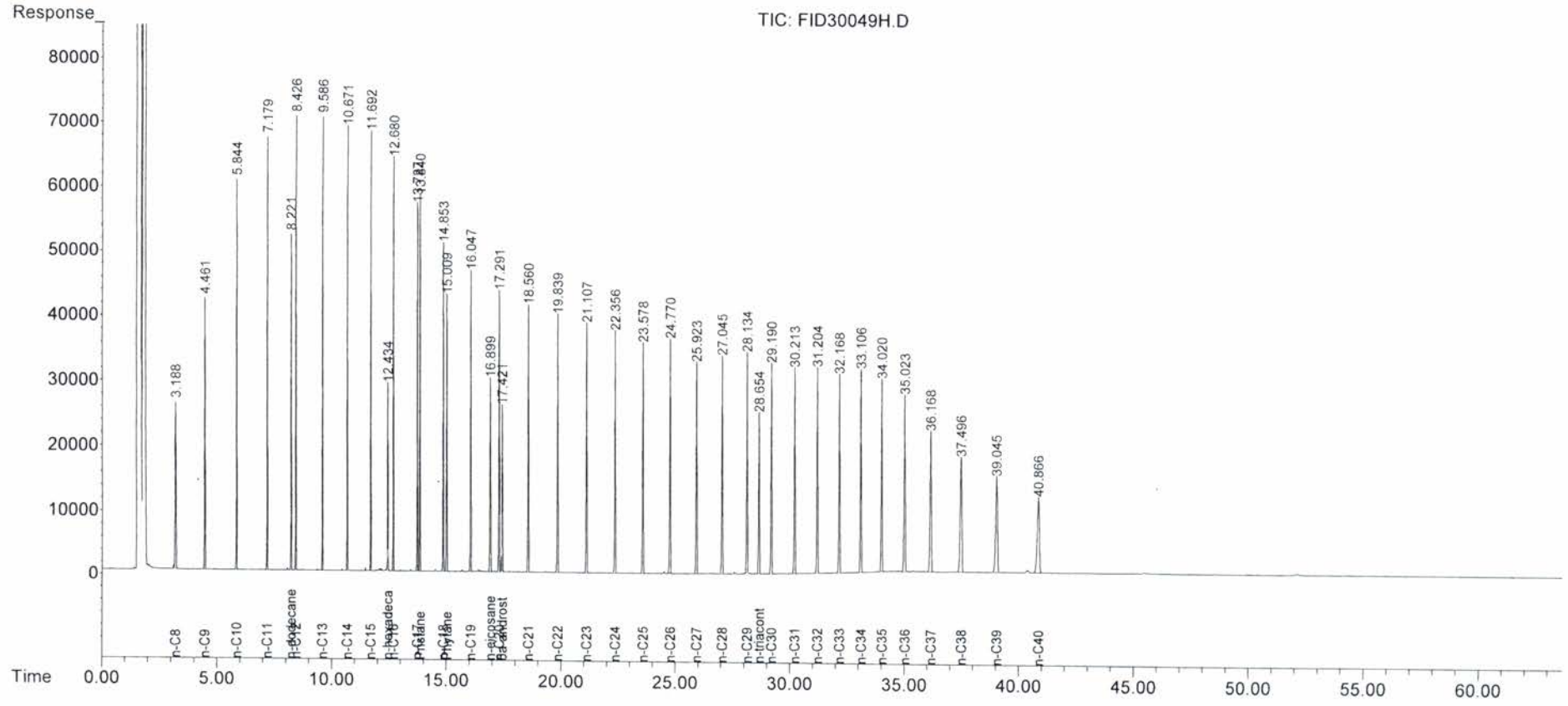
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\
Data File : FID30049H.D
Signal(s) : FID2B.CH
Acq On : 21-Aug-2013, 03:29:24
Operator : Meghan Dailey
Sample : AL-WKC6-100-001
Misc :
ALS Vial : 58 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 16:25:20 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:20:07 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\
Data File : FID30049I.D
Signal(s) : FID2B.CH
Acq On : 21-Aug-2013, 04:39:31
Operator : Meghan Dailey
Sample : AL-WKICV-25-002
Misc :
ALS Vial : 59 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 16:47:01 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:25:30 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	87	0.00
2		n-C8	1.051	1.053	-0.2	86	0.00
3		n-C9	1.105	1.140	-3.2	88	0.00
4		n-C10	1.163	1.193	-2.6	89	0.00
5		n-C11	1.160	1.218	-5.0	91	0.00
6	S	n-dodecane-d26	1.075	1.050	2.3	86	0.00
7		n-C12	1.198	1.249	-4.3	90	0.00
10		n-C13	1.185	1.232	-4.0	90	0.00
12		n-C14	1.213	1.242	-2.4	89	0.00
14		n-C15	1.221	1.259	-3.1	90	0.00
15		n-C16	1.227	1.274	-3.8	91	0.00
16	I	5a-androstane	1.000	1.000	0.0	86	-0.01
18		n-C17	1.000	1.035	-3.5	89	0.00
19		Pristane	0.995	1.017	-2.2	88	0.00
20		n-C18	0.986	1.027	-4.2	90	0.00
21		Phytane	1.005	1.025	-2.0	88	0.00
22		n-C19	0.984	1.036	-5.3	91	0.00
23	S	n-eicosane-d42	0.790	0.780	1.3	86	-0.01
24		n-C20	0.991	1.023	-3.2	89	0.00
25		n-C21	1.002	1.057	-5.5	91	0.00
26		n-C22	1.006	1.041	-3.5	89	0.00
27		n-C23	1.011	1.045	-3.4	89	0.00
28		n-C24	1.009	1.043	-3.4	89	0.00
29		n-C25	1.009	0.954	5.5	81	0.00
30		n-C26	1.004	1.039	-3.5	88	0.00
31		n-C27	0.971	1.030	-6.1	90	0.00
32		n-C28	0.980	1.022	-4.3	89	0.00
33		n-C29	0.971	1.006	-3.6	88	0.00
34	S	n-triacontane-d62	0.747	0.749	-0.3	85	-0.01
35		n-C30	0.961	1.006	-4.7	89	0.00
36		n-C31	0.948	0.968	-2.1	87	0.00
37		n-C32	0.935	0.985	-5.3	89	0.00
38		n-C33	0.917	0.980	-6.9	90	0.00
39		n-C34	0.939	1.022	-8.8	92	0.00
40		n-C35	0.929	0.973	-4.7	88	0.00
41		n-C36	1.024	1.079	-5.4	89	0.00
42		n-C37	0.941	0.987	-4.9	89	0.00
43		n-C38	0.953	1.007	-5.7	90	-0.01

44	n-C39	0.922	1.025	-11.2	94	-0.01
45	n-C40	0.870	0.970	-11.5	94	-0.01

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.019	0.000	100.0#	0#	-8.61#
9	i-14	0.019	0.000	100.0#	0#	-9.30#
11	i-15	0.020	0.000	100.0#	0#	-10.45#
13	i-16	0.020	0.000	100.0#	0#	-11.33#
17	i-18	0.020	0.000	100.0#	0#	-13.21#
46	TPH	0.019	0.000	100.0#	0#	-27.90#
47	TRH1	0.019	0.000	100.0#	0#	-7.44#
48	TRH2	0.019	0.000	100.0#	0#	-15.29#
49	TRH3	0.019	0.000	100.0#	0#	-22.45#
50	TRH4	0.019	0.000	100.0#	0#	-27.27#
51	TRH5	0.019	0.000	100.0#	0#	-32.05#
52	TRH6	0.019	0.000	100.0#	0#	-43.06#
53	GRO	0.019	0.000	100.0#	0#	-5.06#
54	DRO	0.019	0.000	100.0#	0#	-13.74#
55	RRO	0.019	0.000	100.0#	0#	-31.70#

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

`ID3C08BACK082713.M Tue Aug 27 16:47:11 2013

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\
Data File : FID30049I.D
Signal(s) : FID2B.CH
Acq On : 21-Aug-2013, 04:39:31
Operator : Meghan Dailey
Sample : AL-WKICV-25-002
Misc :
ALS Vial : 59 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 16:47:01 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:25:30 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	12.432	336061	50.000	ug/mlm
16) I	5a-androstane	17.415	415475	50.072	ug/mlm
	System Monitoring Compounds				
6) S	n-dodecane-d26	8.214	176437	24.411	ug/mlm
23) S	n-eicosane-d42	16.885	162830	24.851	ug/mlm
34) S	n-triacontane-d62	28.636	155458	25.075	ug/mlm
	Target Compounds				
2)	n-C8	3.187	177092	25.064	ug/mlm
3)	n-C9	4.456	191592	25.800	ug/mlm
4)	n-C10	5.838	200441	25.643	ug/mlm
5)	n-C11	7.172	204937	26.296	ug/mlm
7)	n-C12	8.417	206189	25.609	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	9.577	207276	26.014	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.662	207410	25.432	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.683	210566	25.650	ug/mlm
15)	n-C16	12.670	211893	25.691	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.716	212087	25.563	ug/mlm
19)	Pristane	13.827	209053	25.317	ug/mlm
20)	n-C18	14.839	213142	26.052	ug/mlm
21)	Phytane	14.994	212145	25.435	ug/mlm
22)	n-C19	16.031	214809	26.301	ug/mlm
24)	n-C20	17.272	212532	25.841	ug/mlm
25)	n-C21	18.541	217407	26.161	ug/mlm
26)	n-C22	19.820	216120	25.899	ug/mlm
27)	n-C23	21.088	214696	25.592	ug/mlm
28)	n-C24	22.336	213855	25.544	ug/mlm
29)	n-C25	23.557	197135	23.553	ug/mlm
30)	n-C26	24.746	215976	25.938	ug/mlm
31)	n-C27	25.901	213697	26.517	ug/mlm
32)	n-C28	27.023	212002	26.060	ug/mlm
33)	n-C29	28.111	209014	25.929	ug/mlm
35)	n-C30	29.166	207807	26.051	ug/mlm
36)	n-C31	30.188	200880	25.549	ug/mlm
37)	n-C32	31.181	201716	25.991	ug/mlm
38)	n-C33	32.146	203378	26.743	ug/mlm
39)	n-C34	33.081	211570	27.164	ug/mlm
40)	n-C35	33.997	201818	26.179	ug/mlm

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\
Data File : FID30049I.D
Signal(s) : FID2B.CH
Acq On : 21-Aug-2013, 04:39:31
Operator : Meghan Dailey
Sample : AL-WKICV-25-002
Misc :
ALS Vial : 59 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 16:47:01 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:25:30 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.995	219285	25.803	ug/mlm
42)	n-C37	36.133	204894	26.247	ug/mlm
43)	n-C38	37.452	209315	26.456	ug/mlm
44)	n-C39	38.999	212674	27.801	ug/mlm
45)	n-C40	40.813	200769	27.817	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

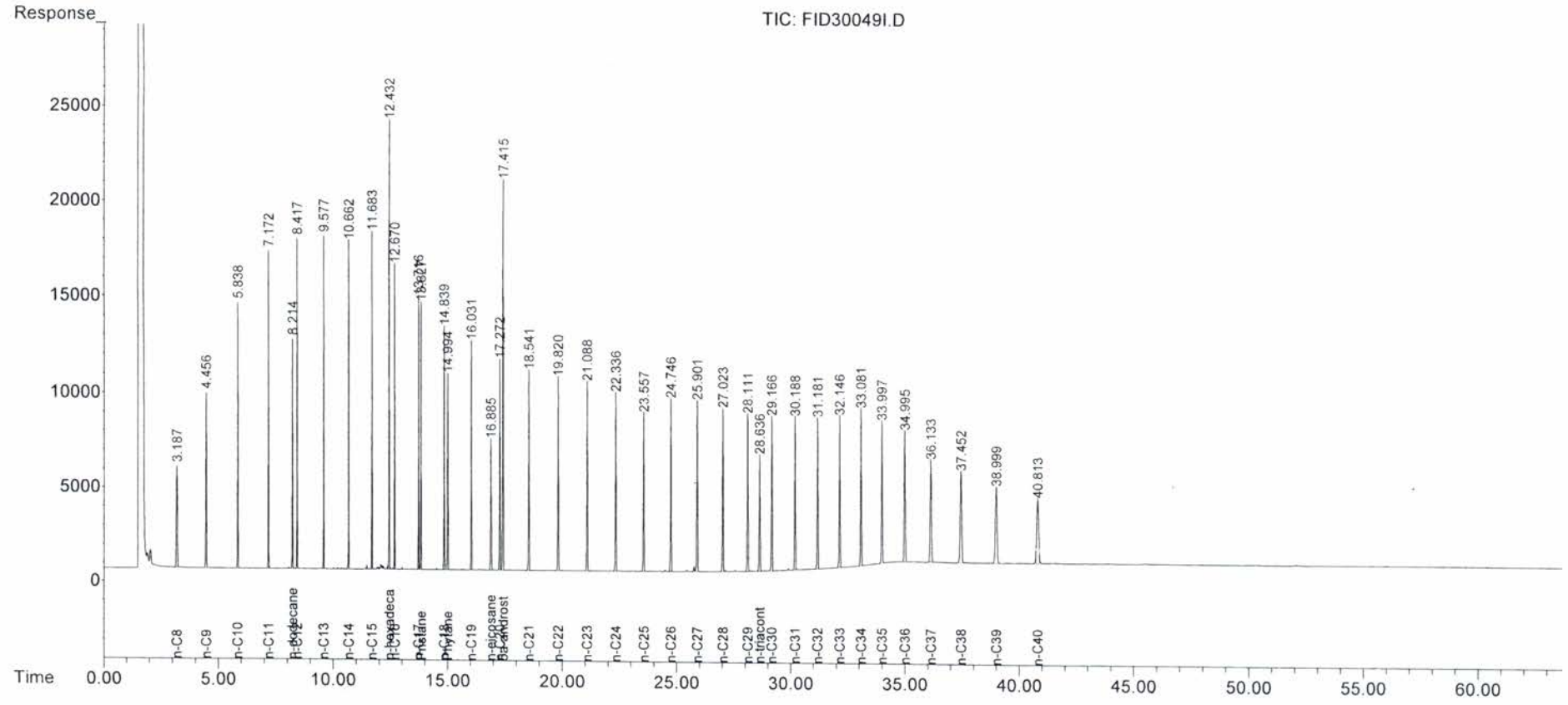
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\
Data File : FID30049I.D
Signal(s) : FID2B.CH
Acq On : 21-Aug-2013, 04:39:31
Operator : Meghan Dailey
Sample : AL-WKICV-25-002
Misc :
ALS Vial : 59 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 16:47:01 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:25:30 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\
Data File : FID30049J.D
Signal(s) : FID2B.CH
Acq On : 21-Aug-2013, 05:49:36
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 16:56:34 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 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	1.051	1.020	2.9	88	0.00
3		n-C9	1.105	1.082	2.1	89	0.00
4		n-C10	1.163	1.152	0.9	91	0.00
5		n-C11	1.160	1.154	0.5	91	0.00
6	S	n-dodecane-d26	1.075	1.061	1.3	91	0.00
7		n-C12	1.198	1.196	0.2	92	0.00
10		n-C13	1.185	1.182	0.3	92	0.00
12		n-C14	1.213	1.210	0.2	92	0.00
14		n-C15	1.221	1.216	0.4	92	0.00
15		n-C16	1.227	1.221	0.5	92	0.00
16	I	5a-androstane	1.000	1.000	0.0	88	-0.01
18		n-C17	1.000	1.045	-4.5	92	0.00
19		Pristane	0.995	1.041	-4.6	92	0.00
20		n-C18	0.986	1.030	-4.5	92	0.00
21		Phytane	1.005	1.050	-4.5	92	0.00
22		n-C19	0.984	1.030	-4.7	92	0.00
23	S	n-eicosane-d42	0.790	0.818	-3.5	92	0.00
24		n-C20	0.991	1.035	-4.4	92	0.00
25		n-C21	1.002	1.046	-4.4	92	0.00
26		n-C22	1.006	1.047	-4.1	92	0.00
27		n-C23	1.011	1.054	-4.3	91	0.00
28		n-C24	1.009	1.054	-4.5	91	0.00
29		n-C25	1.009	1.054	-4.5	91	0.00
30		n-C26	1.004	1.052	-4.8	91	0.00
31		n-C27	0.971	1.019	-4.9	91	0.00
32		n-C28	0.980	1.030	-5.1	91	0.00
33		n-C29	0.971	1.028	-5.9	91	0.00
34	S	n-triacontane-d62	0.747	0.786	-5.2	91	-0.02
35		n-C30	0.961	1.014	-5.5	91	0.00
36		n-C31	0.948	0.997	-5.2	91	0.00
37		n-C32	0.935	0.991	-6.0	91	0.00
38		n-C33	0.917	0.970	-5.8	91	0.00
39		n-C34	0.939	0.989	-5.3	91	0.00
40		n-C35	0.929	0.972	-4.6	90	-0.01
41		n-C36	1.024	1.049	-2.4	89	-0.01
42		n-C37	0.941	0.946	-0.5	87	-0.01
43		n-C38	0.953	0.927	2.7	84	-0.01

44	n-C39	0.922	0.880	5.7	85	0.02
45	n-C40	0.870	0.825	5.2	82	-0.02

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.019	0.000	100.0#	0#	-8.61#
9	i-14	0.019	0.000	100.0#	0#	-9.30#
11	i-15	0.020	0.000	100.0#	0#	-10.45#
13	i-16	0.020	0.000	100.0#	0#	-11.33#
17	i-18	0.020	0.000	100.0#	0#	-13.21#
46	TPH	0.019	0.000	100.0#	0#	-27.90#
47	TRH1	0.019	0.000	100.0#	0#	-7.44#
48	TRH2	0.019	0.000	100.0#	0#	-15.29#
49	TRH3	0.019	0.000	100.0#	0#	-22.45#
50	TRH4	0.019	0.000	100.0#	0#	-27.27#
51	TRH5	0.019	0.000	100.0#	0#	-32.05#
52	TRH6	0.019	0.000	100.0#	0#	-43.06#
53	GRO	0.019	0.000	100.0#	0#	-5.06#
54	DRO	0.019	0.000	100.0#	0#	-13.74#
55	RRO	0.019	0.000	100.0#	0#	-31.70#

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

'ID3C08BACK082713.M Tue Aug 27 16:56:41 2013

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\
Data File : FID30049J.D
Signal(s) : FID2B.CH
Acq On : 21-Aug-2013, 05:49:36
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 16:56:34 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 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	12.432	355585	50.000	ug/mlm
16) I	5a-androstane	17.415	423533	50.072	ug/mlm
	System Monitoring Compounds				
6) S	n-dodecane-d26	8.214	188558	24.656	ug/mlm
23) S	n-eicosane-d42	16.886	174179	26.078	ug/mlm
34) S	n-triacontane-d62	28.633	166383	26.326	ug/mlm
	Target Compounds				
2)	n-C8	3.187	181551	24.285	ug/mlm
3)	n-C9	4.456	192395	24.486	ug/mlm
4)	n-C10	5.839	204853	24.769	ug/mlm
5)	n-C11	7.172	205367	24.904	ug/mlm
7)	n-C12	8.417	208950	24.527	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	9.577	210506	24.969	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.662	213904	24.788	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.683	215178	24.773	ug/mlm
15)	n-C16	12.669	214926	24.628	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.716	218247	25.805	ug/mlm
19)	Pristane	13.827	218154	25.917	ug/mlm
20)	n-C18	14.839	218056	26.145	ug/mlm
21)	Phytane	14.994	221430	26.043	ug/mlm
22)	n-C19	16.031	217585	26.134	ug/mlm
24)	n-C20	17.272	219162	26.140	ug/mlm
25)	n-C21	18.540	219145	25.869	ug/mlm
26)	n-C22	19.818	221682	26.060	ug/mlm
27)	n-C23	21.087	220691	25.806	ug/mlm
28)	n-C24	22.336	220352	25.819	ug/mlm
29)	n-C25	23.557	222055	26.025	ug/mlm
30)	n-C26	24.746	222722	26.239	ug/mlm
31)	n-C27	25.902	215662	26.252	ug/mlm
32)	n-C28	27.022	217710	26.253	ug/mlm
33)	n-C29	28.111	217557	26.476	ug/mlm
35)	n-C30	29.166	213494	26.255	ug/mlm
36)	n-C31	30.188	210976	26.323	ug/mlm
37)	n-C32	31.180	206872	26.149	ug/mlm
38)	n-C33	32.145	205040	26.449	ug/mlm
39)	n-C34	33.080	208645	26.279	ug/mlm
40)	n-C35	33.994	205537	26.155	ug/mlm

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\
Data File : FID30049J.D
Signal(s) : FID2B.CH
Acq On : 21-Aug-2013, 05:49:36
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 16:56:34 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.990	217389	25.093	ug/mlm
42)	n-C37	36.128	200140	25.150	ug/mlm
43)	n-C38	37.452	196270	24.336	ug/mlm
44)	n-C39	38.989	187940	24.100	ug/mlm
45)	n-C40	40.803	174070	23.659	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

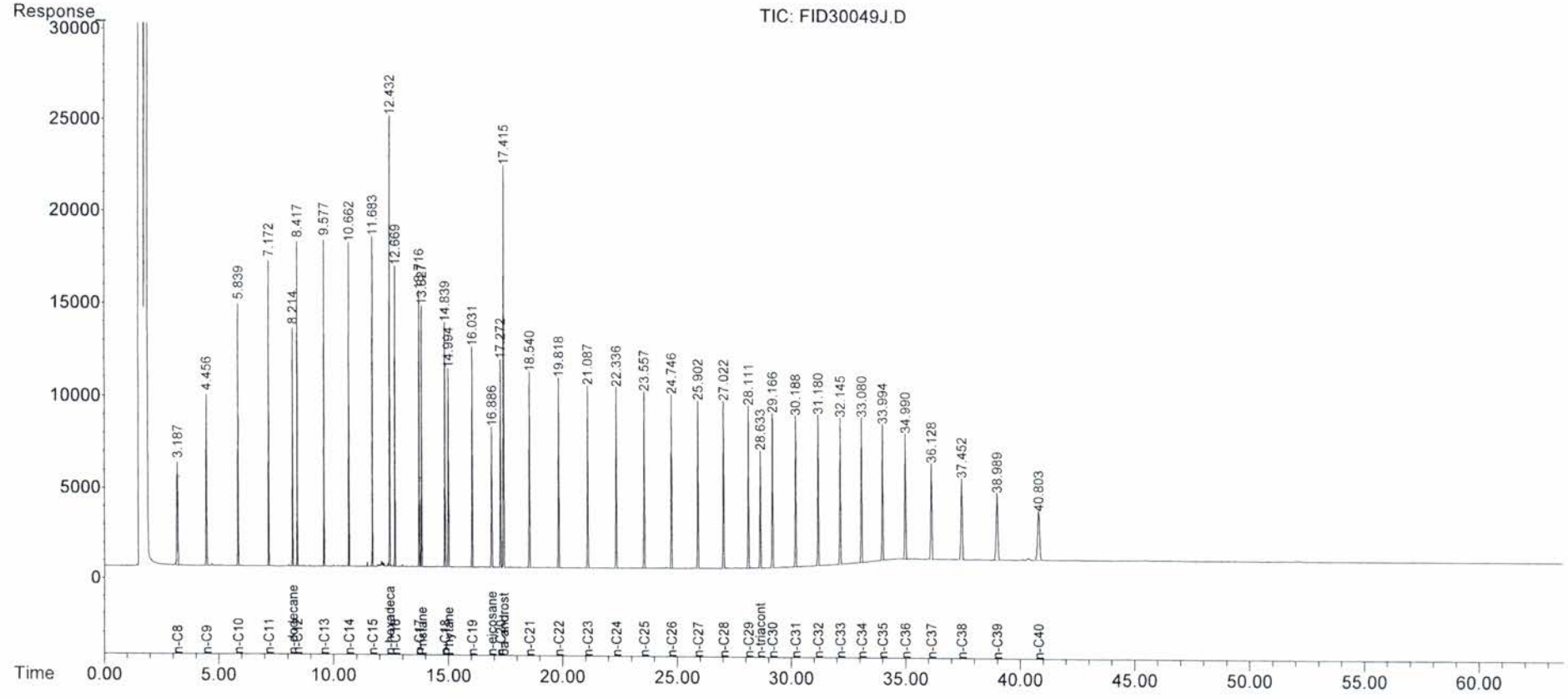
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\
Data File : FID30049J.D
Signal(s) : FID2B.CH
Acq On : 21-Aug-2013, 05:49:36
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 27 16:56:34 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30049\FID3C08BACK082713.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 27 16:35:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Aliphatic Mass Discrimination Ratio

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

File Name	Sample Name	n-C20 (Area)	n-C36 (Area)	n-C36/n-C20 ratio	Q
FID30049C.D	AL-WKC1-1.25-019	10997	10976	1.00	
FID30049D.D	AL-WKC2-10-019	93857	93820	1.00	
FID30049E.D	AL-WKC3-25-019	237942	245202	1.03	
FID30049F.D	AL-WKC4-40-019	343240	348909	1.02	
FID30049G.D	AL-WKC5-50-019	450440	460113	1.02	
FID30049H.D	AL-WKC6-100-001	902613	922025	1.02	
FID30049I.D	AL-WKICV-25-002	212532	219285	1.03	
FID30049J.D	AL-WKCC-25-024	219162	217389	0.99	
FID30053B.D	AL-WKCC-25-024	223961	223831	1.00	
FID30053G.D	AL-WKCC-25-024	218995	218953	1.00	
FID30053H.D	AL-WKCC-25-024	228015	228555	1.00	

Qualifiers (Q): Ratio of n-C36 to n-C20 needs to be > 0.70

Aliphatic Internal Standard Area Data

Arcadis-Mayflower AR
Aliphatic Hydrocarbon and Total Petroleum Hydrocarbon Data
Area of Internal Standards

File Name	Sample Name	Internal Standard 1 n-hexadecane-d34			Internal Standard 2 5α-androstane		
		Response (Area)	50% (Area)	200% (Area)	Response (Area)	50% (Area)	200% (Area)
FID30049E.D	**AL-WKC3-25-019**	**386944**	**193472**	**773888**	**481194**	**240597**	**962388**
FID30049I.D	**AL-WKICV-25-002**	**336061**	**168031**	**672122**	**415475**	**207738**	**830950**
FID30049J.D	**AL-WKCC-25-024**	**355585**	**177793**	**711170**	**423533**	**211767**	**847066**
FID30053B.D	**AL-WKCC-25-024**	**365422**	**182711**	**730844**	**453773**	**226887**	**907546**
FID30053C.D	AL-SRM2779-20-01	343286			507236		
FID30053F.D	AL-WKPem-001	419193			522491		
ENV3095A.D	Procedural Blank	314862			395307		
ENV3095C.D	MS (SED-DA-048 (0-0.5))	266211			435702		
ENV3095D.D	MSD (SED-DA-048 (0-0.5))	299862			422761		
ENV3095E.D	Dupl (SED-DA-047 (0-0.5))	316051			417825		
FID30053G.D	**AL-WKCC-25-024**	**358395**	**179198**	**716790**	**443935**	**221968**	**887870**
ARC1807.D	SED-DA-047 (0-0.5)	357061			436880		
ARC1810.D	SED-DA-048 (0-0.5)	322125			474190		
ARC1815.D	SED-DA-DUP-07-081213	278504			430894		
FID30053H.D	**AL-WKCC-25-024**	**374114**	**187057**	**748228**	**462087**	**231044**	**924174**

Polycyclic Aromatic Hydrocarbon
Initial Calibration Data
and
Initial Calibration Verification Data

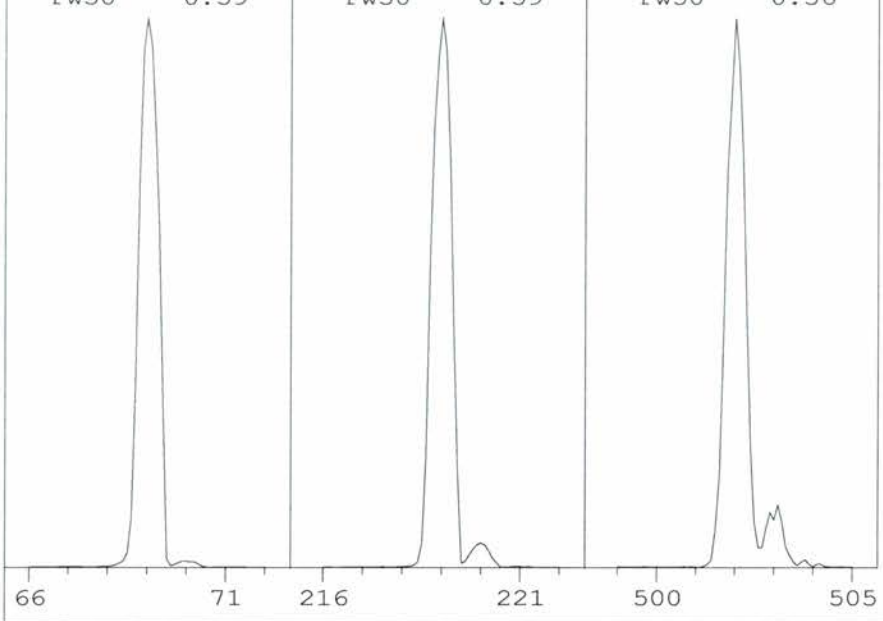
PAH ICAL
AR 70063.M

GC/MS 7
(PAH-2012)

Autotune

Wed Sep 04 15:51:42 2013 Instrument: GCMSD
C:\MSDCHEM\1\5973N\atune.u US21854533

Mass	69.00	Mass	219.00	Mass	502.00
Ab	453882	Ab	351981	Ab	18290
Pw50	0.59	Pw50	0.59	Pw50	0.56

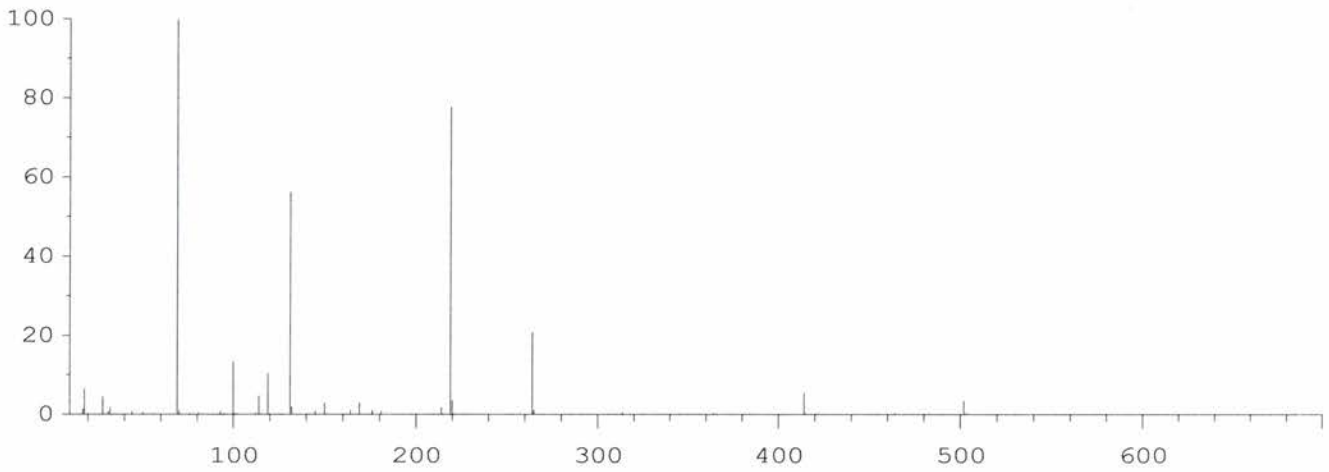


Ion Pol	Pos	MassGain	421
		MassOffs	-9
Emission	34.6	AmuGain	2311
EIEnrgy	69.9	AmuOffs	130
Filament	1	Wid219	0.003
		DC Pol	Neg
Repeller	20.07		
IonFcus	77.8	HEDEnab	On
EntLens	16.5	EMVolts	2424
EntOffs	17.07		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	290	Turbo Speed	100
MS Quad	180		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
166 peaks Base: 69.00 Abundance: 407232



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	407232	100.00	70.00	4558	1.12
219.00	316288	77.67	220.00	14973	4.73
502.00	14461	3.55	503.00	1560	10.79

Air/Water Check: H20~6.65% N2~4.59% O2~1.86% CO2~0.89% N2/H2O~69.05%

Column(1) Flow: 1.38 Column(2): 0 ml/min. Interface Temp: 290

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502; EM Gain 405506
Repeller Maximum 35 volts using ion 219; Gain Factor 4.06

MassGain Values(Samples): 421(3) 420(2) 420(1) 420(0) 421(FS)

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	130.0	130.0	130.0	130.0	130.0	130.0	130.0
Entrance Lens Offset:	17.1	17.1	17.1	17.1	17.1	17.1	17.1

MS70063

Method Path : C:\GCMS7\MS70063\
Method File : AR70063.M
Title : PAH Calibration Table-2013A
Last Update : Thu Sep 12 16:14:12 2013
Response Via : Initial Calibration

Calibration Files
1 =MS70063B.D 2 =MS70063C.D 3 =MS70063D.D 4 =MS70063E.D 5 =MS70063F.D
6 =MS70063G.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	Fluorene-d10	ISTD							
2)	S	Naphthalene-d8	1.912	1.623	1.527	1.602	1.616	1.643	1.654	8.02
3)	T	cis/trans Decalin	0.318	0.283	0.263	0.268	0.270	0.266	0.278	7.43
4)	un	C1-Decalins	0.318	0.283	0.263	0.268	0.270	0.266	0.278	7.43
5)	un	C2-Decalins	0.318	0.283	0.263	0.268	0.270	0.266	0.278	7.43
6)	un	C3-Decalins	0.318	0.283	0.263	0.268	0.270	0.266	0.278	7.43
7)	un	C4-Decalins	0.318	0.283	0.263	0.268	0.270	0.266	0.278	7.43
8)	T	Naphthalene	1.996	1.652	1.560	1.616	1.659	1.718	1.700	9.06
9)	T	2-Methylnaphth...	1.261	1.133	1.059	1.113	1.136	1.156	1.143	5.84
10)	T	1-Methylnaphth...	1.282	1.071	0.995	1.032	1.038	1.053	1.078	9.53
11)	T	2,6-Dimethylna...	1.143	0.990	0.941	0.989	1.021	1.042	1.021	6.75
12)	T	1,6,7-Trimethy...	1.134	0.936	0.869	0.901	0.915	0.955	0.952	9.91
13)	un	C2-Naphthalenes	1.996	1.652	1.560	1.616	1.659	1.718	1.700	9.06
14)	un	C3-Naphthalenes	1.996	1.652	1.560	1.616	1.659	1.718	1.700	9.06
15)	un	C4-Naphthalenes	1.996	1.652	1.560	1.616	1.659	1.718	1.700	9.06
16)	T	Benzothiophene	1.571	1.300	1.210	1.274	1.293	1.338	1.331	9.38
17)	un	C1-Benzothioph...	1.571	1.300	1.210	1.274	1.293	1.338	1.331	9.38
18)	un	C2-Benzothioph...	1.571	1.300	1.210	1.274	1.293	1.338	1.331	9.38
19)	un	C3-Benzothioph...	1.571	1.300	1.210	1.274	1.293	1.338	1.331	9.38
20)	un	C4-Benzothioph...	1.571	1.300	1.210	1.274	1.293	1.338	1.331	9.38
21)	S	Acenaphthene-d10	1.126	0.944	0.890	0.921	0.931	0.951	0.961	8.73
22)	T	Biphenyl	1.673	1.414	1.338	1.403	1.443	1.491	1.460	7.91
23)	T	Acenaphthylene	2.037	1.657	1.544	1.627	1.682	1.791	1.723	10.06
24)	T	Acenaphthene	1.222	1.002	0.940	0.967	0.983	1.020	1.022	9.95
25)	T	Dibenzofuran	1.831	1.581	1.484	1.557	1.646	1.663	1.627	7.30
26)	T	Fluorene	1.503	1.269	1.180	1.224	1.264	1.269	1.285	8.74
27)	T	1-Methylfluorene	1.077	0.858	0.816	0.861	0.875	0.901	0.898	10.24
28)	un	C1-Fluorenes	1.503	1.269	1.180	1.224	1.264	1.269	1.285	8.74
29)	un	C2-Fluorenes	1.503	1.269	1.180	1.224	1.264	1.269	1.285	8.74
30)	un	C3-Fluorenes	1.503	1.269	1.180	1.224	1.264	1.269	1.285	8.74
31)	I	Pyrene-d10	ISTD							
32)	S	Phenanthrene-d10	1.192	0.981	0.917	0.913	0.954	1.051	1.001	10.61
33)	T	Carbazole	1.188	0.971	0.914	0.913	0.965	1.130	1.013	11.54
34)	T	Dibenzothiophene	1.229	1.002	0.930	0.928	0.959	1.071	1.020	11.31
35)	T	4-Methyldibenz...	0.946	0.813	0.774	0.807	0.860	0.837	0.840	7.13
36)	un	2/3-Methyldibe...	0.946	0.813	0.774	0.807	0.860	0.837	0.840	7.13
37)	un	1-Methyldibenz...	0.946	0.813	0.774	0.807	0.860	0.837	0.840	7.13
38)	un	C2-Dibenzothio...	1.229	1.002	0.930	0.928	0.959	1.071	1.020	11.31
39)	un	C3-Dibenzothio...	1.229	1.002	0.930	0.928	0.959	1.071	1.020	11.31
40)	un	C4-Dibenzothio...	1.229	1.002	0.930	0.928	0.959	1.071	1.020	11.31
41)	T	Phenanthrene	1.386	1.230	1.166	1.155	1.260	1.206	1.234	6.82
42)	T	Anthracene	1.233	1.133	1.097	1.125	1.202	1.195	1.164	4.56
43)	un	3-Methylphenan...	0.924	0.772	0.717	0.758	0.800	0.784	0.792	8.89
44)	un	2-Methylphenan...	0.924	0.772	0.717	0.758	0.800	0.784	0.792	8.89
45)	un	2-Methylanthra...	0.924	0.772	0.717	0.758	0.800	0.784	0.792	8.89
46)	un	4/9-Methylphen...	0.924	0.772	0.717	0.758	0.800	0.784	0.792	8.89
47)	T	1-Methylphenan...	0.924	0.772	0.717	0.758	0.800	0.784	0.792	8.89
48)	T	3,6-Dimethylph...	0.813	0.649	0.603	0.616	0.650	0.709	0.673	11.53
49)	T	Retene	0.436	0.334	0.312	0.316	0.327	0.374	0.350	13.68
50)	un	C2-Phenanthren...	1.386	1.230	1.166	1.155	1.260	1.206	1.234	6.82
51)	un	C3-Phenanthren...	1.386	1.230	1.166	1.155	1.260	1.206	1.234	6.82
52)	un	C4-Phenanthren...	1.386	1.230	1.166	1.155	1.260	1.206	1.234	6.82
53)	T	Naphthobenzoth...	1.346	1.050	0.951	0.949	0.991	1.136	1.071	14.22

Method Path : C:\GCMS7\MS70063\
Method File : AR70063.M
Title : PAH Calibration Table-2013A

54)	un	C1-Naphthobenz...	1.346	1.050	0.951	0.949	0.991	1.136	1.071	14.22
55)	un	C2-Naphthobenz...	1.346	1.050	0.951	0.949	0.991	1.136	1.071	14.22
56)	un	C3-Naphthobenz...	1.346	1.050	0.951	0.949	0.991	1.136	1.071	14.22
57)	un	C4-Naphthobenz...	1.346	1.050	0.951	0.949	0.991	1.136	1.071	14.22
58)	T	Fluoranthene	1.356	1.093	1.027	1.051	1.108	1.177	1.135	10.57
59)	T	Pyrene	1.849	1.466	1.366	1.389	1.460	1.220	1.458	14.48
60)	T	2-Methylfluora...	1.088	0.883	0.821	0.789	0.880	0.968	0.905	12.02
61)	T	Benzo(b)fluorene	0.941	0.749	0.694	0.695	0.741	0.885	0.784	13.26
62)	un	C1-Fluoranthen...	1.356	1.093	1.027	1.051	1.108	1.177	1.135	10.57
63)	un	C2-Fluoranthen...	1.356	1.093	1.027	1.051	1.108	1.177	1.135	10.57
64)	un	C3-Fluoranthen...	1.356	1.093	1.027	1.051	1.108	1.177	1.135	10.57
65)	un	C4-Fluoranthen...	1.356	1.093	1.027	1.051	1.108	1.177	1.135	10.57
66)	S	Chrysene-d12	1.248	0.974	0.902	0.896	0.950	1.247	1.036	16.06
67)	T	Benz(a)anthracene	1.251	1.003	0.903	0.931	0.976	1.186	1.042	13.72
68)	T	Chrysene/Triph...	1.511	1.219	1.117	1.109	1.175	1.277	1.235	12.09
69)	un	C1-Chrysenes	1.511	1.219	1.117	1.109	1.175	1.277	1.235	12.09
70)	un	C2-Chrysenes	1.511	1.219	1.117	1.109	1.175	1.277	1.235	12.09
71)	un	C3-Chrysenes	1.511	1.219	1.117	1.109	1.175	1.277	1.235	12.09
72)	un	C4-Chrysenes	1.511	1.219	1.117	1.109	1.175	1.277	1.235	12.09
73)	I	Benzo(a)pyrene-d12	----------ISTD----------							
74)	un	C29-Hopane	0.471	0.397	0.366	0.394	0.381	0.390	0.400	9.14
75)	un	18a-Oleanane	0.471	0.397	0.366	0.394	0.381	0.390	0.400	9.14
76)	T	C30-Hopane	0.471	0.397	0.366	0.394	0.381	0.390	0.400	9.14
77)	T	Benzo(b)fluora...	1.607	1.356	1.249	1.362	1.364	1.324	1.377	8.77
78)	T	Benzo(k,j)fluo...	1.288	1.028	0.963	0.948	1.012	1.199	1.073	12.88
79)	un	Benzo(a)fluora...	1.288	1.028	0.963	0.948	1.012	1.199	1.073	12.88
80)	T	Benzo(e)pyrene	1.487	1.237	1.117	1.196	1.200	1.263	1.250	10.11
81)	T	Benzo(a)pyrene	1.509	1.303	1.208	1.294	1.325	1.240	1.313	8.02
82)	T	Indeno(1,2,3-c...	1.374	1.304	1.033	1.088	1.085	1.081	1.161	12.15
83)	T	Dibenzo(a,h)an...	1.181	0.990	0.939	1.001	1.008	0.983	1.017	8.25
84)	un	C1-Dibenzo(a,h...	1.181	0.990	0.939	1.001	1.008	0.983	1.017	8.25
85)	un	C2-Dibenzo(a,h...	1.181	0.990	0.939	1.001	1.008	0.983	1.017	8.25
86)	un	C3-Dibenzo(a,h...	1.181	0.990	0.939	1.001	1.008	0.983	1.017	8.25
87)	T	Benzo(g,h,i)pe...	1.321	1.106	1.033	1.087	1.006	0.971	1.087	11.49
88)	S	Perylene-d12	1.307	1.058	0.977	1.020	1.043	1.144	1.092	10.89
89)	T	Perylene	1.600	1.308	1.202	1.300	1.320	1.231	1.327	10.69
90)	S	5(b)H-Cholane	0.311	0.249	0.228	0.232	0.235	0.254	0.251	12.29
91)	un	C20-TAS	1.919	1.502	1.374	1.437	1.454	1.408	1.516	13.34
92)	un	C21-TAS	1.919	1.502	1.374	1.437	1.454	1.408	1.516	13.34
93)	un	C26(20S)-TAS	1.919	1.502	1.374	1.437	1.454	1.408	1.516	13.34
94)	T	C26(20R)/C27(2...	1.919	1.502	1.374	1.437	1.454	1.408	1.516	13.34
95)	un	C28(20S)-TAS	1.919	1.502	1.374	1.437	1.454	1.408	1.516	13.34
96)	un	C27(20R)-TAS	1.919	1.502	1.374	1.437	1.454	1.408	1.516	13.34
97)	un	C28(20R)-TAS	1.919	1.502	1.374	1.437	1.454	1.408	1.516	13.34

(#) = Out of Range

Data Path : C:\GCMS7\MS70063\
Data File : MS70063B.D
Acq On : 4 Sep 2013 8:41 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 15:48:49 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 12:33:15 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.343	176	484746m	251.05		0.00
31) Pyrene-d10	29.531	212	883023m	250.63		0.00
73) Benzo(a)pyrene-d12	38.270	264	930439m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.738	136	73885m	23.37		0.03
21) Acenaphthene-d10	19.560	164	43522m	23.44		0.00
32) Phenanthrene-d10	24.648	188	84062m	23.44		0.00
66) Chrysene-d12	33.731	240	87975m	23.85		0.00
88) Perylene-d12	38.580	264	97157m	23.95		0.00
90) 5(b)H-Cholane	34.119	217	23140m	24.79		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.092	138	12139m	22.48		
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	77090m	23.52		
9) 2-Methylnaphthalene	16.023	142	48763m	22.04		
10) 1-Methylnaphthalene	16.357	142	49449m	23.97		
11) 2,6-Dimethylnaphthalene	18.140	156	44152m	22.34		
12) 1,6,7-Trimethylnaphtha...	20.981	170	43809m	23.85		
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.	d	
16) Benzothiophene	13.961	134	60317m	23.58		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.610	154	64012m	22.75		
23) Acenaphthylene	19.087	152	78025m	23.60		
24) Acenaphthene	19.672	154	47289m	23.98		
25) Dibenzofuran	20.285	168	70343m	22.03		
26) Fluorene	21.455	166	58146m	23.46		
27) 1-Methylfluorene	23.402	180	41898m	24.32		
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	25.479	167	82982m	22.92		
34) Dibenzothiophene	24.302	184	85356m	23.31		
35) 4-Methyldibenzothiophene	25.791	198	67237m	22.31		
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	24.718	178	96782m	21.71		
42) Anthracene	24.891	178	87122m	20.73		

Data Path : C:\GCMS7\MS70063\
Data File : MS70063B.D
Acq On : 4 Sep 2013 8:41 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 15:48:49 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 12:33:15 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	26.830	192	64410m	22.83		
48) 3,6-Dimethylphenanthrene	27.938	206	57320m	23.79		
49) Retene	30.604	234	27478m	22.10		
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	32.877	234	95439m	24.98		
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.838	202	95672m	23.48		
59) Pyrene	29.600	202	130302m	25.09		
60) 2-Methylfluoranthene	30.362	216	77200m	23.64		
61) Benzo(b)fluorene	30.985	216	66935m	23.73		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.692	228	88000m	23.71		
68) Chrysene/Triphenylene	33.809	228	105815m	24.10		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.599	191	35007m	23.28		
77) Benzo(b)fluoranthene	37.222	252	119665m	23.35		
78) Benzo(k,j)fluoranthene	37.300	252	95353m	23.49		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.154	252	110136m	23.68		
81) Benzo(a)pyrene	38.348	252	111958m	22.55		
82) Indeno(1,2,3-c,d)pyrene	43.004	276	100372m	23.79		
83) Dibenzo(a,h)anthracene	43.078	278	86976m	23.10		
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	44.368	276	97301m	25.98		
89) Perylene	38.658	252	119082m	23.93		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.279	231	142665m	25.44		
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:\GCMS7\MS70063\
Data File : MS70063B.D
Acq On : 4 Sep 2013 8:41 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 15:48:49 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 12:33:15 2013
Response via : Initial Calibration

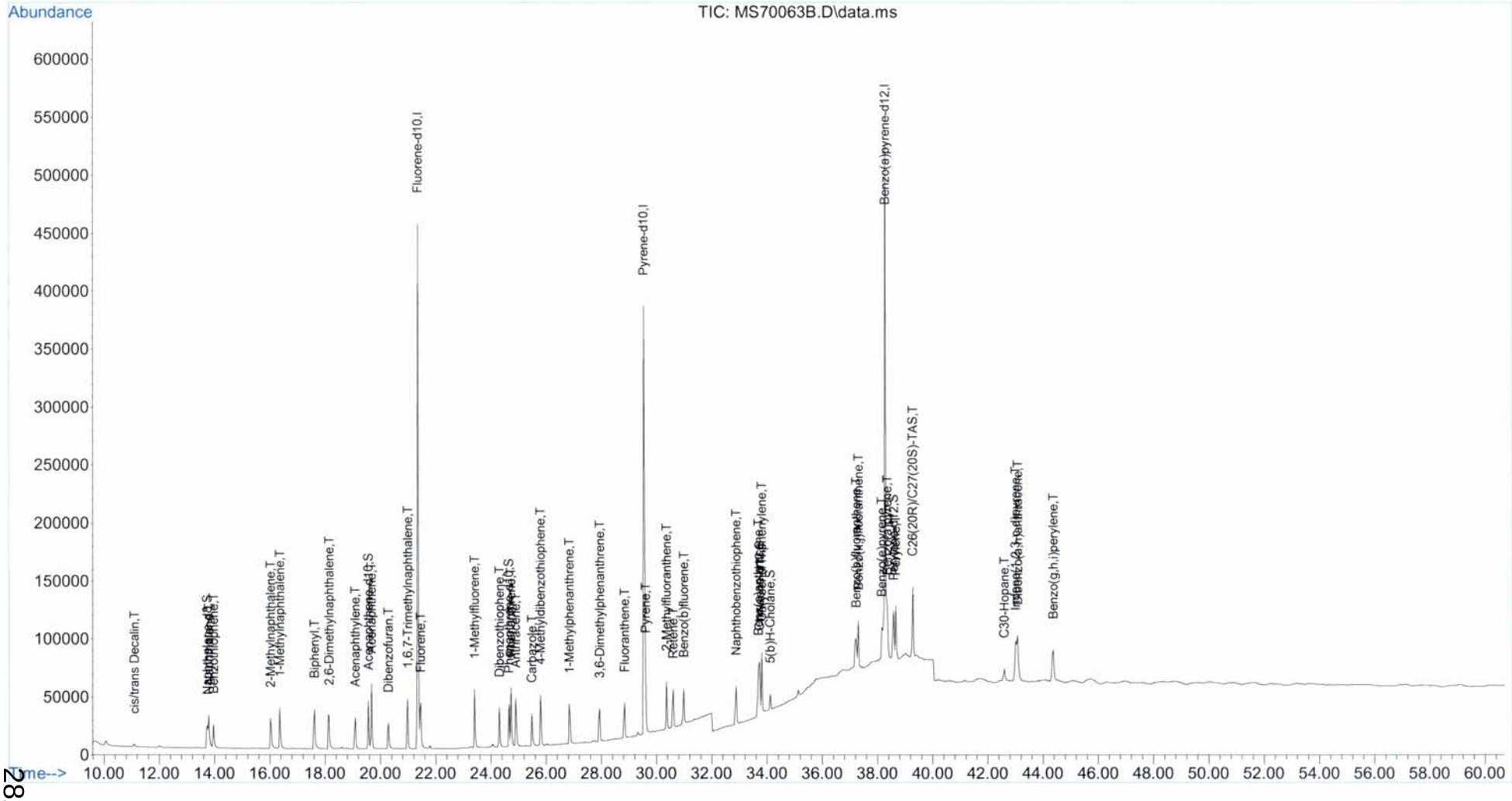
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70063\
Data File : MS70063B.D
Acq On : 4 Sep 2013 8:41 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 15:48:49 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 12:33:15 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70063\
Data File : MS70063C.D
Acq On : 4 Sep 2013 9:49 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 15:55:32 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 15:49:28 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.343	176	516046m	251.05		0.00
31) Pyrene-d10	29.531	212	929619m	250.63		0.00
73) Benzo(a)pyrene-d12	38.270	264	964908m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.711	136	333712m	98.37		-0.03
21) Acenaphthene-d10	19.561	164	194255m	98.50		0.00
32) Phenanthrene-d10	24.648	188	364137m	97.02		0.00
66) Chrysene-d12	33.731	240	361290m	93.09		0.00
88) Perylene-d12	38.580	264	407938m	96.83		0.00
90) 5(b)H-Cholane	34.119	217	95831m	98.90		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.064	138	57585m	100.97		
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	13.794	128	339638m	96.98		
9) 2-Methylnaphthalene	16.023	142	233034m	99.20		
10) 1-Methylnaphthalene	16.357	142	219973m	99.72		
11) 2,6-Dimethylnaphthalene	18.112	156	203485m	96.76		
12) 1,6,7-Trimethylnaphtha...	20.981	170	192326m	98.38		
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.		
16) Benzothiophene	13.961	134	265654m	97.23		
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	288106m	95.82		
23) Acenaphthylene	19.087	152	337837m	95.38		
24) Acenaphthene	19.672	154	206283m	98.19		
25) Dibenzofuran	20.257	168	323405m	95.48		
26) Fluorene	21.427	166	261370m	98.85		
27) 1-Methylfluorene	23.402	180	177720m	96.27		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.		
33) Carbazole	25.479	167	356905m	93.90		
34) Dibenzothiophene	24.302	184	366484m	95.87		
35) 4-Methyldibenzothiophene	25.791	198	304100m	96.31		
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.		
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.718	178	452177m	97.13		
42) Anthracene	24.891	178	421659m	96.28		

Data Path : C:\GCMS7\MS70063\
Data File : MS70063C.D
Acq On : 4 Sep 2013 9:49 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 15:55:32 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 15:49:28 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D.	d	
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	26.830	192	283051m	95.26		
48) 3,6-Dimethylphenanthrene	27.938	206	240828m	95.36		
49) Retene	30.604	234	110754m	84.53		
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	32.878	234	392000m	97.89		
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.838	202	405671m	95.13		
59) Pyrene	29.600	202	543892m	99.43		
60) 2-Methylfluoranthene	30.362	216	329675m	96.50		
61) Benzo(b)fluorene	30.985	216	280160m	94.93		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.692	228	371244m	95.14		
68) Chrysene/Triphenylene	33.809	228	449305m	97.14		
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	42.599	191	153141m	99.54		
77) Benzo(b)fluoranthene	37.184	252	523776m	98.64		
78) Benzo(k,j)fluoranthene	37.300	252	394693m	94.45		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.154	252	474814m	98.04		
81) Benzo(a)pyrene	38.348	252	501241m	97.90		
82) Indeno(1,2,3-c,d)pyrene	43.004	276	493947m	110.04		
83) Dibenzo(a,h)anthracene	43.078	278	378060m	96.68		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.332	276	422567m	106.15		
89) Perylene	38.658	252	504807m	97.87		
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	39.279	231	578798m	99.00		
95) C28(20S)-TAS	0.000		0	N.D.		
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70063\
Data File : MS70063C.D
Acq On : 4 Sep 2013 9:49 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 15:55:32 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 15:49:28 2013
Response via : Initial Calibration

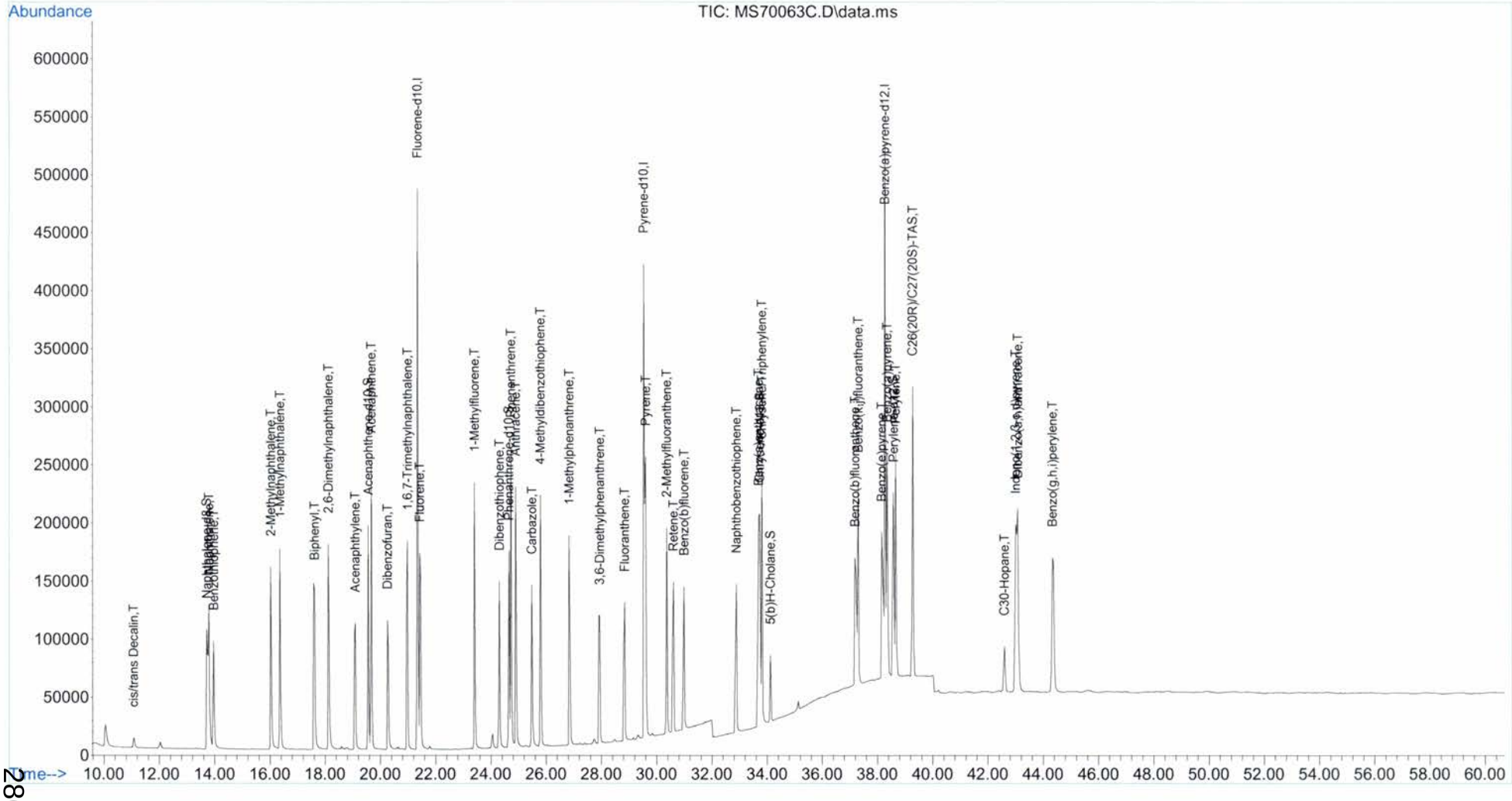
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70063\
Data File : MS70063C.D
Acq On : 4 Sep 2013 9:49 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 15:55:32 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 15:49:28 2013
Response via : Initial Calibration



Data Path : C:\GCMS7\MS70063\
Data File : MS70063D.D
Acq On : 4 Sep 2013 10:58 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 16:04:41 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 15:55:38 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.343	176	491440m	251.05		0.00
31) Pyrene-d10	29.531	212	877289m	250.63		0.00
73) Benzo(a)pyrene-d12	38.270	264	905849m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.711	136	747771m	231.17		0.00
21) Acenaphthene-d10	19.561	164	436003m	232.00		0.00
32) Phenanthrene-d10	24.648	188	802747m	227.42		0.00
66) Chrysene-d12	33.731	240	789349m	216.09		0.00
88) Perylene-d12	38.580	264	884068m	223.68		0.00
90) 5(b)H-Cholane	34.119	217	206355m	226.82		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.064	138	127411m	234.18		
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	13.794	128	763497m	229.25		
9) 2-Methylnaphthalene	16.023	142	518998m	231.52		
10) 1-Methylnaphthalene	16.357	142	486265m	230.86		
11) 2,6-Dimethylnaphthalene	18.112	156	460641m	230.04		
12) 1,6,7-Trimethylnaphtha...	20.981	170	425084m	228.16		
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.		
16) Benzothiophene	13.961	134	588839m	225.93		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.583	154	648917m	226.57		
23) Acenaphthylene	19.059	152	749765m	221.83		
24) Acenaphthene	19.672	154	461094m	230.54		
25) Dibenzofuran	20.257	168	722596m	224.63		
26) Fluorene	21.427	166	578693m	229.53		
27) 1-Methylfluorene	23.402	180	402267m	228.97		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.479	167	792272m	221.63		
34) Dibenzothiophene	24.302	184	802810m	223.31		
35) 4-Methyldibenzothiophene	25.791	198	682895m	230.21		
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.		
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.718	178	1011550m	231.03		
42) Anthracene	24.891	178	963112m	234.09		

Data Path : C:\GCMS7\MS70063\
Data File : MS70063D.D
Acq On : 4 Sep 2013 10:58 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 16:04:41 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 15:55:38 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	26.830	192	620628m	222.32		
48)	3,6-Dimethylphenanthrene	27.938	206	528133m	222.56		
49)	Retene	30.604	234	243888m	197.92		
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51)	C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52)	C4-Phenanthrenes/Anthr...	0.000		0	N.D.		
53)	Naphthobenzothiophene	32.877	234	837345m	221.98		
54)	C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55)	C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56)	C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57)	C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58)	Fluoranthene	28.838	202	899734m	224.72		
59)	Pyrene	29.600	202	1195782m	232.46		
60)	2-Methylfluoranthene	30.362	216	723489m	225.19		
61)	Benzo(b)fluorene	30.985	216	613196m	221.32		
62)	C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63)	C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64)	C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65)	C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67)	Benz(a)anthracene	33.692	228	788611m	214.90		
68)	Chrysene/Triphenylene	33.809	228	972031m	223.47		
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	42.599	191	330857m	229.60		
77)	Benzo(b)fluoranthene	37.184	252	1131833m	227.13		
78)	Benzo(k,j)fluoranthene	37.300	252	868038m	222.48		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.154	252	1006244m	221.89		
81)	Benzo(a)pyrene	38.348	252	1090563m	228.36		
82)	Indeno(1,2,3-c,d)pyrene	43.004	276	918534m	214.82		
83)	Dibenzo(a,h)anthracene	43.078	278	841427m	228.49		
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87)	Benzo(g,h,i)perylene	44.331	276	925966m	243.46		
89)	Perylene	38.658	252	1088851m	226.32		
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	39.279	231	1243392m	226.64		
95)	C28(20S)-TAS	0.000		0	N.D.	d	
96)	C27(20R)-TAS	0.000		0	N.D.	d	
97)	C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70063\
Data File : MS70063D.D
Acq On : 4 Sep 2013 10:58 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 16:04:41 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 15:55:38 2013
Response via : Initial Calibration

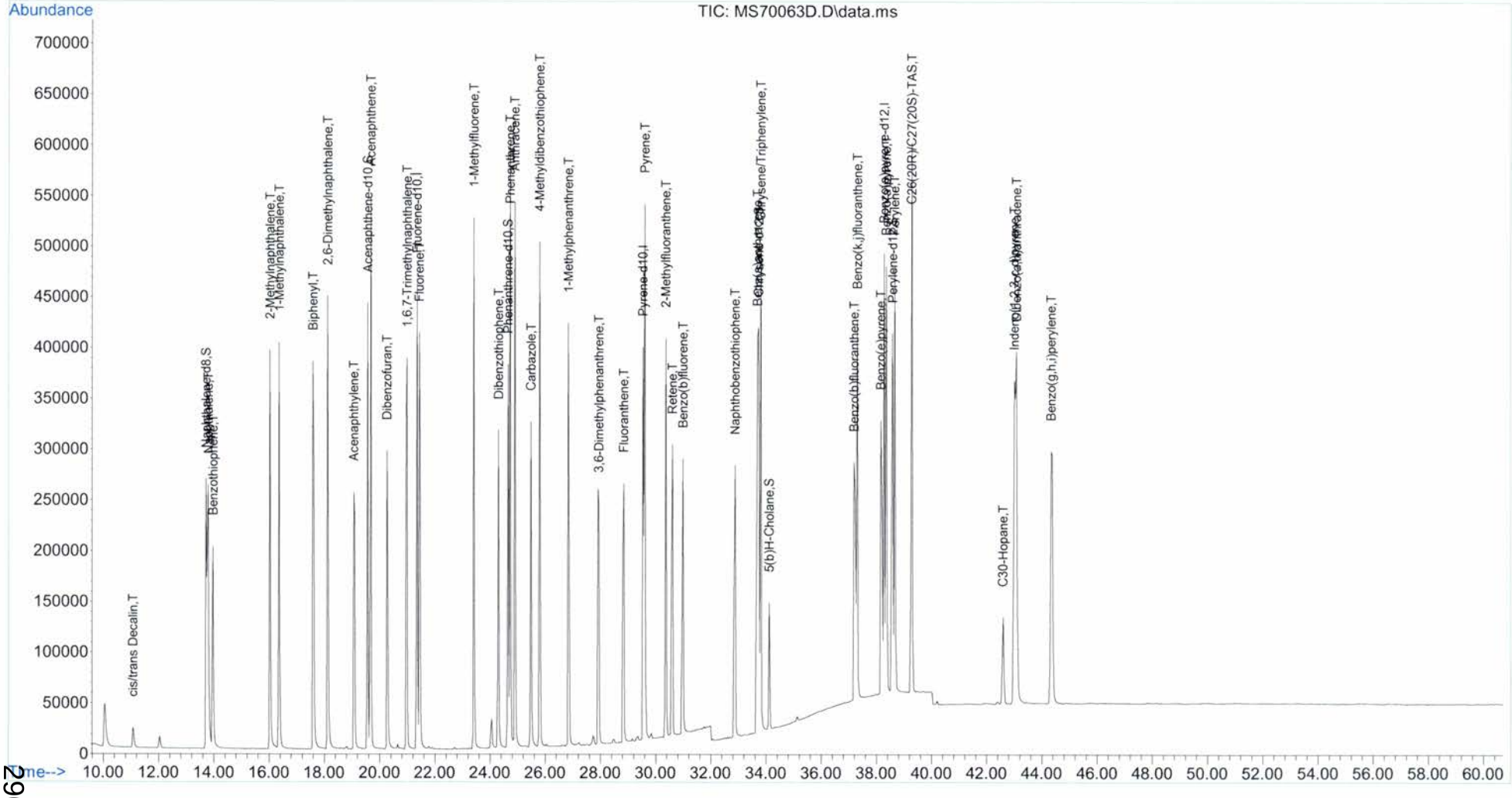
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70063\
Data File : MS70063D.D
Acq On : 4 Sep 2013 10:58 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 16:04:41 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 15:55:38 2013
Response via : Initial Calibration



Data Path : C:\GCMS7\MS70063\
Data File : MS70063E.D
Acq On : 5 Sep 2013 12:07 am
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 12 16:12:57 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:04:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.343	176	493138m	251.05		0.00
31) Pyrene-d10	29.531	212	892860m	250.63		0.00
73) Benzo(a)pyrene-d12	38.270	264	888530m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.711	136	1574289m	484.84		0.00
21) Acenaphthene-d10	19.561	164	904807m	479.78		0.00
32) Phenanthrene-d10	24.648	188	1628133m	454.44		0.00
66) Chrysene-d12	33.731	240	1596862m	430.97		0.00
88) Perylene-d12	38.580	264	1811048m	467.23		0.00
90) 5(b)H-Cholane	34.119	217	412331m	461.84		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.064	138	260640m	476.75		
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	1587556m	474.92		
9) 2-Methylnaphthalene	16.023	142	1093970m	486.95		
10) 1-Methylnaphthalene	16.357	142	1012839m	478.81		
11) 2,6-Dimethylnaphthalene	18.112	156	970916m	483.64		
12) 1,6,7-Trimethylnaphtha...	20.981	170	885139m	473.55		
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.		
16) Benzothiophene	13.961	134	1243816m	475.90		
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	1365273m	475.09		
23) Acenaphthylene	19.059	152	1585057m	468.23		
24) Acenaphthene	19.672	154	951734m	473.99		
25) Dibenzofuran	20.257	168	1521994m	473.95		
26) Fluorene	21.427	166	1204612m	476.51		
27) 1-Methylfluorene	23.402	180	851715m	482.94		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.479	167	1612209m	444.31		
34) Dibenzothiophene	24.302	184	1630011m	446.59		
35) 4-Methyldibenzothiophene	25.791	198	1448875m	481.56		
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.		
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.718	178	2038185m	458.67		
42) Anthracene	24.891	178	2009764m	481.16		

Data Path : C:\GCMS7\MS70063\
Data File : MS70063E.D
Acq On : 5 Sep 2013 12:07 am
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 12 16:12:57 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:04:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D.	d	
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	26.830	192	1334780m	470.99		
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	32.878	234	1701475m	444.06		
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.838	202	1874105m	461.14		
59) Pyrene	29.600	202	2473762m	474.01		
60) 2-Methylfluoranthene	30.362	216	1414706m	433.99		
61) Benzo(b)fluorene	30.985	216	1248939m	444.61		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.692	228	1655816m	444.49		
68) Chrysene/Triphenylene	33.809	228	1963336m	444.69		
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	42.599	191	699602m	495.30		
77) Benzo(b)fluoranthene	37.184	252	2422810m	495.66		
78) Benzo(k,j)fluoranthene	37.300	252	1675757m	438.42		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.154	252	2114960m	476.72		
81) Benzo(a)pyrene	38.348	252	2291421m	490.58		
82) Indeno(1,2,3-c,d)pyrene	43.004	276	1898837m	459.29		
83) Dibenzo(a,h)anthracene	43.078	278	1761314m	485.41		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.332	276	1911307m	506.22		
89) Perylene	38.658	252	2308840m	490.92		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.279	231	2550616m	474.08		
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70063\
Data File : MS70063E.D
Acq On : 5 Sep 2013 12:07 am
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 12 16:12:57 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:04:49 2013
Response via : Initial Calibration

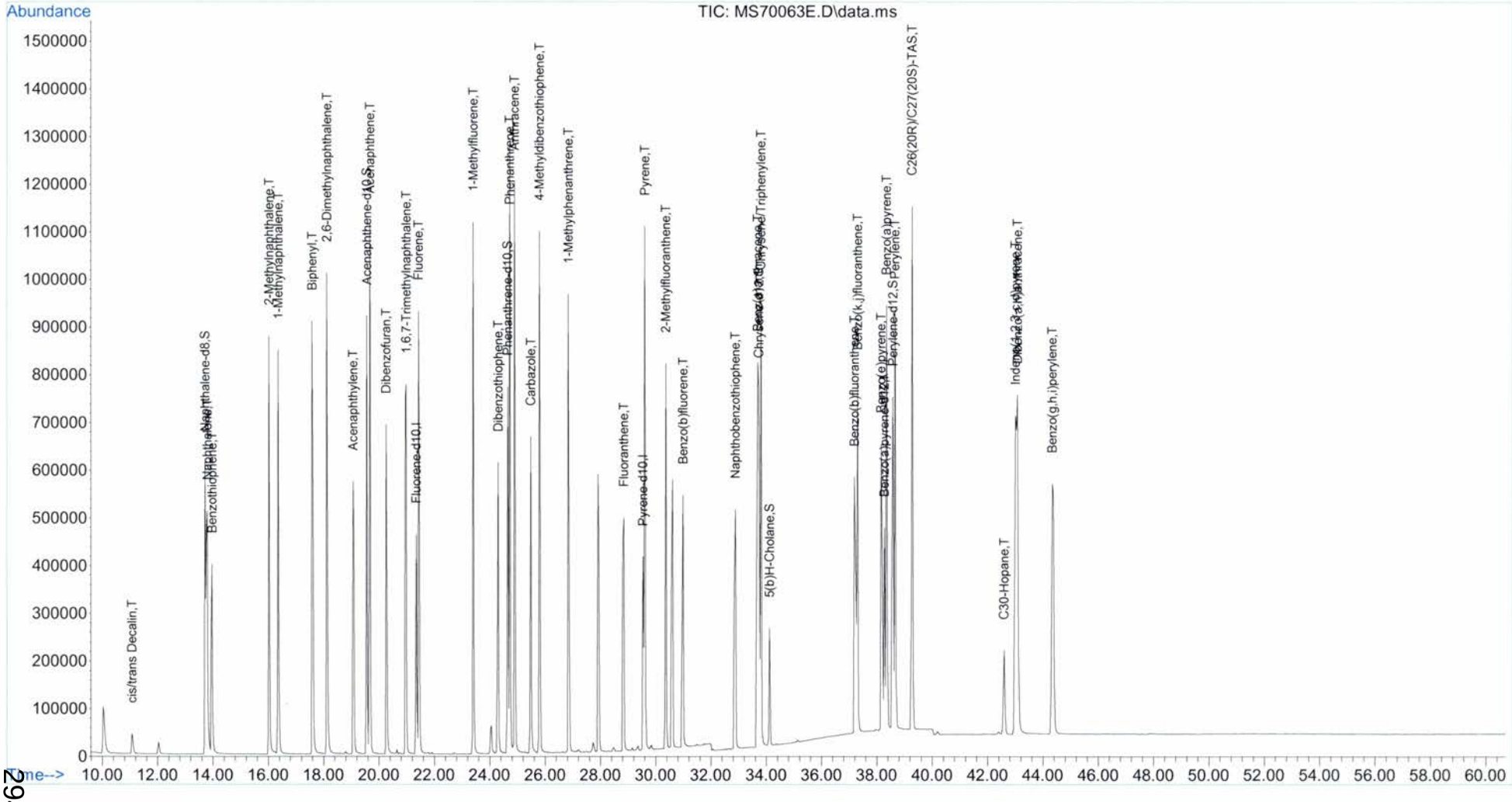
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70063\
Data File : MS70063E.D
Acq On : 5 Sep 2013 12:07 am
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 12 16:12:57 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:04:49 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70063\
Data File : MS70063F.D
Acq On : 5 Sep 2013 1:15 am
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 12 12:32:29 2013
Quant Method : E:\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Fri Sep 06 14:43:18 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.343	176	478573m	251.05		-0.03
31) Pyrene-d10	29.531	212	838208m	250.63		-0.03
73) Benzo(a)pyrene-d12	38.270	264	856577m	250.32		-0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.711	136	3083022m	987.87		-0.03
21) Acenaphthene-d10	19.561	164	1776035m	967.18		-0.03
32) Phenanthrene-d10	24.648	188	3192368m	1019.00		-0.03
66) Chrysene-d12	33.731	240	3177237m	978.76		0.00
88) Perylene-d12	38.580	264	3569963m	928.60		-0.04
90) 5(b)H-Cholane	34.119	217	803609m	1001.75		-0.04
Target Compounds						Qvalue
3) cis/trans Decalin	11.064	138	508466m	1067.48		
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	13.766	128	3162286m	966.27		
9) 2-Methylnaphthalene	16.023	142	2167231m	981.90		
10) 1-Methylnaphthalene	16.357	142	1976349m	961.37		
11) 2,6-Dimethylnaphthalene	18.112	156	1946366m	992.23		
12) 1,6,7-Trimethylnaphtha...	20.981	170	1744750m	959.12		
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.		
16) Benzothiophene	13.961	134	2450150m	951.06		
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	2726145m	974.11		
23) Acenaphthylene	19.059	152	3181296m	965.71		
24) Acenaphthene	19.672	154	1877362m	954.98		
25) Dibenzofuran	20.257	168	3122717m	981.12		
26) Fluorene	21.427	166	2413701m	978.36		
27) 1-Methylfluorene	23.402	180	1679606m	1014.06		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.479	167	3197092m	1015.94		
34) Dibenzothiophene	24.302	184	3162716m	949.15		
35) 4-Methyldibenzothiophene	25.791	198	2900988m	1052.36		
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	24.718	178	4175058m	1040.47		
42) Anthracene	24.891	178	4032930m	1069.48		

Data Path : C:\GCMS7\MS70063\
Data File : MS70063F.D
Acq On : 5 Sep 2013 1:15 am
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 12 12:32:29 2013
Quant Method : E:\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Fri Sep 06 14:43:18 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	26.830	192	2646588m	983.96		
48)	3,6-Dimethylphenanthrene	27.938	206	2177781m	965.77		
49)	Retene	30.604	234	975974m	904.46		
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51)	C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52)	C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53)	Naphthobenzothiophene	32.878	234	3334616m	900.65		
54)	C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55)	C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56)	C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57)	C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58)	Fluoranthene	28.838	202	3709227m	967.81		
59)	Pyrene	29.600	202	4883180m	1033.69		
60)	2-Methylfluoranthene	30.362	216	2965041m	1050.71		
61)	Benzo(b)fluorene	30.985	216	2501119m	992.17		
62)	C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63)	C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64)	C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65)	C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67)	Benz(a)anthracene	33.692	228	3256590m	913.77		
68)	Chrysene/Triphenylene	33.809	228	3904814m	1016.76		
69)	C1-Chrysenes	0.000		0	N.D.	d	
70)	C2-Chrysenes	0.000		0	N.D.	d	
71)	C3-Chrysenes	0.000		0	N.D.	d	
72)	C4-Chrysenes	0.000		0	N.D.	d	
74)	C29-Hopane	0.000		0	N.D.	d	
75)	18a-Oleanane	0.000		0	N.D.	d	
76)	C30-Hopane	42.599	191	1305112m	921.03		
77)	Benzo(b)fluoranthene	37.184	252	4675116m	727.03		
78)	Benzo(k,j)fluoranthene	37.300	252	3448656m	600.74		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.154	252	4089543m	907.89		
81)	Benzo(a)pyrene	38.348	252	4525811m	945.11		
82)	Indeno(1,2,3-c,d)pyrene	43.004	276	3647929m	686.93		
83)	Dibenzo(a,h)anthracene	43.078	278	3417573m	809.31		
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87)	Benzo(g,h,i)perylene	44.368	276	3411595m	746.01		
89)	Perylene	38.658	252	4520630m	940.42		
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	39.279	231	4974802m	921.70		
95)	C28(20S)-TAS	0.000		0	N.D.		
96)	C27(20R)-TAS	0.000		0	N.D.	d	
97)	C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70063\
Data File : MS70063F.D
Acq On : 5 Sep 2013 1:15 am
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 12 12:32:29 2013
Quant Method : E:\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Fri Sep 06 14:43:18 2013
Response via : Initial Calibration

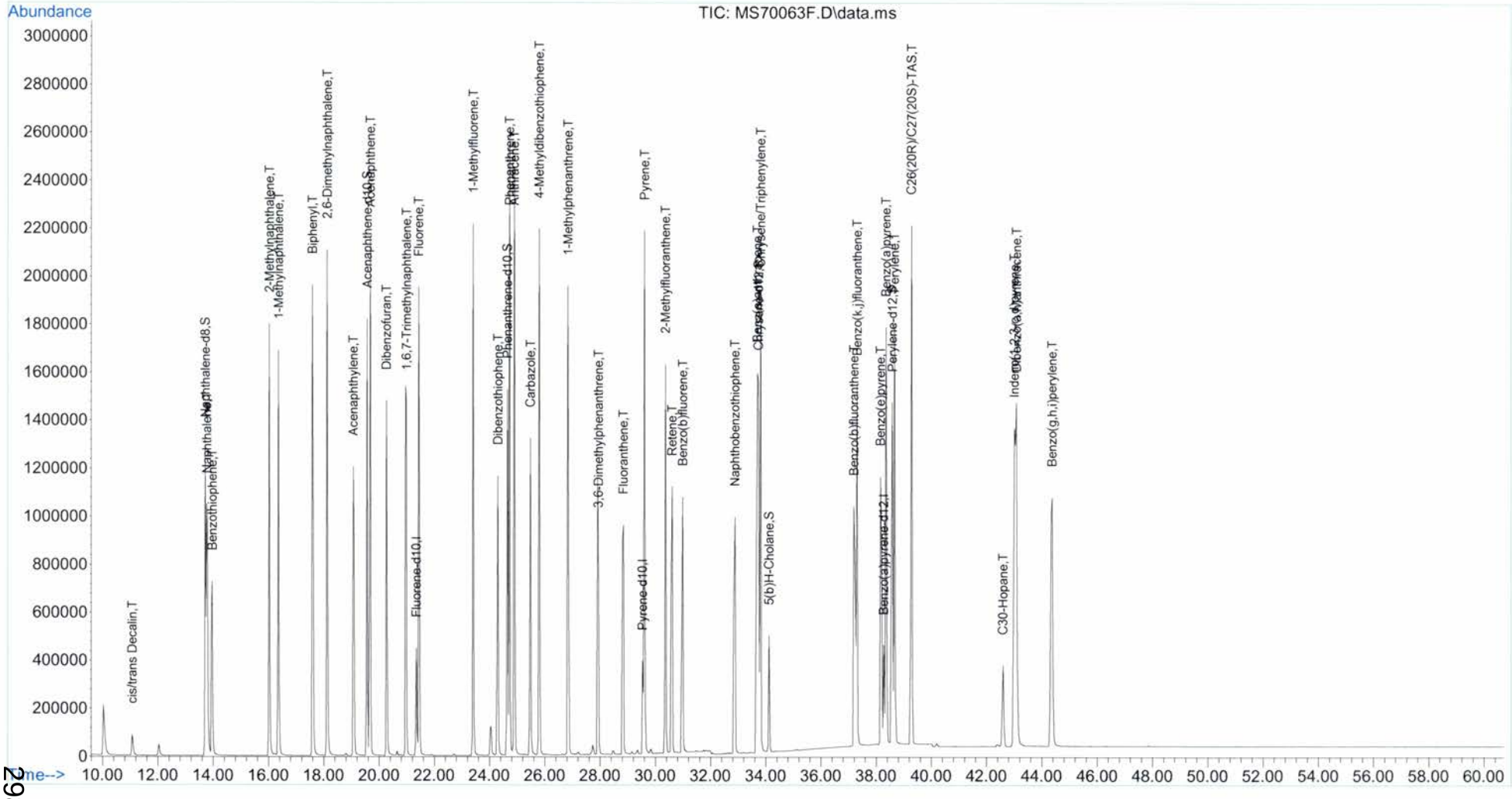
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70063\
Data File : MS70063F.D
Acq On : 5 Sep 2013 1:15 am
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 12 12:32:29 2013
Quant Method : E:\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Fri Sep 06 14:43:18 2013
Response via : Initial Calibration



Data Path : C:\GCMS7\MS70063\
Data File : MS70063G.D
Acq On : 5 Sep 2013 2:24 am
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 12 12:32:42 2013
Quant Method : E:\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Fri Sep 06 14:56:51 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.343	176	477409m	251.05		-0.03
31) Pyrene-d10	29.531	212	823730m	250.63		-0.03
73) Benzo(a)pyrene-d12	38.270	264	856459m	250.32		-0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.711	136	15631021m	5024.10		-0.03
21) Acenaphthene-d10	19.561	164	9048485m	4948.64		-0.03
32) Phenanthrene-d10	24.648	188	17283672m	5462.23		-0.03
66) Chrysene-d12	33.731	240	20501733m	6537.76		0.00
88) Perylene-d12	38.580	264	19576638m	5175.42		-0.04
90) 5(b)H-Cholane	34.119	217	4339701m	5254.75		-0.04
Target Compounds						Qvalue
3) cis/trans Decalin	11.064	138	2502821m	4969.67		
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	13.766	128	16338099m	5044.18		
9) 2-Methylnaphthalene	16.023	142	11003642m	5025.32		
10) 1-Methylnaphthalene	16.357	142	10000790m	4901.23		
11) 2,6-Dimethylnaphthalene	18.112	156	9906493m	5080.96		
12) 1,6,7-Trimethylnaphtha...	20.981	170	9077445m	5009.64		
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.		
16) Benzothiophene	13.933	134	12646127m	4978.89		
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	14053364m	5063.57		
23) Acenaphthylene	19.059	152	16896884m	5170.27		
24) Acenaphthene	19.672	154	9713517m	4980.65		
25) Dibenzofuran	20.257	168	15735911m	4982.13		
26) Fluorene	21.427	166	12090130m	4935.29		
27) 1-Methylfluorene	23.402	180	8627335m	5123.49		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.479	167	18405075m	5796.67		
34) Dibenzothiophene	24.302	184	17351631m	5295.91		
35) 4-Methyldibenzothiophene	25.791	198	13865001m	5039.96		
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	24.718	178	19633391m	4840.54		
42) Anthracene	24.891	178	19702229m	5173.72		

Data Path : C:\GCMS7\MS70063\
Data File : MS70063G.D
Acq On : 5 Sep 2013 2:24 am
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 12 12:32:42 2013
Quant Method : E:\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Fri Sep 06 14:56:51 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	26.830	192	12735869m	4872.79		
48) 3,6-Dimethylphenanthrene	27.938	206	11667269m	5342.78		
49) Retene	30.604	234	5486617m	5043.41		
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.		
53) Naphthobenzothiophene	32.878	234	18782320m	5385.11		
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	28.838	202	19360508m	5223.59		
59) Pyrene	29.600	202	20047177m	4188.58		
60) 2-Methylfluoranthene	30.362	216	16014649m	5552.77		
61) Benzo(b)fluorene	30.985	216	14675198m	5911.80		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.692	228	19452921m	5791.10		
68) Chrysene/Triphenylene	33.809	228	20865681m	5459.44		
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	42.599	191	6676521m	4777.42		
77) Benzo(b)fluoranthene	37.223	252	22689171m	4095.34		
78) Benzo(k,j)fluoranthene	37.300	252	20432651m	4403.61		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.192	252	21517593m	4963.81		
81) Benzo(a)pyrene	38.348	252	21175906m	4476.42		
82) Indeno(1,2,3-c,d)pyrene	43.004	276	18186411m	3499.60		
83) Dibenzo(a,h)anthracene	43.078	278	16662899m	4020.13		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.368	276	16453255m	3682.54		
89) Perylene	38.658	252	21071912m	4440.63		
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	39.279	231	24092502m	4520.28		
95) C28(20S)-TAS	0.000		0	N.D.		
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70063\
Data File : MS70063G.D
Acq On : 5 Sep 2013 2:24 am
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 12 12:32:42 2013
Quant Method : E:\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Fri Sep 06 14:56:51 2013
Response via : Initial Calibration

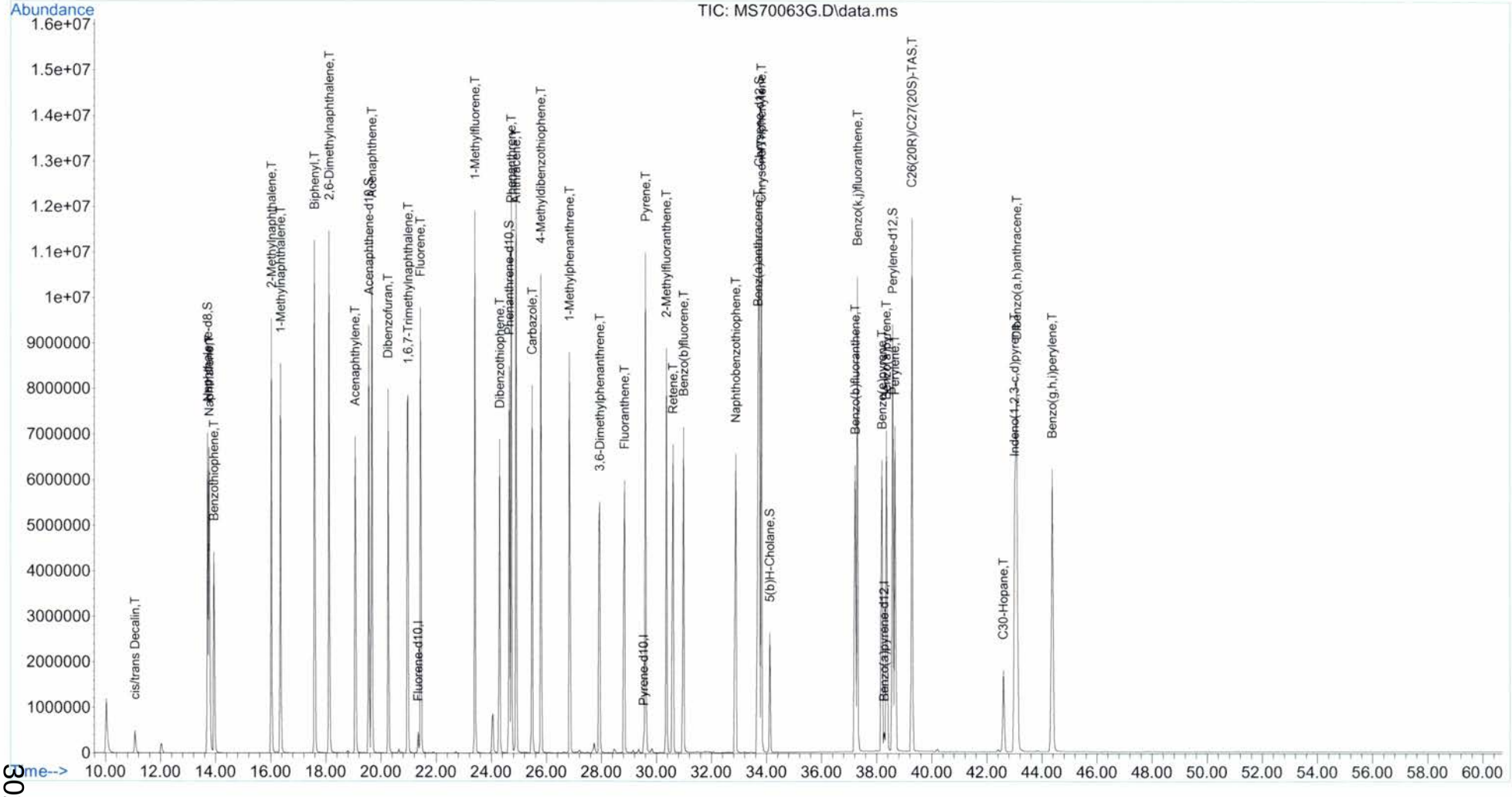
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70063\
Data File : MS70063G.D
Acq On : 5 Sep 2013 2:24 am
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 12 12:32:42 2013
Quant Method : E:\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Fri Sep 06 14:56:51 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70063\
Data File : MS70063I.D
Acq On : 5 Sep 2013 4:41 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 12 16:36:27 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 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	111	0.00
2	S	Naphthalene-d8	1.654	1.530	7.5	111	0.00
3	T	cis/trans Decalin	0.278	0.310	-11.5	131	0.00
4	un	C1-Decalins	0.278	0.000	100.0#	0#	-12.26#
5	un	C2-Decalins	0.278	0.000	100.0#	0#	-13.60#
6	un	C3-Decalins	0.278	0.000	100.0#	0#	-15.83#
7	un	C4-Decalins	0.278	0.000	100.0#	0#	-18.47#
8	T	Naphthalene	1.700	1.899	-11.7	135	0.00
9	T	2-Methylnaphthalene	1.143	1.345	-17.7	141	0.00
10	T	1-Methylnaphthalene	1.078	1.233	-14.4	137	0.00
11	T	2,6-Dimethylnaphthalene	1.021	1.158	-13.4	136	0.00
12	T	1,6,7-Trimethylnaphthalene	0.952	1.080	-13.4	138	0.00
13	un	C2-Naphthalenes	1.700	0.000	100.0#	0#	-18.84#
14	un	C3-Naphthalenes	1.700	0.000	100.0#	0#	-20.28#
15	un	C4-Naphthalenes	1.700	0.000	100.0#	0#	-22.07#
16	T	Benzothiophene	1.331	1.491	-12.0	136	0.00
17	un	C1-Benzothiophenes	1.331	0.000	100.0#	0#	-15.41#
18	un	C2-Benzothiophenes	1.331	0.000	100.0#	0#	-17.86#
19	un	C3-Benzothiophenes	1.331	0.000	100.0#	0#	-20.26#
20	un	C4-Benzothiophenes	1.331	0.000	100.0#	0#	-22.01#
21	S	Acenaphthene-d10	0.961	0.867	9.8	108	0.00
22	T	Biphenyl	1.460	1.672	-14.5	138	0.00
23	T	Acenaphthylene	1.723	1.904	-10.5	137	0.00
24	T	Acenaphthene	1.022	1.133	-10.9	134	0.00
25	T	Dibenzofuran	1.627	1.859	-14.3	139	0.00
26	T	Fluorene	1.285	1.444	-12.4	136	0.00
27	T	1-Methylfluorene	0.898	0.000	100.0#	0#	-23.40#
28	un	C1-Fluorenes	1.285	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.285	0.000	100.0#	0#	-24.82#
30	un	C3-Fluorenes	1.285	0.000	100.0#	0#	-27.21#
31	I	Pyrene-d10	1.000	1.000	0.0	116	0.00
32	S	Phenanthrene-d10	1.001	0.847	15.4	107	0.00
33	T	Carbazole	1.013	1.027	-1.4	130	0.00
34	T	Dibenzothiophene	1.020	1.053	-3.2	131	0.00
35	T	4-Methyldibenzothiophene	0.840	0.000	100.0#	0#	-25.79#
36	un	2/3-Methyldibenzothiophene	0.840	0.000	100.0#	0#	-26.14#
37	un	1-Methyldibenzothiophene	0.840	0.000	100.0#	0#	-26.45#
38	un	C2-Dibenzothiophenes	1.020	0.000	100.0#	0#	-27.97#
39	un	C3-Dibenzothiophenes	1.020	0.000	100.0#	0#	-29.22#
40	un	C4-Dibenzothiophenes	1.020	0.000	100.0#	0#	-30.81#
41	T	Phenanthrene	1.234	1.351	-9.5	134	0.00
42	T	Anthracene	1.164	1.273	-9.4	134	0.00
43	un	3-Methylphenanthrene	0.792	0.000	100.0#	0#	-26.86#
44	un	2-Methylphenanthrene	0.792	0.000	100.0#	0#	-26.86#
45	un	2-Methylanthracene	0.792	0.000	100.0#	0#	-26.86#
46	un	4/9-Methylphenanthrene	0.792	0.000	100.0#	0#	-26.86#

Data Path : C:\GCMS7\MS70063\
Data File : MS70063I.D
Acq On : 5 Sep 2013 4:41 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 12 16:36:27 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 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	0.792	0.905	-14.3	146	0.00
48	T	3,6-Dimethylphenanthrene	0.673	0.000	100.0#	0#	-27.94#
49	T	Retene	0.350	0.000	100.0#	0#	-30.60#
50	un	C2-Phenanthrenes/Anthracene	1.234	0.000	100.0#	0#	-28.49#
51	un	C3-Phenanthrenes/Anthracene	1.234	0.000	100.0#	0#	-29.36#
52	un	C4-Phenanthrenes/Anthracene	1.234	0.000	100.0#	0#	-31.89#
53	T	Naphthobenzothiophene	1.071	0.000	100.0#	0#	-32.88#
54	un	C1-Naphthobenzothiophenes	1.071	0.000	100.0#	0#	-34.16#
55	un	C2-Naphthobenzothiophenes	1.071	0.000	100.0#	0#	-35.94#
56	un	C3-Naphthobenzothiophenes	1.071	0.000	100.0#	0#	-37.84#
57	un	C4-Naphthobenzothiophenes	1.071	0.000	100.0#	0#	-37.73#
58	T	Fluoranthene	1.135	1.246	-9.8	140	-0.03
59	T	Pyrene	1.458	1.604	-10.0	136	0.00
60	T	2-Methylfluoranthene	0.905	0.000	100.0#	0#	-30.36#
61	T	Benzo(b)fluorene	0.784	0.000	100.0#	0#	-30.99#
62	un	C1-Fluoranthenes/Pyrenes	1.135	0.000	100.0#	0#	-30.60#
63	un	C2-Fluoranthenes/Pyrenes	1.135	0.000	100.0#	0#	-32.10#
64	un	C3-Fluoranthenes/Pyrenes	1.135	0.000	100.0#	0#	-33.89#
65	un	C4-Fluoranthenes/Pyrenes	1.135	0.000	100.0#	0#	-35.24#
66	S	Chrysene-d12	1.036	0.834	19.5	107	0.00
67	T	Benz(a)anthracene	1.042	1.133	-8.7	145	-0.04
68	T	Chrysene/Triphenylene	1.235	1.202	2.7	124	0.00
69	un	C1-Chrysenes	1.235	0.000	100.0#	0#	-35.21#
70	un	C2-Chrysenes	1.235	0.000	100.0#	0#	-37.18#
71	un	C3-Chrysenes	1.235	0.000	100.0#	0#	-38.04#
72	un	C4-Chrysenes	1.235	0.000	100.0#	0#	-39.90#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	110	0.00
74	un	C29-Hopane	0.400	0.000	100.0#	0#	-40.64#
75	un	18a-Oleanane	0.400	0.000	100.0#	0#	-42.45#
76	T	C30-Hopane	0.400	0.000	100.0#	0#	-42.60#
77	T	Benzo(b)fluoranthene	1.377	1.407	-2.2	124	0.00
78	T	Benzo(k,j)fluoranthene	1.073	1.025	4.5	117	0.00
79	un	Benzo(a)fluoranthene	1.073	0.000	100.0#	0#	-37.22#
80	T	Benzo(e)pyrene	1.250	1.414	-13.1	139	0.00
81	T	Benzo(a)pyrene	1.313	1.505	-14.6	137	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.161	1.195	-2.9	127	0.00
83	T	Dibenzo(a,h)anthracene	1.017	1.224	-20.4	143	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.017	0.000	100.0#	0#	-48.68#
85	un	C2-Dibenzo(a,h)anthracenes	1.017	0.000	100.0#	0#	-50.27#
86	un	C3-Dibenzo(a,h)anthracenes	1.017	0.000	100.0#	0#	-50.82#
87	T	Benzo(g,h,i)perylene	1.087	1.254	-15.4	133	0.00
88	S	Perylene-d12	1.092	0.953	12.7	107	0.00
89	T	Perylene	1.327	1.483	-11.8	135	0.00
90	S	5(b)H-Cholane	0.251	0.210	16.3	101	0.00
91	un	C20-TAS	1.516	0.000	100.0#	0#	-33.73#
92	un	C21-TAS	1.516	0.000	100.0#	0#	-34.16#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70063\
Data File : MS70063I.D
Acq On : 5 Sep 2013 4:41 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 12 16:36:27 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 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	1.516	0.000	100.0#	0# -38.58#
94 T	C26(20R)/C27(20S)-TAS	1.516	0.000	100.0#	0# -39.28#
95 un	C28(20S)-TAS	1.516	0.000	100.0#	0# -39.74#
96 un	C27(20R)-TAS	1.516	0.000	100.0#	0# -40.94#
97 un	C28(20R)-TAS	1.516	0.000	100.0#	0# -40.94#

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

Data Path : C:\GCMS7\MS70063\
Data File : MS70063I.D
Acq On : 5 Sep 2013 4:41 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 12 16:36:27 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.344	176	544774m	251.05		0.00
31) Pyrene-d10	29.531	212	1013712m	250.63		0.00
73) Benzo(a)pyrene-d12	38.270	264	995039m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.711	136	830336m	231.35		0.00
21) Acenaphthene-d10	19.561	164	470497m	225.71		0.00
32) Phenanthrene-d10	24.648	188	857513m	211.74		0.00
66) Chrysene-d12	33.731	240	843203m	201.17		0.00
88) Perylene-d12	38.581	264	947569m	218.37		0.00
90) 5(b)H-Cholane	34.119	217	208525m	208.61		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.064	138	166548m	276.00		
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	13.794	128	1030461m	279.27		
9) 2-Methylnaphthalene	16.023	142	730311m	294.44		
10) 1-Methylnaphthalene	16.357	142	668023m	285.46		
11) 2,6-Dimethylnaphthalene	18.112	156	628367m	283.62		
12) 1,6,7-Trimethylnaphtha...	20.981	170	586064m	283.80		
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	13.961	134	803743m	278.24		
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	898712m	283.60		
23) Acenaphthylene	19.059	152	1024849m	274.09		
24) Acenaphthene	19.672	154	615776m	277.60		
25) Dibenzofuran	20.257	168	1003687m	284.26		
26) Fluorene	21.427	166	785116m	281.62		
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	25.480	167	1029262m	251.08		
34) Dibenzothiophene	24.302	184	1050351m	254.63		
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	24.718	178	1353388m	271.21		
42) Anthracene	24.891	178	1291531m	274.25		

Data Path : C:\GCMS7\MS70063\
Data File : MS70063I.D
Acq On : 5 Sep 2013 4:41 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 12 16:36:27 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0		N.D.	d
44) 2-Methylphenanthrene	0.000		0		N.D.	d
45) 2-Methylanthracene	0.000		0		N.D.	d
46) 4/9-Methylphenanthrene	0.000		0		N.D.	d
47) 1-Methylphenanthrene	26.830	192	904911m	282.34		
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	28.804	202	1260970m	274.59		
59) Pyrene	29.600	202	1622151m	274.99		
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	33.654	228	1143741m	271.44		
68) Chrysene/Triphenylene	33.809	228	1208396m	241.99		
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	0.000		0		N.D.	d
77) Benzo(b)fluoranthene	37.184	252	1400613m	255.92		
78) Benzo(k,j)fluoranthene	37.300	252	1014534m	237.85		
79) Benzo(a)fluoranthene	0.000		0		N.D.	d
80) Benzo(e)pyrene	38.154	252	1399382m	281.63		
81) Benzo(a)pyrene	38.348	252	1492688m	285.96		
82) Indeno(1,2,3-c,d)pyrene	43.004	276	1167772m	253.10		
83) Dibenzo(a,h)anthracene	43.078	278	1205057m	298.14		
84) C1-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
85) C2-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
86) C3-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
87) Benzo(g,h,i)perylene	44.332	276	1234557m	285.67		
89) Perylene	38.658	252	1475302m	279.73		
91) C20-TAS	0.000		0		N.D.	d
92) C21-TAS	0.000		0		N.D.	d
93) C26(20S)-TAS	0.000		0		N.D.	d
94) C26(20R)/C27(20S)-TAS	0.000		0		N.D.	d
95) C28(20S)-TAS	0.000		0		N.D.	d
96) C27(20R)-TAS	0.000		0		N.D.	d
97) C28(20R)-TAS	0.000		0		N.D.	d

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70063\
Data File : MS70063I.D
Acq On : 5 Sep 2013 4:41 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 12 16:36:27 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
Response via : Initial Calibration

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

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70063\
Data File : MS70063I.D
Acq On : 5 Sep 2013 4:41 am
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 12 16:36:27 2013
Quant Method : C:\GCMS7\MS70063\AR70063.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Thu Sep 12 16:14:12 2013
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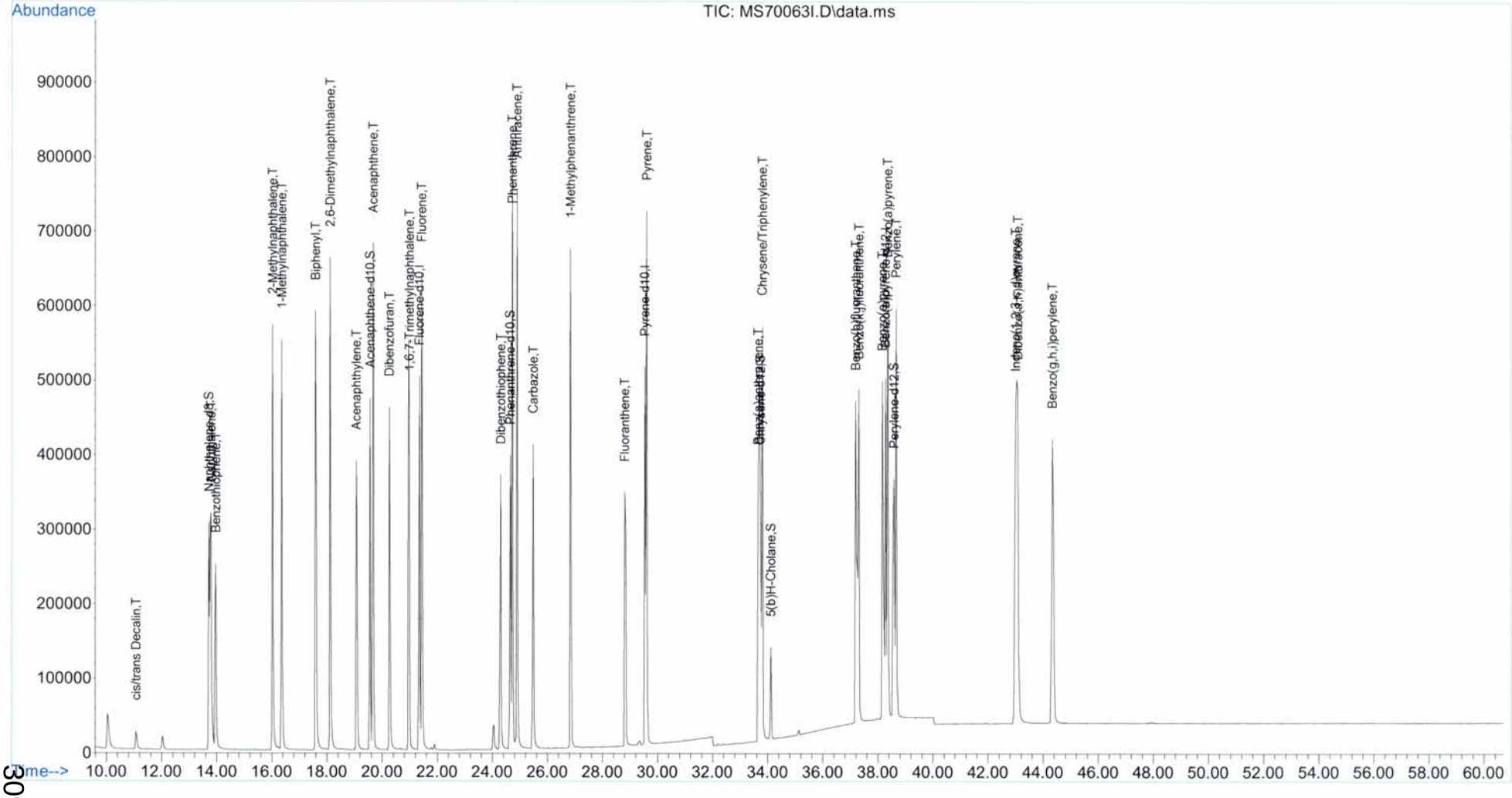


PAH Mass Discrimination Ratio

B&B Laboratories
Project J13034
Report 13-3115

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Mass Discrimination Sheet

Client Project #B0086003.1302

File Name	Sample Name	Benzo(g,h,i)perylene Concentration (ng/mL)	Phenanthrene Concentration (ng/mL)	Benzo(g,h,i)perylene/ Phenanthrene ratio	Q
MS70063B.D	AR-WKC1-020-030	26.0	21.7	1.20	
MS70063C.D	AR-WKC2-100-030	106	97.1	1.09	
MS70063D.D	AR-WKC3-250-030	243	231	1.05	
MS70063E.D	AR-WKC4-500-030	506	459	1.10	
MS70063F.D	AR-WKC5-1000-030	746	1040	0.72	
MS70063G.D	AR-WKC6-5000-030	3683	4841	0.76	
MS70063I.D	AR-WKICV-250-004	286	271	1.05	
MS70063J.D	AR-WKCC-250-038	267	247	1.08	
MS70063L.D	AR-WKCC-250-038	206	232	0.89	
MS70063M.D	AR-WKCC-250-038	168	225	0.75	

Qualifiers (Q): Ratio of Benzo(g,h,i)perylene to Phenanthrene needs to be ≥ 0.70

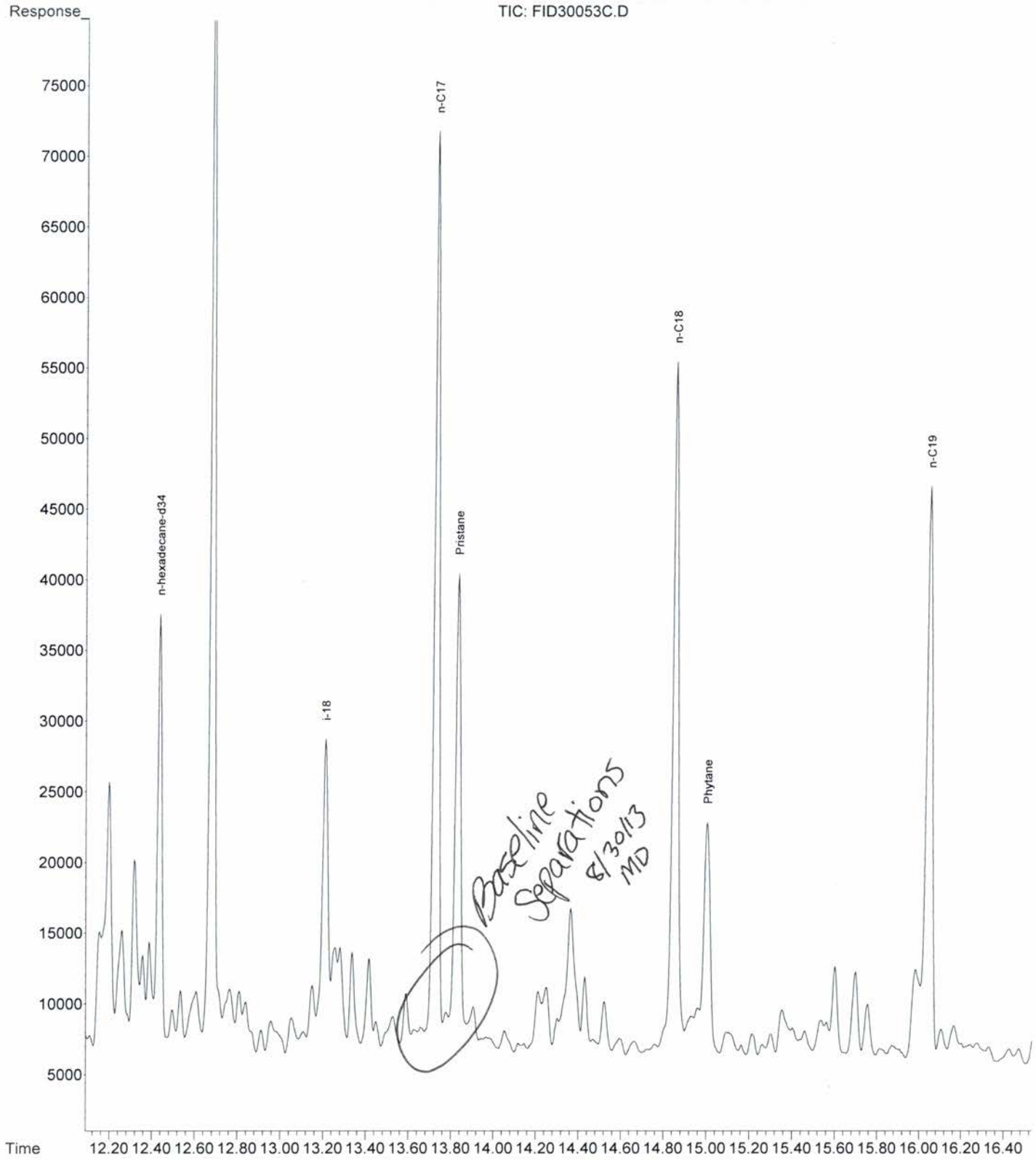
PAH Internal Standard Area Data

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
The Area of the Internal Standards in the Associated Calibration Standard

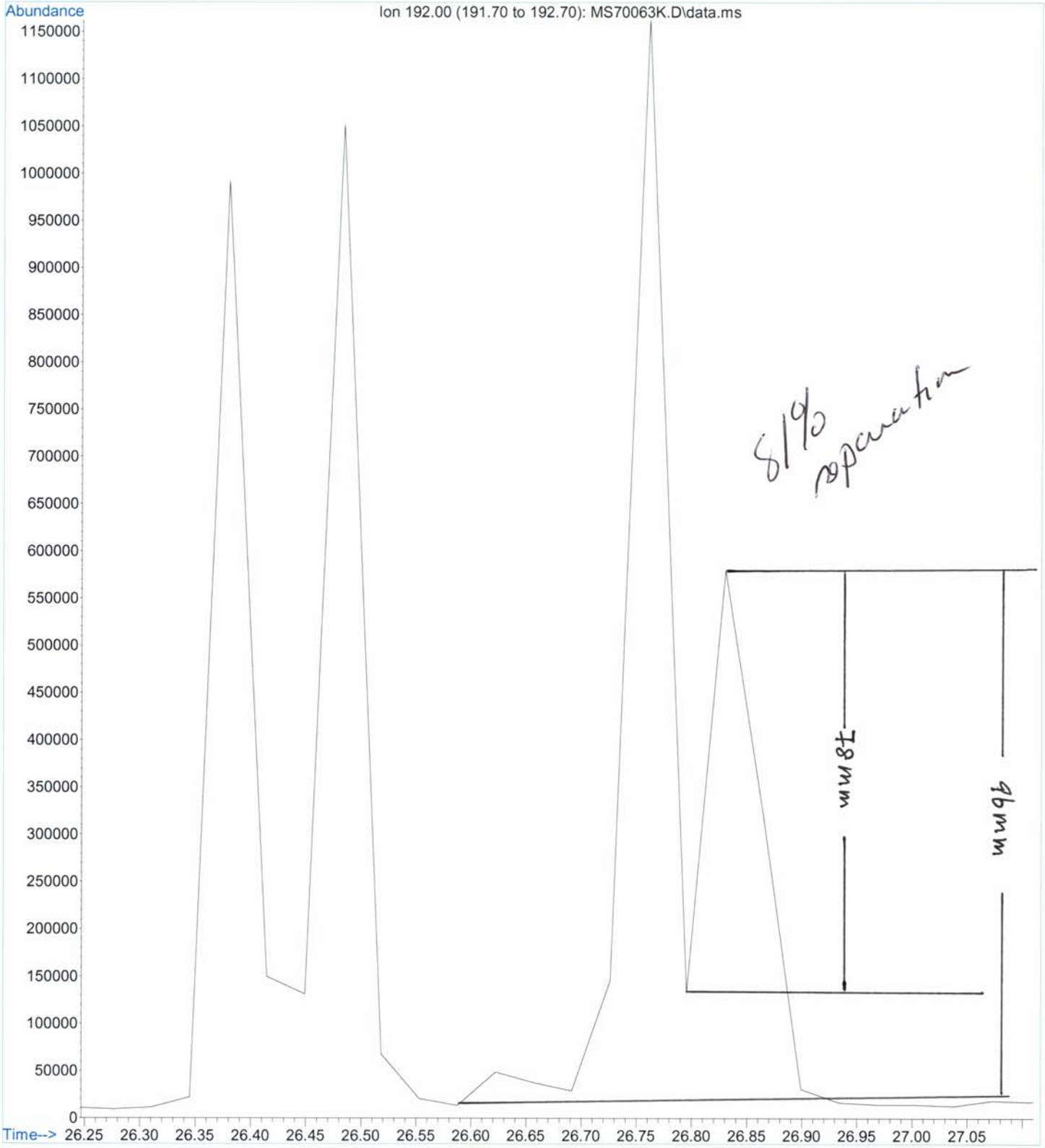
File Name	Sample Name	Internal Standard 1 Fluorene-d10			Internal Standard 2 Pyrene-d10			Internal Standard 3 Benzo(a)pyrene-d12		
		Response (Area)	50% (Area)	200% (Area)	Response (Area)	50% (Area)	200% (Area)	Response (Area)	50% (Area)	200% (Area)
MS70063D.D	AR-WKC3-250-030	491440	245720	982880	877289	438645	1754578	905849	452925	1811698
MS70063I.D	AR-WKICV-250-004	544774			1013710			995039		
MS70063J.D	**AR-WKCC-250-038**	**393297**	**196649**	**786594**	**659103**	**329552**	**1318206**	**591160**	**295580**	**1182320**
ENV3095A.D	Procedural Blank	351456			689408			639475		
ENV3095B.D	SRM 1941b	390849			730778			769044		
ENV3095C.D	SED-DA-048 (0-0.5) MS	539698			883077			913456		
ENV3095D.D	SED-DA-048 (0-0.5) MSD	513090			905825			891398		
ENV3095E.D	Dupl. (SED-DA-047 (0-0.5))	505300			672832			635900		
ARC1807.D	SED-DA-047 (0-0.5)	496218			572423			582238		
ARC1810.D	SED-DA-048 (0-0.5)	449252			771039			764601		
MS70063L.D	**AR-WKCC-250-038**	**347616**	**173808**	**695232**	**617225**	**308613**	**1234450**	**532535**	**266268**	**1065070**
ARC1814.D	SED-DA-048 (1.0-1.5)	306842			556231			530033		
ARC1815.D	SED-DA-DUP-07-081213	460090			779295			731374		
ARC1841.D	SO-DA-003 (0-0.5)	411118			784741			700372		
ARC1842.D	SO-DA-003 (0.5-1.0)	280444			491314			406448		
ARC1843.D	SO-DA-003 (1.0-1.5)	306393			534247			413338		
ARC1844.D	SO-DA-004 (0-0.5)	421893			787483			653008		
ARC1845.D	SO-DA-004 (0.5-1.0)	300561			519575			382678		
ARC1846.D	SO-DA-004 (1.0-1.5)	303492			531527			413515		
MS70063M.D	**AR-WKCC-250-038**	**343434**	**171717**	**686868**	**619747**	**309874**	**1239494**	**457251**	**228626**	**914502**

SRM-2779 Reference Oil Aliphatic and PAH Resolution Checks

File :P:\2013\J13034\Aliphatics\ENV 3095\FID30053\FID30053C.D
Operator : Meghan Dailey
Acquired : 28-Aug-2013, 22:15:39 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: AL-SRM2779-20-01
Misc Info :
Vial Number: 53



File :C:\GCMS7\MS70063\MS70063K.D
Operator : YM
Acquired : 5 Sep 2013 6:58 am using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: AR-SRM2779-WK4.0-002
Misc Info :
Vial Number: 11



Supporting Documents

Shipping, Sample Receiving, and Project Initiation Documents

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/13/13 SDG#: 13081301

Sender: Arcadis- Mayflower, AR

1. Number of Shipping Containers: 4 Arcadis: Daniel Mays

Comments: 1 of 4, large blue cooler

2. Airbill Present? (Yes) No Shipping Company: Fed EX

Airbill Number: 7958 1083 5888 Comments: PON

3. Custody Seals on Container?
No (Yes) (Intact) Not Intact Comments: on top of duct tape

4. Chain of Custody Records?
(No) Yes Comments: in cooler 3

5. General Sample Conditions:
Frozen (Cool) Unrefrigerated
Dry Ice Blue Ice (Ice)
Temperature/Comments: 5.1°C / temp blank 1.2°C (T6

6. List of Broken Containers:

None

7. Number of Samples Expected: 4 coolers Number of Samples Received: _____

8. Problems/Discrepancies:

None

Cooler 1:
11 soils
2 waters

9. Resolutions:

N/A

10. Checked in by: Amanda Brewster Date: 8/13/13

large blue cooler

Ice type: wet Ice
Cooler temp: 5.1
Temp blank: 1.2
Thermometer: 6
Custody seal:

Sdg 13081301
Cooler 1 of 4

eurofins | Lancaster Laboratories

480555
CUSTODY SEAL

DATE: 8/12/13
SIGNATURE:

2425 New Holland Pike, Lancaster, PA 17601-5994 (717) 656-2300

ORIGIN ID:MPJA (979) 693-3446
B & B LABORATORIES
14391 S DOWLING RD STE B
COLLEGE STATION, TX 778453473
UNITED STATES US

SHIP DATE: 12AUG13
ACTWGT: 56.7 LB
CAD: /POS1400
DIMS: 24x13x13 IN
BILL SENDER

TO B & B LABORATORIES
B & B LABS
14391B S DOWLING RD

COLLEGE STATION TX 77845
(979) 693-3446
INV:
PO:
REF:
DEPT:

FedEx Express

2 of 4
MPS# 0681 7958 1083 5888
Trk# 8022 2781 5939
0200

TUE - 13 AUG 10:30A
PRIORITY OVERNIGHT

XH CLLA

77845
TX-US IAH

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J18034 Date Received: 8/13/13 SDG#: 13081301

Sender: Arcadis- Mayflower AR

1. Number of Shipping Containers: 4 Arcadis: Daniel Mays

Comments: 2 of 4, large blue cooler

2. Airbill Present? (Yes) No Shipping Company: Fed Ex

Airbill Number: 7958 1083 5899 Comments: PON

3. Custody Seals on Container?
No (Yes) (Intact) Not Intact Comments: on top of duct tape

4. Chain of Custody Records?
(No) Yes Comments in cooler 3

5. General Sample Conditions:
Frozen (Cool) Unrefrigerated
Dry Ice Blue Ice (Ice)
Temperature/Comments: 1.5°c / temp blank 2.3°c / T6

6. List of Broken Containers:

None

7. Number of Samples Expected: 4 coolers Number of Samples Received: _____

8. Problems/Discrepancies:

None

Cooler 2:
11 seds
4 waters

9. Resolutions:

N/A

10. Checked in by: Amanda Brewster Date: 8/13/13

large
blue cooler

Ice type: wet ice
Cooler temp: 1.5
Temp blank: 2.3
Thermometer: 6
Custody seal:

SDG 1308130
Cooler 2 of 4

eurofins | Lancaster Laboratories

491094
CUSTODY SEAL
2425 New Holland Pike, Lancaster, PA 17601-5994 (717) 656-2300

DATE: 8-12-13
SIGNATURE:

ID:MPJG (979) 693-3446
ABORATORIES
S DOWLING RD STE B
E STATION, TX 778453473
STATES US

SHIP DATE: 12AUG13
ACTWGT: 66.9 LB
CAD: /POS1400
DIMS: 24x13x13 IN

BILL SENDER

TO B LABORATORIES
& B LABS
7391B S DOWLING RD

COLLEGE STATION TX 77845
693-3446 REF:
DEPT:

FedEx Express

3 of 4
MPS# 0881 7958 1083 5899
Mstr# 8022 2781 5939
0200

TUE - 13 AUG
PRIORITY OVERNIGHT

XH CLLA

77845
TX-US IAH

322

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/13/13 SDG#: 13081301

Sender: Arcadis - Mayflower AR

1. Number of Shipping Containers: 4 Arcadis: Daniel Mays

Comments: 3of4, large blue cooler

2. Airbill Present? (Yes) No Shipping Company: Fed Ex

Airbill Number: 8022 2781 5939 Comments: PON

3. Custody Seals on Container?
No (Yes) (Intact) Not Intact Comments: on top of duct tape

4. Chain of Custody Records?
No (Yes) Comments: all COCs in Cooler 3

5. General Sample Conditions:
Frozen (Cool) Unrefrigerated
Dry Ice Blue Ice (Ice)

Temperature/Comments: 2.1°C / temp blank 1.9°C (T6

6. List of Broken Containers:

None

7. Number of Samples Expected: 4 Coolers Number of Samples Received: _____

8. Problems/Discrepancies:

None

Cooler 3:
21 seds

9. Resolutions:

N/A

10. Checked in by: Amanda Brewster Date: 8/13/13

large blue cooler

Ice type: wet Ice
Cooler temp: 2.1
Temp blank: 1.9
Thermometer: 6
Custody seal:

Sdg 13081301
Cooler 3 of 4

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480556
CUSTODY SEAL

2425 New Holland Pike, Lancaster, PA 17601-5994 (717) 656-2300

DATE: 5/16/13

SIGNATURE:

FedEx Express NEW Package US Airbill

FedEx Tracking Number 8022 2781 5939

Form ID No. 0200

1 From

Date

Sender's Name

Phone

Company

Address

Dept./Floor/Suite/Room

City

State

ZIP

2 Your Internal Billing Reference

3 To

Recipient's Name

Phone

Company

Address

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Dept./Floor/Suite/Room

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City

State

ZIP

HOLD Weekday
FedEx location address REQUIRED. NOT available for FedEx First Overnight.

HOLD Saturday
FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

4 Express Package Service * To most locations.

NOTE: Service order has changed. Please select carefully.

Packages up to 1
For packages over 150 lbs., use FedEx Express Freight

Next Business Day

- FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

- FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.
- FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

FedEx Envelope* | FedEx Pak* | FedEx Box | FedEx Tube

6 Special Handling and Delivery Signature Options

SATURDAY Delivery
NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

No Signature Required — Package may be left without obtaining a signature for delivery.

Direct Signature — Someone at recipient's address may sign for delivery. Fee applies.

Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. Fee applies. Not available for residential deliveries.

Does this shipment contain dangerous goods?

No | Yes — As per attached Shipper's Declaration | Yes — Shipper's Declaration not required | Dry Ice — Dry Ice, 9, UN 1845 ____ x ____

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

Cargo Aircraft Only

7 Payment Bill to:

Enter FedEx Acct. No. or Credit Card No. below.

Sender Acct. No. in Section 1 will be billed | Recipient | Third Party | Credit Card | Cash

Total Packages

Total Weight

lbs.

Credit Card Auth.

Our liability is limited to US$100 unless you declare a higher value. See the current FedEx Service Guide for details.

641

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8022 2781 5939

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/13/13 SDG#: 13081301

Sender: Arcadis- May flower AR

1. Number of Shipping Containers: 4 Arcadis: Daniel Mays

Comments: 4 of 4, large blue cooler

2. Airbill Present? (Yes) No Shipping Company: Fed EX

Airbill Number: 8022 2781 5939 Comments: PON

3. Custody Seals on Container?
No (Yes) (Intact) Not Intact Comments:

4. Chain of Custody Records?
No (Yes) AB 8/13/13 Comments: In Cooler 3

5. General Sample Conditions:
Frozen (Cool) Unrefrigerated
Dry Ice Blue Ice (Ice)

Temperature/Comments: 6.1°C / temp blank 0.9°C CT6

6. List of Broken Containers:

None

7. Number of Samples Expected: 4 coolers Number of Samples Received: _____

8. Problems/Discrepancies:

~~COC~~ AB 8/13/13

Cooler 4:
17 seeds
2 waters

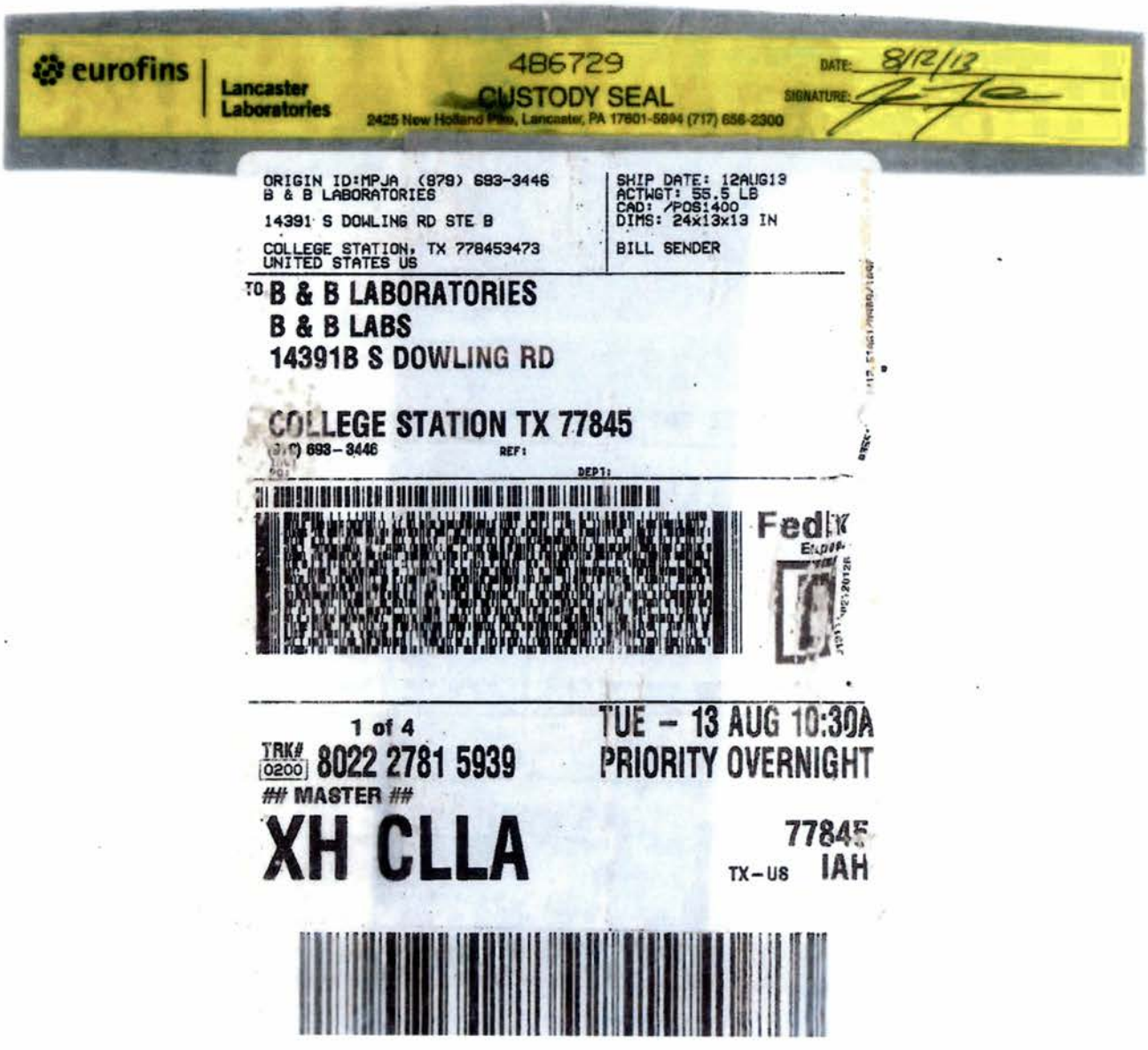
9. Resolutions:

10. Checked in by: Amanda Brewster Date: 8/13/13

large blue cooler

Ice type: wet ice
Cooler temp: 6.1
Temp blank: 0.9
Thermometer: 6
Custody seal:

Sdg 13081301
Cooler 4 of 4



CHAIN OF CUSTODY RECORD

B&B Laboratories, Inc.

Home Office 14391B South Dowling Road College Station TX 77845 phone (979) 693-3446 fax (979) 693-6389 http://www.tdi-bi.com

TDI Brooks

Client: ARCADIS

Project ID: Mayflower Pipeline Incident B0086002.1301

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Analyses

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs + 8270 SIM	TEH by mod 8015			Cooler #		Comments
SED-DA-021 (0-0.5)	8/9/13	1235	Sed	none	8 oz	1	X	X			2		Full List
SED-DA-021 (0.5-1.0)		1240			4 oz						2		44 PAH List
SED-DA-021 (1.0-1.5)		1245									2		Extract + Hold
SED-DA-021 (1.5-2.0)		1250									2		Extract + Hold
SED-DA-021 (2.0-3.0)		1255									2		Extract + Hold
SED-DA-021 (3.0-3.3)		1300									2		
SED-DA-042 (0-0.5)		1400			8 oz			X			2		Full List
SED-DA-042 (0-0.5) ms		1400			8 oz			X			2		Full List
SED-DA-042 (0-0.5) msD		1400			8 oz			X			2		Full List
SED-DA-042 (0.5-1.0)		1405			4 oz						2		44 PAHs List
					Total # of Containers	10							

Other Instructions: Sdg 13081301 Cooler 3 of 4 (1)

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays	ARCADIS	8-12-13	1700	Printed Name: Amanda Brewster	B&B Labs	8/13/13	11:30
Signature:				Signature: Amanda Brewster			
Printed Name:				Printed Name:			
Signature:				Signature:			

Matrix:

T=Tissue S=Soil/Sediment R=Rinseate P=Product G=Gas Ws=Waste HW=Hazardous Waste W=Water

Sample Container: Vol/material

G=Glass P=Plastic C=Core B=Bag

CHAIN OF CUSTODY RECORD

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TDI Brooks

Client: ARCADIS

Project ID: Mayflower Pipeline Incident B0086003.1301

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs + 8270 SIM	TEH by 8015 Sol's			Cooler #		Comments
SED-DA-042 (1.0-1.5)	8/9/13	1410	Sed	none	4oz	1	X				2		44 PAHs List
SED-DA-EB-07-080913	8/9/13	1015	Water	none	LAG	2	X	X			2,2		Full List
SED-DA-DI-Water	8/9/13	1020	Water	none	LAG	2	X	X			2,2		Full List
SED-DA-ER-08-081013	8/10/13	825	Water	none	LAG	2	X	X			4,4		Full List
SED-DA-045 (0-0.5)		900	Sed		8oz	1	X	X			4		Full List
SED-DA-045 (0.5-1.0)		905			4oz	1					4		44 PAH List
SED-DA-052 (0-0.5)		930			8oz	1		X			4		Full List
SED-DA-052 (0.5-1.0)		935			4oz	1					4		44 PAH List
SED-DA-052 (1.0-1.5)		940			4oz	1					4		44 PAH List
SED-DA-Dup-06-081013					8oz	1	X	X			4		Full List
					Total # of Containers	13							

Analyses

Other Instructions: sdg 13081301 Cooler 3 of 4 (2)

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays	ARCADIS	8-12-13	1700	Printed Name: Amanda Brewster	B&B Calas	8/13/13	11:30
Signature:				Signature: Amanda Brewster			
Printed Name:				Printed Name:			
Signature:				Signature:			

Matrix:

T=Tissue G=Gas
S=Soil/Sediment Ws=Waste
R=Rinseate HW=Hazardous Waste
P=Product W=Water

Sample Container: Vol/material

G=Glass C=Core
P=Plastic B=Bag

CHAIN OF CUSTODY RECORD

B&B Laboratories, Inc.

Home Office 14391B South Dowling Road College Station TX 77845 phone (979) 693-3446 fax (979) 693-6389 http://www.tdi-bi.com

TDI Brooks

Client: ARCADIS

Project ID: Muy Axaxx Pipeline Incident B00860031301

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Analyses

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs + 8270 SIM	TEH by mod 8015			Cooler #		Other Instructions / Comments
													sdg 13081301 Cooler 3 of 4 (3)
SED-DA-018 (0-0.5)	8/10/13	1040	Sed	none	8oz	1	X	X			4		Full List
SED-DA-018 (0.5-1.0)		1045			4oz		X				4		44 PAH List
SED-DA-018 (1.0-1.5)		1050			4oz		X				4		↓
SED-DA-018 (1.5-2.0)		1055			4oz		X				4		
SED-DA-019 (0-0.5)		1115			8oz		X	X			4		Full List
SED-DA-019 (0-0.5) (ms)		1115			8oz		X	X			4		label: ms/msd
SED-DA-019 (0-0.5) (msd)		1115			8oz		X	X			4		label: ↓ ms/msd
SED-DA-019 (0.5-1.0)		1120			4oz		X				4		44 PAH List
SED-DA-019 (1.0-1.5)		1125			4oz		X				4		44 PAH List
SED-DA-019 (1.5-2.0)		1130			4oz		X				4		Extract + Hold
					Total # of Containers	10							

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays	ARCADIS	8-12-13	1700	Printed Name: Amanda Brewster	B&B Labs	8/13/13	11:30
Signature: ↓	↓	↓	↓	Signature: Amanda Brewster			
Printed Name:				Printed Name:			
Signature:				Signature:			

Matrix:

T=Tissue S=Soil/Sediment R=Rinseate P=Product G=Gas Ws=Waste HW=Hazardous Waste W=Water

Sample Container: Vol/material

G=Glass P=Plastic C=Core B=Bag

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TDI Brooks

Client: ARCADIS

Project ID: Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs + 8270 S.im	Analyses: TEH by mod 8015	Analyses:	Cooler #	Other Instructions: Sdg 13081301 Cooler 3 of 4 (4) / Comments
SED-DA-019 (2.0-2.5)	8/10/13	1135	Sed	none	4oz	1	X			4	Extract + Hold
So-DA-026 (0-0.5)	8/11/13	830			4oz	1	X			1	4/4 PAHs List
So-DA-026 (0-0.5) MS		830				1	X			1	
So-DA-026 (0-0.5) MSD		830				1	X			1	
So-DA-026 (0.5-1.0)		835				1	X			1	
So-DA-026 (1.0-1.5)		840				1	X			1	
So-DA-028 (0-0.5)		1000				1	X			1	
So-DA-028 (0.5-1.0)		1005				1	X			1	
So-DA-028 (1.0-1.5)		1010				1	X			1	
VV So-DA-EB-04-081113		1200	Water	Yr	VOA	2	X			1,1	

Total # of Containers: 10

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays	ARCADIS	8-12-13	1706	Printed Name: Amanda Brewster	B&B Labs	8/13/13	11:30
Signature: ↓	↓	↓	↓	Signature: Amanda Brewster			
Printed Name:				Printed Name:			
Signature:				Signature:			

Matrix:

T=Tissue G=Gas
S=Soil/Sediment Ws=Waste
R=Rinseate HW=Hazardous Waste
P=Product W=Water

Sample Container: Vol/material

G=Glass C=Core
P=Plastic B=Bag

CHAIN OF CUSTODY RECORD

B&B Laboratories, Inc.

Home Office 14391B South Dowling Road College Station TX 77845 phone (979) 693-3446 fax (979) 693-6389 http://www.tdi-bi.com

TDI Brooks

Client: ARCADIS

Project ID: Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays Daniel Mays

Analyses

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs + 8270 Sim	TEH by Mod 8015	Cooler #	Other Instructions / Comments
										Sdg 13081301 Cooler 3 of 4 (5)
SO-DA-029 (0-0.5)	8/11/13	1030	Sed	none	4oz	1	X		1	44 PAHs List
SO-DA-029 (0.5-1.0)	↓	1035	↓		↓	1	X		1	↓
SO-DA-029 (1.0-1.5)	↓	1040	↓		↓	1	X		1	↓
SED-DA-046 (0-0.5)	8/12/13	835			8oz	1		X	3	Full List
SED-DA-046 (0.5-1.0)		840			4oz	1			3	44 PAH List
SED-DA-046 (1.0-1.5)		845			4oz	1			3	44 PAH List
SED-DA-049 (0-0.5)		905			8oz	1		X	3	Full List
SED-DA-049 (0.5-1.0)		910			4oz	1			3	44 PAH List
SED-DA-049 (1.0-1.5)		915			4oz	1			3	44 PAH List
SED-DA-043 (0-0.5)	↓	950	↓	↓	8oz	1	↓	X	3	Full List
					Total # of Containers					

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays	ARCADIS	8-12-13	1700	Printed Name: Amanda Brewster	B&B Labs	8/13/13	11:30
Signature: ↓	↓	↓	↓	Signature: Amanda Brewster			
Printed Name:				Printed Name:			
Signature:				Signature:			

Matrix:

T=Tissue S=Soil/Sediment R=Rinseate P=Product G=Gas Ws=Waste HW=Hazardous Waste W=Water

Sample Container: Vol/material

G=Glass P=Plastic C=Core B=Bag

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TDI Brooks

Client: ARCADIS

Project ID: Maxflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs + 8170 Sim	Analyses: TEH by Mod 8015	Analyses: Cooler #	Other Instructions / Comments
										sdg 13081301 Cooler 3 of 4 (6)
SED-DA-043 (0.5-1.0)	8/12/13	955	Sed	none	4oz	1	X		3	44 PAH List
SED-DA-043 (1.0-1.5)		1000			4oz				3	44 PAH List
SED-DA-044 (0-0.5)		1010			8oz			X	3	Full List
SED-DA-044 (0.5-1.0)		1015			4oz				3	44 PAH List
SED-DA-044 (1.0-1.5)		1020			4oz				3	44 PA List
SED-DA-047 (0-0.5)		1030			8oz			X	3	Full List
SED-DA-047 (0.5-1.0)		1035			4oz				3	44 PAH List
SED-DA-047 (1.0-1.5)		1040			4oz				3	44 PA List
SED-DA-048 (0-0.5)		1245			8oz			X	3	Full List
SED-DA-048 (0-0.5) ms		1245			8oz		X	X	3	Full List
					Total # of Containers					

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays	ARCADIS	8-12-13	1700	Printed Name: Amanda Brewster	B&B Labs	8/13/13	11:30
Signature:				Signature: Amanda Brewster			
Printed Name:				Printed Name:			
Signature:				Signature:			

Matrix:

T=Tissue G=Gas
S=Soil/Sediment Ws=Waste
R=Rinseate HW=Hazardous Waste
P=Product W=Water

Sample Container: Vol/material

G=Glass C=Core
P=Plastic B=Bag

B&B Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Home Office 14391B South Dowling Road College Station TX 77845 phone (979) 693-3446 fax (979) 693-6389 http://www.tdi-bi.com

TDI Brooks

Client: ARCADIS

Project ID: Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Analyses

Other Instructions: Sdg 13081301 Cooler 3 of 4 (7)

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs + 8270 Sim	TEH by mod 8015			Cooler #		Comments
SED-DA-048 (0-0.5) MSD	8/12/13	1245	Sed	none	8 oz	1	X	X			3		Full List
SED-DA-048 (0.5-1.0)	↓	1250	↓	↓	4 oz	1	X				3		44 PAHs List
SED-DA-048 (1.0-1.5)	↓	1255	↓	↓	4 oz	1	X				3		44 PAHs List
SED-DA-Dup-07-081213	↓		↓	↓	8 oz	1	X	X			3		Full List
				Total # of Containers									

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays	ARCADIS	8-12-13	1706	Printed Name: Amanda Brewster	B&B Labs	8/13/13	11:30
Signature: ↓	↓	↓	↓	Signature: Amanda Brewster			
Printed Name:				Printed Name:			
Signature:				Signature:			

Matrix:

T=Tissue S=Soil/Sediment R=Rinseate P=Product G=Gas Ws=Waste HW=Hazardous Waste W=Water

Sample Container: Vol/material

G=Glass P=Plastic C=Core B=Bag

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
64453	J13034	Arcadis - Mayflower AR	ARC1765	SED-DA-EB-07-080913	08/09/13	08/13/13	PAH, TPH, ALI	WATER	1 of 2	13081301	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
64454	J13034	Arcadis - Mayflower AR	ARC1766	SED-DA-EB-07-080913	08/09/13	08/13/13	HOLD	WATER	2 of 2	13081301	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
64455	J13034	Arcadis - Mayflower AR	ARC1767	SED-DA-DI-Water	08/09/13	08/13/13	PAH, TPH, ALI	WATER	1 of 2	13081301	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
64456	J13034	Arcadis - Mayflower AR	ARC1768	SED-DA-DI-Water	08/09/13	08/13/13	HOLD	WATER	2 of 2	13081301	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
64457	J13034	Arcadis - Mayflower AR	ARC1769	SED-DA-EB-08-081013	08/10/13	08/13/13	PAH, TPH, ALI	WATER	1 of 2	13081301	Cooler 4	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
64458	J13034	Arcadis - Mayflower AR	ARC1770	SED-DA-EB-08-081013	08/10/13	08/13/13	HOLD	WATER	2 of 2	13081301	Cooler 4	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
64459	J13034	Arcadis - Mayflower AR	ARC1771	SO-DA-EB-04-081113	08/11/13	08/13/13	PAH	WATER	44 analytes, 1 of 2	13081301	Cooler 1	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
64460	J13034	Arcadis - Mayflower AR	ARC1772	SO-DA-EB-04-081113	08/11/13	08/13/13	HOLD	WATER	2 of 2	13081301	Cooler 1	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
64461	J13034	Arcadis - Mayflower AR	ARC1773	SO-DA-026 (0-0.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64462	J13034	Arcadis - Mayflower AR	ARC1774	SO-DA-026 (0-0.5) MS	08/11/13	08/13/13	PAH	SOIL	44 analytes, MS	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64463	J13034	Arcadis - Mayflower AR	ARC1775	SO-DA-026 (0-0.5) MSD	08/11/13	08/13/13	PAH	SOIL	44 analytes, MSD	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64464	J13034	Arcadis - Mayflower AR	ARC1776	SO-DA-026 (0.5-1.0)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64465	J13034	Arcadis - Mayflower AR	ARC1777	SO-DA-026 (1.0-1.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64466	J13034	Arcadis - Mayflower AR	ARC1778	SO-DA-028 (0-0.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64467	J13034	Arcadis - Mayflower AR	ARC1779	SO-DA-028 (0.5-1.0)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64468	J13034	Arcadis - Mayflower AR	ARC1780	SO-DA-028 (1.0-1.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64469	J13034	Arcadis - Mayflower AR	ARC1781	SO-DA-029 (0-0.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64470	J13034	Arcadis - Mayflower AR	ARC1782	SO-DA-029 (0.5-1.0)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64471	J13034	Arcadis - Mayflower AR	ARC1783	SO-DA-029 (1.0-1.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64472	J13034	Arcadis - Mayflower AR	ARC1784	SED-DA-021 (0-0.5)	08/09/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64473	J13034	Arcadis - Mayflower AR	ARC1785	SED-DA-021 (0.5-1.0)	08/09/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64474	J13034	Arcadis - Mayflower AR	ARC1786	SED-DA-021 (1.0-1.5)	08/09/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64475	J13034	Arcadis - Mayflower AR	ARC1787	SED-DA-021 (1.5-2.0)	08/09/13	08/13/13	extract & HOLD	SED		13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64476	J13034	Arcadis - Mayflower AR	ARC1788	SED-DA-021 (2.0-3.0)	08/09/13	08/13/13	extract & HOLD	SED		13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64477	J13034	Arcadis - Mayflower AR	ARC1789	SED-DA-021 (3.0-3.3)	08/09/13	08/13/13	extract & HOLD	SED		13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64478	J13034	Arcadis - Mayflower AR	ARC1790	SED-DA-042 (0-0.5)	08/09/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64479	J13034	Arcadis - Mayflower AR	ARC1791	SED-DA-042 (0-0.5) MS	08/09/13	08/13/13	PAH, TPH, ALI	SED	MS	13081301	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64480	J13034	Arcadis - Mayflower AR	ARC1792	SED-DA-042 (0-0.5) MSD	08/09/13	08/13/13	PAH, TPH, ALI	SED	MSD	13081301	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64481	J13034	Arcadis - Mayflower AR	ARC1793	SED-DA-042 (0.5-1.0)	08/09/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64482	J13034	Arcadis - Mayflower AR	ARC1794	SED-DA-042 (1.0-1.5)	08/09/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64483	J13034	Arcadis - Mayflower AR	ARC1795	SED-DA-046 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64484	J13034	Arcadis - Mayflower AR	ARC1796	SED-DA-046 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64485	J13034	Arcadis - Mayflower AR	ARC1797	SED-DA-046 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64486	J13034	Arcadis - Mayflower AR	ARC1798	SED-DA-049 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64487	J13034	Arcadis - Mayflower AR	ARC1799	SED-DA-049 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64488	J13034	Arcadis - Mayflower AR	ARC1800	SED-DA-049 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64489	J13034	Arcadis - Mayflower AR	ARC1801	SED-DA-043 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64490	J13034	Arcadis - Mayflower AR	ARC1802	SED-DA-043 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64491	J13034	Arcadis - Mayflower AR	ARC1803	SED-DA-043 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64492	J13034	Arcadis - Mayflower AR	ARC1804	SED-DA-044 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64493	J13034	Arcadis - Mayflower AR	ARC1805	SED-DA-044 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64494	J13034	Arcadis - Mayflower AR	ARC1806	SED-DA-044 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64495	J13034	Arcadis - Mayflower AR	ARC1807	SED-DA-047 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64496	J13034	Arcadis - Mayflower AR	ARC1808	SED-DA-047 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64497	J13034	Arcadis - Mayflower AR	ARC1809	SED-DA-047 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64498	J13034	Arcadis - Mayflower AR	ARC1810	SED-DA-048 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64499	J13034	Arcadis - Mayflower AR	ARC1811	SED-DA-048 (0-0.5) MS	08/12/13	08/13/13	PAH, TPH, ALI	SED	MS	13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64500	J13034	Arcadis - Mayflower AR	ARC1812	SED-DA-048 (0-0.5) MSD	08/12/13	08/13/13	PAH, TPH, ALI	SED	MSD	13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64501	J13034	Arcadis - Mayflower AR	ARC1813	SED-DA-048 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64502	J13034	Arcadis - Mayflower AR	ARC1814	SED-DA-048 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64503	J13034	Arcadis - Mayflower AR	ARC1815	SED-DA-DUP-07-081213	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64504	J13034	Arcadis - Mayflower AR	ARC1816	SED-DA-045 (0-0.5)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64505	J13034	Arcadis - Mayflower AR	ARC1817	SED-DA-045 (0.5-1.0)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64506	J13034	Arcadis - Mayflower AR	ARC1818	SED-DA-052 (0-0.5)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64507	J13034	Arcadis - Mayflower AR	ARC1819	SED-DA-052 (0.5-1.0)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64508	J13034	Arcadis - Mayflower AR	ARC1820	SED-DA-052 (1.0-1.5)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64509	J13034	Arcadis - Mayflower AR	ARC1821	SED-DA-DUP-06-081013	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64510	J13034	Arcadis - Mayflower AR	ARC1822	SED-DA-018 (0-0.5)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64511	J13034	Arcadis - Mayflower AR	ARC1823	SED-DA-018 (0.5-1.0)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64512	J13034	Arcadis - Mayflower AR	ARC1824	SED-DA-018 (1.0-1.5)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64513	J13034	Arcadis - Mayflower AR	ARC1825	SED-DA-018 (1.5-2.0)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64514	J13034	Arcadis - Mayflower AR	ARC1826	SED-DA-019 (0-0.5)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64515	J13034	Arcadis - Mayflower AR	ARC1827	SED-DA-019 (0-0.5) MS	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64516	J13034	Arcadis - Mayflower AR	ARC1828	SED-DA-019 (0-0.5) MSD	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64517	J13034	Arcadis - Mayflower AR	ARC1829	SED-DA-019 (0.5-1.0)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64518	J13034	Arcadis - Mayflower AR	ARC1830	SED-DA-019 (1.0-1.5)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64519	J13034	Arcadis - Mayflower AR	ARC1831	SED-DA-019 (1.5-2.0)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
64520	J13034	Arcadis - Mayflower AR	ARC1832	SED-DA-019 (2.0-2.5)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0066003.1302

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081301
Client: Arcadis - Mayflower AR
Initiation Date: 8/13/13

Number of Samples: 4
Matrix: Water
Due Date: 45 days : 9/27/13
Comments: 3 waters: PAH, TPH, ALI
1 water: PAH 44 analytes
received 8/13/13

Analyses

☑	PAHs	☐	OCs/PCBs	☑	Aliphatics/TPH	☐	EOM
☐	Dry Wt.	☐	%Lipid	☐	TOC/TIC	☐	_____
☑	Short Columns	☐	Long Columns	☐	_____	☐	_____

Requested QA/QC (per batch of _____ Client Samples)

☑ Blank	☐ SRM/LCS _____	☑ Blank Spike	
☑ Blank Spike Duplicate		☐ Matrix Spike _____	
☐ Matrix Spike Duplicate _____		☐ Duplicate _____	

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): ali / PAH Volume(s): 100ml
Spike Standard(s): ali / PAH Volume(s): 100ml
Internal Standard(s): ali / PAH Volume(s): 100ml
Final Extract Volume (ml): 1.0 Final Solvent: DCM

Comments:

~~PAH's only~~ 8/13/13

Sample Custodian Signature: amanda Brewster Date: 8/13/13
Laboratory Manager Signature: _____ Date: 8/13/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64453	J13034	Arcadis - Mayflower AR	ARC1765	SED-DA-EB-07-080913	08/09/13	08/13/13	PAH, TPH, ALI	WATER	1 of 2	13081301	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302
64455	J13034	Arcadis - Mayflower AR	ARC1767	SED-DA-DI-Water	08/09/13	08/13/13	PAH, TPH, ALI	WATER	1 of 2	13081301	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302
64457	J13034	Arcadis - Mayflower AR	ARC1769	SED-DA-EB-08-081013	08/10/13	08/13/13	PAH, TPH, ALI	WATER	1 of 2	13081301	Cooler 4	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302
64459	J13034	Arcadis - Mayflower AR	ARC1771	SO-DA-EB-04-081113	08/11/13	08/13/13	PAH	WATER	44 analytes, 1 of 2	13081301	Cooler 1	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081301
Client: Arcadis - Mayflower AR
Initiation Date: 8/13/13

Number of Samples: 13
Matrix: sediments
Due Date: 45 days: 9/27/13
Comments: PAH, TPH, ALI
received 8/13/13

Analyses

☑	PAHs	☐	OCs/PCBs	☑	Aliphatics/TPH	☑	EOM
☑	Dry Wt.	☐	%Lipid	☐	TOC/TIC	☐	
☑	Short Columns	☐	Long Columns	☐		☐	

Requested QA/QC (per batch of _____ Client Samples)

☑	Blank	☑ SRM/LCS SY16	☐ Blank Spike
☐	Blank Spike Duplicate	☑	Matrix Spike _____
☑	Matrix Spike Duplicate _____	☑	Duplicate _____

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, ALI — Volume(s): 100 µl
Spike Standard(s): PAH, ALI — Volume(s): 100 µl
Internal Standard(s): PAH, ALI — Volume(s): 100 µl
Final Extract Volume (ml): 1.0 — Final Solvent: DCM

Comments:

Sample Custodian Signature: Amanda Brewster — Date: 8/13/13
Laboratory Manager Signature: _____ — Date: 8/13/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
64472	J13034	Arcadis - Mayflower AR	ARC1784	SED-DA-021 (0-0.5)	08/09/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64478	J13034	Arcadis - Mayflower AR	ARC1790	SED-DA-042 (0-0.5)	08/09/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64479	J13034	Arcadis - Mayflower AR	ARC1791	SED-DA-042 (0-0.5) MS	08/09/13	08/13/13	PAH, TPH, ALI	SED	MS	13081301	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64480	J13034	Arcadis - Mayflower AR	ARC1792	SED-DA-042 (0-0.5) MSD	08/09/13	08/13/13	PAH, TPH, ALI	SED	MSD	13081301	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64483	J13034	Arcadis - Mayflower AR	ARC1795	SED-DA-046 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64486	J13034	Arcadis - Mayflower AR	ARC1798	SED-DA-049 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64489	J13034	Arcadis - Mayflower AR	ARC1801	SED-DA-043 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64492	J13034	Arcadis - Mayflower AR	ARC1804	SED-DA-044 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64495	J13034	Arcadis - Mayflower AR	ARC1807	SED-DA-047 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64498	J13034	Arcadis - Mayflower AR	ARC1810	SED-DA-048 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64499	J13034	Arcadis - Mayflower AR	ARC1811	SED-DA-048 (0-0.5) MS	08/12/13	08/13/13	PAH, TPH, ALI	SED	MS	13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64500	J13034	Arcadis - Mayflower AR	ARC1812	SED-DA-048 (0-0.5) MSD	08/12/13	08/13/13	PAH, TPH, ALI	SED	MSD	13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64503	J13034	Arcadis - Mayflower AR	ARC1815	SED-DA-DUP-07-081213	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302

T3

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081301
Client: Arcadis - MayflowerAK
Initiation Date: 8/13/13

Number of Samples: 27
Matrix: soil/sediment
Due Date: 45 days: 9/27/13
Comments: PAH: 44 analytes
received 8/13/13

Analyses

☑	PAHs	☐	OCs/PCBs	☑	Aliphatics/TPH	☐	EOM
☑	Dry Wt.	☐	%Lipid	☐	TOC/TIC	☐	_____
☑	Short Columns	☐	Long Columns	☐	_____	☐	_____

Requested QA/QC (per batch of _____ Client Samples)

☑ Blank	☑ SRM/LCS 1944/16	☐ Blank Spike	
☐ Blank Spike Duplicate		☑ Matrix Spike _____	
☑ Matrix Spike Duplicate _____		☑ Duplicate _____	

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, ACI Volume(s): 100µl
Spike Standard(s): PAH, ACI Volume(s): 100µl
Internal Standard(s): PAH, ACI Volume(s): 100µl
Final Extract Volume (ml): 1.0 Final Solvent: DCM

Comments:

PAH, 44 list

Sample Custodian Signature: Amanda Brewster Date: 8/13/13
Laboratory Manager Signature: _____ Date: _____

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
64461	J13034	Arcadis - Mayflower AR	ARC1773	SO-DA-026 (0-0.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64462	J13034	Arcadis - Mayflower AR	ARC1774	SO-DA-026 (0-0.5) MS	08/11/13	08/13/13	PAH	SOIL	44 analytes, MS	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64463	J13034	Arcadis - Mayflower AR	ARC1775	SO-DA-026 (0-0.5) MSD	08/11/13	08/13/13	PAH	SOIL	44 analytes, MSD	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64464	J13034	Arcadis - Mayflower AR	ARC1776	SO-DA-026 (0.5-1.0)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64465	J13034	Arcadis - Mayflower AR	ARC1777	SO-DA-026 (1.0-1.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64466	J13034	Arcadis - Mayflower AR	ARC1778	SO-DA-028 (0-0.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64467	J13034	Arcadis - Mayflower AR	ARC1779	SO-DA-028 (0.5-1.0)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64468	J13034	Arcadis - Mayflower AR	ARC1780	SO-DA-028 (1.0-1.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64469	J13034	Arcadis - Mayflower AR	ARC1781	SO-DA-029 (0-0.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64470	J13034	Arcadis - Mayflower AR	ARC1782	SO-DA-029 (0.5-1.0)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64471	J13034	Arcadis - Mayflower AR	ARC1783	SO-DA-029 (1.0-1.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64473	J13034	Arcadis - Mayflower AR	ARC1785	SED-DA-021 (0.5-1.0)	08/09/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64474	J13034	Arcadis - Mayflower AR	ARC1786	SED-DA-021 (1.0-1.5)	08/09/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64481	J13034	Arcadis - Mayflower AR	ARC1793	SED-DA-042 (0.5-1.0)	08/09/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64482	J13034	Arcadis - Mayflower AR	ARC1794	SED-DA-042 (1.0-1.5)	08/09/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64484	J13034	Arcadis - Mayflower AR	ARC1796	SED-DA-046 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64485	J13034	Arcadis - Mayflower AR	ARC1797	SED-DA-046 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64487	J13034	Arcadis - Mayflower AR	ARC1799	SED-DA-049 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64488	J13034	Arcadis - Mayflower AR	ARC1800	SED-DA-049 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64490	J13034	Arcadis - Mayflower AR	ARC1802	SED-DA-043 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64491	J13034	Arcadis - Mayflower AR	ARC1803	SED-DA-043 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64493	J13034	Arcadis - Mayflower AR	ARC1805	SED-DA-044 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64494	J13034	Arcadis - Mayflower AR	ARC1806	SED-DA-044 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64496	J13034	Arcadis - Mayflower AR	ARC1808	SED-DA-047 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64497	J13034	Arcadis - Mayflower AR	ARC1809	SED-DA-047 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64501	J13034	Arcadis - Mayflower AR	ARC1813	SED-DA-048 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64502	J13034	Arcadis - Mayflower AR	ARC1814	SED-DA-048 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302

27

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081301
Client: Arcadis-Mayflower AR
Initiation Date: 8/13/13

Number of Samples: 3
Matrix: sediments
Due Date: 45 days: 9/27/13
Comments: extract: hold
received 8/13/13

Analyses

☑	PAHs	☐	OCs/PCBs	☑	Aliphatics/TPH	☐	EOM
☐	Dry Wt.	☐	%Lipid	☐	TOC/TIC	☐	
☒	Short Columns	☐	Long Columns	☐		☐	

Requested QA/QC (per batch of _____ Client Samples)

☐	Blank	☑ SRM/LCS 1941/1	☐ Blank Spike
☐	Blank Spike Duplicate	☐	Matrix Spike _____
☐	Matrix Spike Duplicate _____	☐	Duplicate _____

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, ALI — Volume(s): 100ul
Spike Standard(s): PAH, ALI — Volume(s): 100ul
Internal Standard(s): PAH, ALI — Volume(s): 100ul
Final Extract Volume (ml): 1.0 — Final Solvent: DCM

Comments:

Sample Custodian Signature: Amanda Brewster — Date: 8/13/13
Laboratory Manager Signature: _____ — Date: 8/15/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	#	Project #
64475	J13034	Arcadis - Mayflower AR	ARC1787	SED-DA-021 (1.5-2.0)	08/09/13	08/13/13	extract & HOLD	SED		13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64476	J13034	Arcadis - Mayflower AR	ARC1788	SED-DA-021 (2.0-3.0)	08/09/13	08/13/13	extract & HOLD	SED		13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64477	J13034	Arcadis - Mayflower AR	ARC1789	SED-DA-021 (3.0-3.3)	08/09/13	08/13/13	extract & HOLD	SED		13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302

1/3

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From: Parmelee, Rhiannon
Sent: Monday, August 12, 2013 5:34 PM
To: Mott, Lyndi
Cc: Tomlinson, Lisa; Skwarski, Alison
Subject: RE: DARSP on hold?

Here are the samples I want all of the labs to hold and not analyze yet (ALS/B&B will be shipped today):

SED-DA-045(0.0-0.5)
SED-DA-045(0.5-1.0)

SED-DA-052(0.0-0.5)
SED-DA-052(0.5-1.0)
SED-DA-052(1.0-1.5)

SED-DA-018(0.0-0.5)
SED-DA-018(0.5-1.0)
SED-DA-018(1.0-1.5)
SED-DA-018(1.5-2.0)

SED-DA-019(0.0-0.5)
SED-DA-019(0.0-0.5) MS/MSD
SED-DA-019(0.5-1.0)
SED-DA-019(1.0-1.5)
SED-DA-019(1.5-2.0)
SED-DA-019(2.0-2.5)

amanda brewster

From: juanramirez@tdi-bi.com
Sent: Tuesday, August 13, 2013 9:55 AM
To: 'Amanda J. Brewster'
Subject: FW: DARSP on hold

Juan Ramirez
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From: Mott, Lyndi [mailto:Lyndi.Mott@arcadis-us.com]
Sent: Monday, August 12, 2013 8:14 PM
To: Juan Ramirez
Cc: Tomlinson, Lisa; Capria, Dennis; Chandler, Jennifer
Subject: RE: DARSP on hold

Juan,

There is also a field duplicate with these samples that should also be placed on hold.
SED-DA-DUP-06

Thank you,
Lyndi Mott

From: Mott, Lyndi
Sent: Monday, August 12, 2013 5:43 PM
To: Juan Ramirez
Cc: Tomlinson, Lisa; Capria, Dennis; Chandler, Jennifer
Subject: FW: DARSP on hold?

Juan,

The following samples from the Downstream Area (DARSP) that were collected over the weekend and are being shipped today are to be placed on hold. We should be able to give direction on how to proceed by the end of the week.

Thank you,

amanda brewster

From: amanda brewster <amandabrewster@tdi-bi.com>
Sent: Tuesday, August 13, 2013 3:32 PM
To: 'Mays, Daniel'; 'Lewis, Ryan'; Parmelee, Rhiannon (Rhiannon.Parmelee@arcadis-us.com); 'Jennifer.Chandler@arcadis-us.com'; 'Dennis.Capria@arcadis-us.com'; Mott, Lyndi (Lyndi.Mott@arcadis-us.com)
Cc: Juan Ramirez (juanramirez@tdi-bi.com); Donell Frank; 'tommcdonald@tdi-bi.com' (tommcdonald@tdi-bi.com)
Subject: Samples Received 8/13/13
Attachments: COC 8-13-13.pdf

Hi Daniel/Ryan,

We received your coolers today in good condition.
The internal temperature of Cooler 1 was 5.1ºC and the temperature blank was 1.2ºC
The internal temperature of Cooler 2 was 1.5ºC and the temperature blank was 2.3ºC
The internal temperature of Cooler 3 was 2.1ºC and the temperature blank was 1.9ºC
The internal temperature of Cooler 4 was 6.1ºC and the temperature blank was 0.9ºC

A PDF of the COCs is attached for your records.

Regards,
Amanda

From: Mays, Daniel [mailto:Daniel.Mays@arcadis-us.com]
Sent: Monday, August 12, 2013 6:46 PM
To: amanda brewster
Cc: Lewis, Ryan
Subject: Coolers Shipped 8-12-13

Good Evening Amanda,

The coolers shipped today from the XOM-Mayflower Site are under tracking #8022 2781 5939.

Additionally Ryan Lewis will be sending this e-mails in the future as I will be offsite.

Regards,
Danny Mays | Environmental Specialist, E.I. | daniel.mays@arcadis-us.com
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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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amanda brewster

From: juanramirez@tdi-bi.com
Sent: Wednesday, August 14, 2013 11:05 AM
To: 'Mott, Lyndi'
Cc: 'Parmelee, Rhiannon'; 'Tomlinson, Lisa'; 'Skwarski, Alison'; 'Chandler, Jennifer'; 'Amanda J. Brewster'; Donell Frank; 'Tom Mc Donald'
Subject: RE: DARSP samples taken off hold

Hello Lyndi,

Will update our records and will send you an updated inventory of samples received as of today with requested analysis.

Juan

Juan Ramirez
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From: Mott, Lyndi [mailto:Lyndi.Mott@arcadis-us.com]
Sent: Wednesday, August 14, 2013 10:29 AM
To: Juan Ramirez
Cc: Parmelee, Rhiannon; Tomlinson, Lisa; Skwarski, Alison; Chandler, Jennifer
Subject: DARSP samples taken off hold
Importance: High

Juan,

We are good to go with processing all of these samples EXCEPT SED-DA-019(2.0-2.5). We want to archive SED-DA-019(2.0-2.5). The team was able to collect the 2.0-3.0 interval for this location, which was the intended target.

As a reminder, we can analyze the following that were collected on Saturday:

SED-DA-045(0.0-0.5)
SED-DA-045(0.5-1.0)

SED-DA-052(0.0-0.5)
SED-DA-052(0.5-1.0)
SED-DA-052(1.0-1.5)

SED-DA-018(0.0-0.5)
SED-DA-018(0.5-1.0)
SED-DA-018(1.0-1.5)
SED-DA-018(1.5-2.0)

SED-DA-019(0.0-0.5)
SED-DA-019(0.0-0.5) MS/MSD
SED-DA-019(0.5-1.0)
SED-DA-019(1.0-1.5)
SED-DA-019(1.5-2.0)

SED-DA-DUP-06

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B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081301
Client: Arcadis-Mayflower AK
Initiation Date: 8/14/13

Number of Samples: 8
Matrix: sediments
Due Date: 45 days: 9/28/13
Comments: PAH: 44 analytes
received 8/13/13

Analyses

☑	PAHs	☐	OCs/PCBs	☑	Aliphatics/TPH	☑	EOM
☐	Dry Wt.	☐	%Lipid	☐	TOC/TIC	☐	____
☐	Short Columns	☐	Long Columns	☐	____	☐	____

Requested QA/QC (per batch of ____ Client Samples)

☑	Blank	☑ SRM/LCS 1941b	☑ Blank Spike
☐	Blank Spike Duplicate	☑	Matrix Spike ____
☑	Matrix Spike Duplicate ____	☑	Duplicate ____

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, AL1 Volume(s): 100ml

Spike Standard(s): PAH, AL1 Volume(s): 100ml

Internal Standard(s): PAH, AL1 Volume(s): 100ml

Final Extract Volume (ml): 1.0 Final Solvent: DCM

Comments:

Sample Custodian Signature: amanda Brewster Date: 8/14/13

Laboratory Manager Signature: Date: 8/14/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
64505	J13034	Arcadis - Mayflower AR	ARC1817	SED-DA-045 (0.5-1.0)	08/10/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64507	J13034	Arcadis - Mayflower AR	ARC1819	SED-DA-052 (0.5-1.0)	08/10/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64508	J13034	Arcadis - Mayflower AR	ARC1820	SED-DA-052 (1.0-1.5)	08/10/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64511	J13034	Arcadis - Mayflower AR	ARC1823	SED-DA-018 (0.5-1.0)	08/10/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64512	J13034	Arcadis - Mayflower AR	ARC1824	SED-DA-018 (1.0-1.5)	08/10/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64513	J13034	Arcadis - Mayflower AR	ARC1825	SED-DA-018 (1.5-2.0)	08/10/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64517	J13034	Arcadis - Mayflower AR	ARC1829	SED-DA-019 (0.5-1.0)	08/10/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64518	J13034	Arcadis - Mayflower AR	ARC1830	SED-DA-019 (1.0-1.5)	08/10/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302

1/8

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 130813O1
Client: Arcadis-Mayflower AK
Initiation Date: 8/14/13

Number of Samples: 1
Matrix: sed
Due Date: N/A
Comments: extract: HOLD
received 8/13/13

Analyses

☑	PAHs	☐	OCs/PCBs	☑	Aliphatics/TPH	☐	EOM
☐	Dry Wt.	☐	%Lipid	☐	TOC/TIC	☐	
☑	Short Columns	☐	Long Columns	☐		☐	

Requested QA/QC (per batch of _____ Client Samples)

☑	Blank	☑ SRM/LCS 1941b	☐ Blank Spike
☐	Blank Spike Duplicate	☑	Matrix Spike
☑	Matrix Spike Duplicate	☐	Duplicate

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, A-C1 Volume(s): 100ul
Spike Standard(s): PAH, A-C1 Volume(s): 100ul
Internal Standard(s): PAH, A-C1 Volume(s): 100ul
Final Extract Volume (ml): 1.0 Final Solvent: DCM

Comments:

Sample Custodian Signature: amanda Brewster Date: 8/14/13
Laboratory Manager Signature: Date: 8/14/13

Sample Initiaiton - general Rev 1.doc
Rev 1

cc: COC Book
Extraction Lab

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
64519	J13034	Arcadis - Mayflower AR	ARC1831	SED-DA-019 (1.5-2.0)	08/10/13	08/13/13	extract & HOLD	SED		13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081301
Client: Arcadis - Mayflower AR
Initiation Date: 8/14/13

Number of Samples: 7
Matrix: sediments
Due Date: 45 days: 9/28/13
Comments: PAH, TPH, ALI
received 8/13/13

Analyses

☑	PAHs	☐	OCs/PCBs	☑	Aliphatics/TPH	☐	EOM
☐	Dry Wt.	☐	%Lipid	☐	TOC/TIC	☐	
☐	Short Columns	☐	Long Columns	☐		☐	

Requested QA/QC (per batch of _____ Client Samples)

☑ Blank	☐ SRM/LCS 1941b	☐ Blank Spike	
☐ Blank Spike Duplicate		☑ Matrix Spike	
☐ Matrix Spike Duplicate		☐ Duplicate	

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, ALI — Volume(s): 100 µl
Spike Standard(s): PAH, ALI — Volume(s): 100 µl
Internal Standard(s): PAH, ALI — Volume(s): 100 µl
Final Extract Volume (ml): 1.0 — Final Solvent: DCM

Comments:

Sample Custodian Signature: Amanda Brewster — Date: 8/14/13
Laboratory Manager Signature: _____ — Date: 8/14/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
64504	J13034	Arcadis - Mayflower AR	ARC1816	SED-DA-045 (0-0.5)	08/10/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64506	J13034	Arcadis - Mayflower AR	ARC1818	SED-DA-052 (0-0.5)	08/10/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64509	J13034	Arcadis - Mayflower AR	ARC1821	SED-DA-DUP-06-081013	08/10/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64510	J13034	Arcadis - Mayflower AR	ARC1822	SED-DA-018 (0-0.5)	08/10/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64514	J13034	Arcadis - Mayflower AR	ARC1826	SED-DA-019 (0-0.5)	08/10/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64515	J13034	Arcadis - Mayflower AR	ARC1827	SED-DA-019 (0-0.5) MS	08/10/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64516	J13034	Arcadis - Mayflower AR	ARC1828	SED-DA-019 (0-0.5) MSD	08/10/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302

amanda brewster

From: juanramirez@tdi-bi.com
Sent: Thursday, August 15, 2013 9:04 AM
To: 'Mott, Lyndi'; 'amanda brewster'; 'Donell Frank'
Cc: 'Chandler, Jennifer'; 'Capria, Dennis'; 'Tom Mc Donald'
Subject: RE: Samples Received 8/13/13

We will extract the duplicate bottle with the next set of waters.

Juan

Juan Ramirez
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From: Mott, Lyndi [mailto:Lyndi.Mott@arcadis-us.com]
Sent: Thursday, August 15, 2013 8:59 AM
To: juanramirez@tdi-bi.com; 'amanda brewster'; 'Donell Frank'
Cc: Chandler, Jennifer; Capria, Dennis; 'Tom Mc Donald'
Subject: RE: Samples Received 8/13/13

Juan,

If you have other water matrices to extract by 8/16, can you include the 2nd liter of DI water. That way we would have a duplicate analysis of the DI water. I apologize that I didn't let you know sooner. I didn't realize they had already shipped the DI water.

Thank you,
Lyndi Mott

From: juanramirez@tdi-bi.com [mailto:juanramirez@tdi-bi.com]
Sent: Thursday, August 15, 2013 8:50 AM
To: Mott, Lyndi; 'amanda brewster'; 'Donell Frank'
Cc: Chandler, Jennifer; Capria, Dennis; 'Tom Mc Donald'
Subject: RE: Samples Received 8/13/13

Lyndi,

We have extracted 1 liter bottle for ARC1767 (SED-DA-DI-Water). Do we also need to extract the 2nd 1 liter bottle? Extraction Holding time for the sample is due 8/16/2013.

Juan

Juan Ramirez
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Fax - (979) 693-6389
Cell – (979) 777-0793

Web Site: http://tdi-bi.com/

From: Mott, Lyndi [mailto:Lyndi.Mott@arcadis-us.com]
Sent: Thursday, August 15, 2013 8:05 AM
To: amanda brewster; Juan Ramirez; Donell Frank
Cc: Chandler, Jennifer; Capria, Dennis
Subject: RE: Samples Received 8/13/13

All,

On this coc is a sample labeled as DI water; SED-DA-DI water. We sent 2 liters just in case we need to reanalyze. This is unopened DI water that we received from Lancaster. We want to see what is in the DI water since we are seeing hits in the equipment blanks. We are trying to determine if the source is from the field or the DI water since your method has much lower detection limits than Lancaster. Please analyze the DI water in the same manner as the equipment blanks. Thank you,

Lyndi Mott | Project Chemistry/Data Quality Specialist | lyndi.mott@arcadis-us.com

ARCADIS U.S., Inc. | 2929 Briarpark Drive | Suite 300 | Houston, TX 77042
T. 713.953.4829 I T. 832.534.8140 I M. 315.569.9448
www.arcadis-us.com

From: amanda brewster [mailto:amandabrewster@tdi-bi.com]
Sent: Tuesday, August 13, 2013 3:32 PM
To: Mays, Daniel; Lewis, Ryan; Parmelee, Rhiannon; Chandler, Jennifer; Capria, Dennis; Mott, Lyndi
Cc: Juan Ramirez; Donell Frank; tommcdonald@tdi-bi.com
Subject: Samples Received 8/13/13

Hi Daniel/Ryan,

We received your coolers today in good condition.
The internal temperature of Cooler 1 was 5.1ºC and the temperature blank was 1.2ºC
The internal temperature of Cooler 2 was 1.5ºC and the temperature blank was 2.3ºC
The internal temperature of Cooler 3 was 2.1ºC and the temperature blank was 1.9ºC
The internal temperature of Cooler 4 was 6.1ºC and the temperature blank was 0.9ºC

A PDF of the COCs is attached for your records.

Regards,
Amanda

From: Mays, Daniel [mailto:Daniel.Mays@arcadis-us.com]
Sent: Monday, August 12, 2013 6:46 PM
To: amanda brewster
Cc: Lewis, Ryan
Subject: Coolers Shipped 8-12-13

Good Evening Amanda,

The coolers shipped today from the XOM-Mayflower Site are under tracking #8022 2781 5939.

Additionally Ryan Lewis will be sending this e-mails in the future as I will be offsite.

Regards,
Danny Mays | Environmental Specialist, E.I. | daniel.mays@arcadis-us.com
ARCADIS U.S., Inc. | 801 Corporate Center Drive, Suite 300 | Raleigh, North Carolina 27607
T: 919-415-2281 | M: 919-812-1417 | F: 919-854-5448
Professional Affiliate/ARCADIS G&M of North Carolina, Inc.

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081301
Client: Arcadis-Mayflower ATK
Initiation Date: 8/15/13
received 8/13/13

Number of Samples: 1
Matrix: water
Due Date: 45 days: 9/29/13
Comments: PAH, TPH, ALI
collected 8/09/13
extract by 8/15/13

Analyses

☑	PAHs	☐	OCs/PCBs	☑	Aliphatics/TPH	☐	EOM
☐	Dry Wt.	☐	%Lipid	☐	TOC/TIC	☐	_____
☐	Short Columns	☐	Long Columns	☐	_____	☐	_____

Requested QA/QC (per batch of _____ Client Samples)

☐ Blank	☐ SRM/LCS _____	☐ Blank Spike	
☐ Blank Spike Duplicate		☐ Matrix Spike _____	
☐ Matrix Spike Duplicate _____		☐ Duplicate _____	

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, ALI Volume(s): 100ul

Spike Standard(s): PAH, ALI Volume(s): 100ul

Internal Standard(s): PAH, ALI Volume(s): 100ul

Final Extract Volume (ml): 1.0 Final Solvent: DCM

Comments:

Sample Custodian Signature: Amanda Brewster Date: 8/15/13

Laboratory Manager Signature: _____ Date: 8/15/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
64456	J13034	Arcadis - Mayflower AR	ARC1768	SED-DA-DI-Water	08/09/13	08/13/13	PAH, TPH, ALI	WATER	2 of 2	13081301	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/14/13 SDG#: 13081401

Sender: Arcadis- Mayflower, AR

1. Number of Shipping Containers: 1 Arcadis: Ryan Lewis

Comments: large blue cooler

2. Airbill Present? (Yes)/No Shipping Company: Fed Ex

Airbill Number: 8022 2781 5847 Comments: PON

3. Custody Seals on Container?
No (Yes) (Intact) Not Intact Comments: on top of duct tape

4. Chain of Custody Records?
No (Yes) Comments

5. General Sample Conditions:
Frozen (Cool) Unrefrigerated
Dry Ice Blue Ice (Ice)

Temperature/Comments: 0.9°c / temp blank 0.9°c (T6

6. List of Broken Containers:

None

7. Number of Samples Expected: 1 cooler Number of Samples Received: 21 soil
2 water

8. Problems/Discrepancies:

None

9. Resolutions:

N/A

10. Checked in by: Amanda Brewster Date: 8/14/13

large blue cooler

Ice type: wet ice
Cooler temp: 0.9
Temp blank: 0.9
Thermometer: 6
Custody seal:

Sdg 13081401
Cooler 1 of 1

eurofins | Lancaster Laboratories

480554
CUSTODY SEAL
2425 New Holland Pike, Lancaster, PA 17601-5994 (717) 656-2300

DATE: 8/13/13
SIGNATURE:

FedEx NEW Package

8022 2781 5847

0200

Recipient's Copy

1 From
Date 8-13-20
Sender's Name Ryan Lewis Phone 502 413-9000
Company ARCADIS
Address 111 SW Columbia Street Ste 670
Dept./Floor/Suite/Room
City Portland State OR ZIP 97201

2 Your Internal Billing Reference

3 To
Recipient's Name B&B Laminates Phone
Company B&B
Address 1975 18 Suite D
We cannot deliver to P.O. boxes or P.D. ZIP codes.
Dept./Floor/Suite/Room
Address
Use this line for the HOLD location address or for continuation of your shipping address.
City Mount Sterling State IL ZIP 62353

HOLD Weekday
FedEx location address REQUIRED. NOT available for FedEx First Overnight.
HOLD Saturday
FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

4 Express Package Service * To most locations.
NOTE: Service order has changed. Please select carefully.
Packages up to 150 lbs.
For packages over 150 lbs., use the new FedEx Express Freight 1Ib Airbill.

Next Business Day
- FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days
- FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.
- FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.
- FedEx Envelope*
- FedEx Pak*
- FedEx Box
- FedEx Tube
- Other

6 Special Handling and Delivery Signature Options
- SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.
- No Signature Required — Package may be left without obtaining a signature for delivery.
- Direct Signature — Someone at recipient's address may sign for delivery. Not available for FedEx First Overnight.
- Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. Not available for FedEx First Overnight.

Does this shipment contain dangerous goods?
One box must be checked.
- No
- Yes — As per attached Shipper's Declaration.
- Yes — Shipper's Declaration not required.
- Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg
- Cargo Aircraft Only

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

7 Payment Bill to:
Enter FedEx Acct. No. or Credit Card No. below.
- Sender — Acct. No. in Section 1 will be billed
- Recipient
- Third Party
- Credit Card
- Cash/Check

Total Packages
Total Weight ____ lbs.
Credit Card Auth.

*Our liability is limited to $100 unless you declare a higher value. See the current FedEx Service Guide for details.

644

8022 2781 5847

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: B00E6003.1301 Mayflower Pipeline

B&B Contact: Juan Ramirez

Sampler Signature:

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs + 8270 SIM	Other Instructions / Comments
SO-DA-001 (0-0.5)	8/13/13	1030	Sed	none	4oz	1	X	sdg 13081401 Cooler 1 of 1 (1)
SO-DA-001 (0.5-1.0)		1035				1		44 PAHs List
SO-DA-001 (1.0-1.5)		1040				1		
SO-DA-002 (0-0.5)		1100				1		
SO-DA-002 (0-0.5)MS		1100				1		
SO-DA-002 (0-0.5)MSD		1100				1		
SO-DA-002 (0.5-1.0)		1105				1		
SO-DA-002 (1.0-1.5)		1110				1		
SO-DA-003 (0-0.5)		1215				1		
SO-DA-003 (0.5-1.0)		1220				1		
					Total # of Containers	10		

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jonathan Flowerfelt	ARCADIS	8/13/13	1630	Printed Name: Amanda Brewster	B&B Labs	8/14/13	11:00
Signature:				Signature: Amanda Brewster			
Printed Name:				Printed Name:			
Signature:				Signature:			

Matrix:

T=Tissue G=Gas
S=Soil/Sediment Ws=Waste
R=Rinseate HW=Hazardous Waste
P=Product W=Water

Sample Container: Vol/material

G=Glass C=Core
P=Plastic B=Bag

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:

Analyses: PAHs + 8270 SIM

Other Instructions: sdg 13081401 Cooler 1 of 1 (2)

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Comments
SO-DA-003 (1-1.5)	8/13/13	1225	Sed	none	4 oz	1	4/4 PAHs List
SO-DA-004 (0-0.5)		1330				1	
SO-DA-004 (0.5-1.0)		1335				1	
SO-DA-004 (1.0-1.5)		1340				1	
SO-DA-005 (0-0.5)		1400				1	
SO-DA-005 (0.5-1.0)		1405				1	
SO-DA-005 (1.0-1.5)		1410				1	
SO-DA-006 (0-0.5)		1430				1	
SO-DA-006 (0.5-1.0)		1435				1	
SO-DA-006 (1.0-1.5)		1440				1	

Total # of Containers: 10

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jonathan Flowerdew	ARCADIS	8/12/13	1630	Printed Name: Amanda Brewster	B&B Labs	8/14/13	11:00
Signature:	↓	↓	↓	Signature: Amanda Brewster			
Printed Name:				Printed Name:			
Signature:				Signature:			

Matrix:

T=Tissue 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:

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs + 8270 SIM	Other Instructions	Comments
SO-DA-Grab-06-081313	8/13/13		Soil	none	4oz	1		Sdg 1308 1401 cooler 1 of 1 (3)	44 PAHs List
SO-DA-EB-05-081313	↓	1610	Water	↓	LAG	2			↓

Total # of Containers: 3

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jonathan Flamer Felt	ARCADIS	8/13/13	1630	Printed Name: Amanda Brewster	B&B Labs	8/14/13	11:00
Signature:	↓	↓	↓	Signature: Amanda Brewster			
Printed Name				Printed Name:			
Signature:				Signature:			

Matrix:

T=Tissue S=Soil/Sediment R=Rinseate P=Product G=Gas Ws=Waste HW=Hazardous Waste W=Water

Sample Container: Vol/material

G=Glass P=Plastic C=Core B=Bag

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64522	J13034	Arcadis - Mayflower AR	ARC1833	SO-DA-001 (0-0.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64523	J13034	Arcadis - Mayflower AR	ARC1834	SO-DA-001 (0.5-1.0)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64524	J13034	Arcadis - Mayflower AR	ARC1835	SO-DA-001 (1.0-1.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64525	J13034	Arcadis - Mayflower AR	ARC1836	SO-DA-002 (0-0.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64526	J13034	Arcadis - Mayflower AR	ARC1837	SO-DA-002 (0-0.5) MS	08/13/13	08/14/13	PAH	SOIL	44 analytes, MS	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64527	J13034	Arcadis - Mayflower AR	ARC1838	SO-DA-002 (0-0.5) MSD	08/13/13	08/14/13	PAH	SOIL	44 analytes, MSD	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64528	J13034	Arcadis - Mayflower AR	ARC1839	SO-DA-002 (0.5-1.0)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64529	J13034	Arcadis - Mayflower AR	ARC1840	SO-DA-002 (1.0-1.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64530	J13034	Arcadis - Mayflower AR	ARC1841	SO-DA-003 (0-0.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64531	J13034	Arcadis - Mayflower AR	ARC1842	SO-DA-003 (0.5-1.0)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64532	J13034	Arcadis - Mayflower AR	ARC1843	SO-DA-003 (1.0-1.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64533	J13034	Arcadis - Mayflower AR	ARC1844	SO-DA-004 (0-0.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64534	J13034	Arcadis - Mayflower AR	ARC1845	SO-DA-004 (0.5-1.0)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64535	J13034	Arcadis - Mayflower AR	ARC1846	SO-DA-004 (1.0-1.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64536	J13034	Arcadis - Mayflower AR	ARC1847	SO-DA-005 (0-0.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64537	J13034	Arcadis - Mayflower AR	ARC1848	SO-DA-005 (0.5-1.0)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64538	J13034	Arcadis - Mayflower AR	ARC1849	SO-DA-005 (1.0-1.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64539	J13034	Arcadis - Mayflower AR	ARC1850	SO-DA-006 (0-0.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64540	J13034	Arcadis - Mayflower AR	ARC1851	SO-DA-006 (0.5-1.0)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64541	J13034	Arcadis - Mayflower AR	ARC1852	SO-DA-006 (1.0-1.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64542	J13034	Arcadis - Mayflower AR	ARC1853	SO-DA-DUP-06-081313	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64543	J13034	Arcadis - Mayflower AR	ARC1854	SO-DA-EB-05-081313	08/13/13	08/14/13	PAH	WATER	44 analytes, 1 of 2	13081401	Cooler 1	Arcadis: Ryan Lewis	1L amber glass BR bottle	B0086003.1302
64544	J13034	Arcadis - Mayflower AR	ARC1855	SO-DA-EB-05-081313	08/13/13	08/14/13	HOLD	WATER	44 analytes, 2 of 2	13081401	Cooler 1	Arcadis: Ryan Lewis	1L amber glass BR bottle	B0086003.1302

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081401
Client: Arcadis- Mayflower AR
Initiation Date: 8/14/13

Number of Samples: 21
Matrix: Soil
Due Date: 45 days: 9/28/13
Comments: PAH: 44 analytes
received 8/14/13

Analyses

☐	PAHs	☐	OCs/PCBs	☐	Aliphatics/TPH	☐	EOM
☑	Dry Wt.	☐	%Lipid	☐	TOC/TIC	☐	
☐	Short Columns	☐	Long Columns	☐		☐	

Requested QA/QC (per batch of _____ Client Samples)

☐ Blank	☑ SRM/LCS 1941b	☐ Blank Spike	
☐ Blank Spike Duplicate		☐ Matrix Spike	
☐ Matrix Spike Duplicate		☐ Duplicate	

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, AC Volume(s): 100µl
Spike Standard(s): PAH, ACL Volume(s): 100µl
Internal Standard(s): PAH, ACL Volume(s): 100µl
Final Extract Volume (ml): 1.0 Final Solvent: DCM

Comments:

Sample Custodian Signature: Amanda Brewster Date: 8/14/13
Laboratory Manager Signature: _____ Date: 8/14/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
64522	J13034	Arcadis - Mayflower AR	ARC1833	SO-DA-001 (0-0.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64523	J13034	Arcadis - Mayflower AR	ARC1834	SO-DA-001 (0.5-1.0)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64524	J13034	Arcadis - Mayflower AR	ARC1835	SO-DA-001 (1.0-1.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64525	J13034	Arcadis - Mayflower AR	ARC1836	SO-DA-002 (0-0.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64526	J13034	Arcadis - Mayflower AR	ARC1837	SO-DA-002 (0-0.5) MS	08/13/13	08/14/13	PAH	SOIL	44 analytes, MS	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64527	J13034	Arcadis - Mayflower AR	ARC1838	SO-DA-002 (0-0.5) MSD	08/13/13	08/14/13	PAH	SOIL	44 analytes, MSD	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64528	J13034	Arcadis - Mayflower AR	ARC1839	SO-DA-002 (0.5-1.0)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64529	J13034	Arcadis - Mayflower AR	ARC1840	SO-DA-002 (1.0-1.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64530	J13034	Arcadis - Mayflower AR	ARC1841	SO-DA-003 (0-0.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64531	J13034	Arcadis - Mayflower AR	ARC1842	SO-DA-003 (0.5-1.0)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64532	J13034	Arcadis - Mayflower AR	ARC1843	SO-DA-003 (1.0-1.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64533	J13034	Arcadis - Mayflower AR	ARC1844	SO-DA-004 (0-0.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64534	J13034	Arcadis - Mayflower AR	ARC1845	SO-DA-004 (0.5-1.0)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64535	J13034	Arcadis - Mayflower AR	ARC1846	SO-DA-004 (1.0-1.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64536	J13034	Arcadis - Mayflower AR	ARC1847	SO-DA-005 (0-0.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64537	J13034	Arcadis - Mayflower AR	ARC1848	SO-DA-005 (0.5-1.0)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64538	J13034	Arcadis - Mayflower AR	ARC1849	SO-DA-005 (1.0-1.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64539	J13034	Arcadis - Mayflower AR	ARC1850	SO-DA-006 (0-0.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64540	J13034	Arcadis - Mayflower AR	ARC1851	SO-DA-006 (0.5-1.0)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64541	J13034	Arcadis - Mayflower AR	ARC1852	SO-DA-006 (1.0-1.5)	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302
64542	J13034	Arcadis - Mayflower AR	ARC1853	SO-DA-DUP-06-081313	08/13/13	08/14/13	PAH	SOIL	44 analytes	13081401	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar		B0086003.1302

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081401
Client: Arcadis-Mayflower, AR
Initiation Date: 8/14/13

Number of Samples: 1
Matrix: water
Due Date: 45 days: 9/28/13
Comments: collected 8/13/13
extract by 8/19/13
received 8/14/13

Analyses

☑	PAHs	☐	OCs/PCBs	☑	Aliphatics/TPH	☑	EOM
☐	Dry Wt.	☐	%Lipid	☐	TOC/TIC	☐	
☑	Short Columns	☐	Long Columns	☐		☐	

Requested QA/QC (per batch of _____ Client Samples)

☑ Blank	☐ SRM/LCS _____	☑ Blank Spike	
☑ Blank Spike Duplicate		☐ Matrix Spike _____	
☐ Matrix Spike Duplicate _____		☐ Duplicate _____	

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, A11 Volume(s): 100µl
Spike Standard(s): PAH, A11 Volume(s): 100µl
Internal Standard(s): PAH, A11 Volume(s): 100µl
Final Extract Volume (ml): 1.0 Final Solvent: DCM

Comments:

Sample Custodian Signature: Amanda Brewster Date: 8/14/13 8/13/14 QB 8/14/13
Laboratory Manager Signature: Date: 8/14/13

Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
J13034	Arcadis - Mayflower AR	ARC1854	SO-DA-EB-05-081313	08/13/13	08/14/13	PAH	WATER	44 analytes, 1 of 2	13081401	Cooler 1	Arcadis: Ryan Lewis	1L amber glass BR bottle		B0086003.1302

amanda brewster

From: amanda brewster <amandabrewster@tdi-bi.com>
Sent: Wednesday, August 14, 2013 10:52 AM
To: 'Lewis, Ryan'; 'Mays, Daniel'; Parmelee, Rhiannon (Rhiannon.Parmelee@arcadis-us.com); 'Jennifer.Chandler@arcadis-us.com'; 'Dennis.Capria@arcadis-us.com'; Mott, Lyndi (Lyndi.Mott@arcadis-us.com)
Cc: Juan Ramirez (juanramirez@tdi-bi.com); Donell Frank; 'tommcdonald@tdi-bi.com' (tommcdonald@tdi-bi.com)
Subject: Samples Received 8/14/13
Attachments: COC 8-14-13.pdf

Hi Ryan,

We received your cooler this morning in good condition.
The internal temperature of the cooler was 0.9ºC and the temperature blank was 0.9ºC.
A PDF of the COC is attached for your records.

Regards,
Amanda

From: Lewis, Ryan [mailto:Ryan.Lewis@arcadis-us.com]
Sent: Tuesday, August 13, 2013 7:18 PM
To: amandabrewster@tdi-bi.com
Cc: Mays, Daniel
Subject: One Cooler Shipped 8-13-2013

Good Evening Amanda,

One cooler shipped today from the XOM-Mayflower Site are under tracking #8022 2781 5847.

Regards,

Ryan B Lewis | Geologist 1 | ryan.lewis@arcadis-us.com

ARCADIS U.S., Inc. | 111 SW Columbia Street, Suite 670 | Portland, OR 97201
T: 503 220 8201 ext. 1101 | M: 503 863 9060
www.arcadis-us.com

ARCADIS, Imagine the result
Please consider the environment before printing this email.

Laboratory Bench Sheet Logs

B&B LABORATORIES ENVIRONMENTAL EXTRACTION LOG

MATRIX
- ☐ OTHER
- ☐ WATER
- ☒ SEDIMENT
- ☐ TISSUE

Job #: J13034 SDG #: 13081301, 13081401

Client: Arcadis - Mayflower AR

Analysis: ☒ PAH ☐ PESTS ☐ PCB ☒ ALI

Other: TPH

Extraction Solvent: DCM

Final Solvent: DCM Final Volume: 1.0 mL

Lipids Y / (N)
Dry Wt. (Y) N
Copper (Y) N
EOM (Y) N
Columns (Y) N
Long / (Short)

Surrogate: 100 µL
PAH: AR-WKSU-2500-003
Pest/PCB: ←
Aliphatic: AL-WKSU-200-002
Other: —

Spike: 100 µL
PAH: AR-WKSK-1000-026
Pest/PCB: —
Aliphatic: AL-WKSK-100-020
Other: —

GC Int Std: 100 µL
PAH: AR-WK1S-2500-002
Pest/PCB: —
Aliphatic: AL-WK1S-500-001
Other: —

Turbo Vap II
Bath T (C):
Pressure (>20psi):
Check Water Level:
Turbo Vap Date:

General Comments:

Report 13-3115 ASE 2

All samples get PAH & ALI standards. See Comments for specific analysis. -CK

	Added	Witness
Surrogate:	8/26/13 CK	8/26/13 HA
Spike:	8/26/13 CK	8/26/13 HA
Internal:	8/28/13 HA	8-28-13

	Sample Name	Client ID	Wet Wt. (g or L)	Dry Wt. %	Dry Wt. (g)	Extraction Comments
1	ENV3095A	Procedural Blank	—	—	—	
2	ENV3095B	SRM 1941b	4.15	97.61	4.05	
3	ENV3095C	Matrix Spike (ARC1811)	32.31	46.45	15.01	
4	ENV3095D	Matrix Spike Dup (ARC1812)	29.75	50.55	15.04	
5	ENV3095E	Duplicate (ARC1807)	24.80	60.48	15.00	
6	ARC1807	SED-DA-047 (0-0.5)	24.80	60.48	15.00	
7	ARC1810	SED-DA-048 (0-0.5)	32.66	46.12	15.06	original for MS/MSD
8	ARC1814	SED-DA-048 (1.0-1.5)	20.15	74.88	15.09	PAH only
9	ARC1815	SED-DA-DUP-~~0708~~07-081213	23.55	63.81	15.03	
10	ARC1841	SD-DA-003 (0-0.5)	19.50	77.06	15.03	PAH only
11	ARC1842	SD-DA-003 (0.5-1.0)	18.19	82.72	15.05	PAH only
12	ARC1843	SD-DA-003 (1.0-1.5)	17.77	84.40	15.00	PAH only

Internal Chain of Custody

	Date	Initials
Extraction Prep	8/26/13	CK
	8/26/13	CK
Extraction	8/26/13	CK
	8/26/13	CK
Concentration	8-27-13	EM
	8-27-13	EM
Short Columns	8-27-13	EM
	8-27-13	EM

B&B LABORATORIES ENVIRONMENTAL EXTRACTION LOG

	Sample Name	Client ID	Wet Wt. (g or L)	Dry Wt. %	Dry Wt. (g)	Extraction Comments
13	ARC1844	SO-DA-004 (0-0.5)	20.00	75.00	15.00	PAH only
14	ARC1845	SO-DA-004 (0.5-1.0)	17.74	85.04	15.09	PAH only
15	ARC1846	SO-DA-004 (1.0-1.5)	19.15	79.10	15.15	PAH only
16						
17						
18						
19						
20						
21						
22						
23						
24						

Internal Chain of Custody

Concentration Short Columns — Date: 8-28-13 / 8-28-13 — Initials: EW / EW

Columns SA1 — Date: / Date: — Initials: / Initials:

Concentration SA1 — Date: / Date: — Initials: / Initials:

Columns SA2 — Date: / Date: — Initials: / Initials:

Concentration SA2 — Date: / Date: — Initials: / Initials:

Transfer for HPLC — Date: / Date: — Initials: / Initials:

HPLC — Date: / Date: — Initials: / Initials:

Post-HPLC Concentration — Date: / Date: — Initials: / Initials:

Final Extract Transfer — Date: 8-28-13 — Initials: EW

Dry Weight Page

DRY 1363, 1364

Lipid/EOM Page

EOM 1033

Clean-up/Separation/Other Columns

—

Lot Numbers

DCM: 52314
Hexane: —
Hydromatrix: —
Water: DI514-F
Silica: BCBJ9493V
Alumina: TG14BZEMS
Sodium Sulfate: 20926525
Pentane: —
Copper: 115050-AV
Hydrochloric Acid: —
SPE Columns: —
Other: —

Sample Storage Box #

J13034-4

HPLC Storage Box #

—

QC Review

Date	Initials
8/30/13	CK

Copied to Folders

8/30/13 CK

MATRIX: OTHER / SEDIMENT / WATER

Job #: J13034 SDG #: 1308130l , 1308140l

Client: Arcadis - Mayflower AR

General comments:

Lab Manager Date/Int: 8/30/13

Transferred by Date/Int: 8/28/13 CK
From ENV Pg: ENV3095
From DRY Pg: DRY 1363, 1364

Date/Int: 8-27-13 EF Bal. Cal. ✓

Date/Int: 8/28/13 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	ENV3095A	Procedural Blank	—	—	3	24.639	24.640	0.001	—	—	
2	ENV3095B	SRM 1941b	4.05	97.61	3	24.724	24.863	0.139	1005	1030	
3	ENV3095C	Matrix Spike (ARC1811)	15.01	46.45	3	24.597	28.962	4.365	4053	8724	
4	ENV3095D	Matrix Spike Dup (ARC1812)	15.04	50.55	3	24.568	28.610	4.042	4076	8063	
5	ENV3095E	Duplicate (ARC1807)	15.00	60.48	3	25.018	26.984	1.996	2378	3932	
6	ARC1807	SED-DA-047 (0-0.5)	15.00	60.48	3	24.598	26.696	2.098	2538	4196	
7	ARC1810	SED-DA-048 (0-0.5)	15.06	46.12	3	24.649	28.373	3.724	3421	7418	
8	ARC1814	SED-DA-048 (1.0-1.5)	15.09	74.88	3	30,292	30.331	0.039	58	78	
9	ARC1815	SED-DA-DUP-07-081213	15.03	63.81	3	24.555	28.501	3.946	5026	7876	
10	ARC1841	SO-DA-003 (0-0.5)	15.03	77.06	3	24.835	27.139	2.304	3544	4599	
11	ARC1842	SO-DA-003 (0.5-1.0)	15.05	82.72	3	25.273	25.763	0.490	808	977	
12	ARC1843	SO-DA-003 (1.0-1.5)	15.00	84.40	3	30.031	30.065	0.034	57	68	

EOM 1033

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	ARC1844	SO-DA-004 (0-0.5)	15.00	75.00	3	24.836	29.278	4.442	6663	8884	
14	ARC1845	SO-DA-004 (0.5-1.0)	15.09	85.04	3	24.304	24.586	0.282	477	561	
15	ARC1846	SO-DA-004 (1.0-1.5)	15.15	79.10	3	24.650	25.260	0.610	955	1208	
16											
17											
18											
19											
20											
21											
22											
23											
24											

$$EOM = \frac{(EOM\ Wt.\ (mg))\ (Final\ Extract\ Vol.\ (ml))}{(Smpl\ Wt/Vol.\ (g/L))\ (0.10\ ml)} \times 1000$$

$$\%RPD = \frac{(EOM_1 - EOM_2)}{(EOM_1 + EOM_2) \times 0.5} \times 100\%$$

	Initial Filter Wt (mg)	Filter & Sample Wt (mg)	Wt. of 100 µl Lipid Wt. (mg)
Solvent Blank	24.365	24.365	0.000
EOM Standard	25.316	35.721	10.405

EOM-WKLC-10-004

The Relative Percent Difference (RPD) between duplicates must be ≤ 25%.

Date/Int:	RPD
8/28/13 CK	6.496
Sample: ARC1807	
Duplicate: ENV309SE	

B&B LABORATORIES % DRY WEIGHT LOGBOOK

MATRIX
- ☐ OTHER
- ☒ SEDIMENT
- ☐ TISSUE

Type: _____

Job #: 513034 SDG #: 1308130l

Client: Arcadis - May Flower AR

General comments:

Lab Mananger		Date/Init: ☒ Bal. Cal.	Beaker + Dry Smpl (g)		Date/Init:
Date:	Init:		Date/Init:	Date/Init:	
8/21/13		8/14/13 CSD	8/14/13 CSD ☒ Bal. Cal.	8/16/13 HH ☑ Bal. Cal.	8/19/13 CK

	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	1	2	(%) Dry Weight	Comments
1	ARC 1784	SED-DA-021 (0-0.5)	1.31	2.36	1.64	1.63	30.48	
2	ARC 1787	SED-DA-021 (1.5-2.0)	1.31	3.67	3.14	3.14	77.54	
3	ARC 1788	SED-DA-021 (2.0-3.0)	1.30	3.39	2.99	2.99	80.86	
4	ARC 1789	SED-DA-021 (3.0-3.3)	1.31	2.86	2.56	2.56	80.65	
5	ARC 1790	SED-DA-042 (0-0.5)	1.31	2.49	1.92	1.92	51.69	
6	ARC 1791	SED-DA-042 (0-0.5) MS	1.31	2.43	1.72	1.72	36.61	
7	ARC 1792	SED-DA-042 (0-0.5) MSD	1.33	2.60	1.90	1.90	44.88	
8	ARC 1795	SED-DA-046 (0-0.5)	1.32	2.87	2.22	2.27	61.29	
9	ARC 1798	SED-DA-049 (0-0.5)	1.32	2.95	1.95	1.95	38.65	
10	ARC 1801	SED-DA-043 (0-0.5)	1.31	2.79	2.20	2.20	60.14	
11	ARC 1804	SED-DA-044 (0-0.5)	1.31	2.96	2.17	2.16	51.52	
12	ARC 1806	SED-DA-044 (1.0-1.5)	1.31	3.14	2.74	2.74	77.30	
13	ARC 1807	SED-DA-047 (0-0.5)	1.30	2.97	2.31	2.31	60.48	
14	ARC 1808	SED-DA-047 (0.5-1.0)	1.31	2.92	2.42	2.42	68.94	
15	ARC 1809	SED-DA-047 (1.0-1.5)	1.31	2.88	2.49	2.49	75.16	
16	ARC 1810	SED-DA-048 (0-0.5)	1.29	3.35	2.25	2.24	46.12	

DRY 1363

B&B LABORATORIES % DRY WEIGHT LOGBOOK

					Beaker + Dry Smpl (g) Date/Init: 8/15/13 CSS ☑ Bal. Cal.	Date/Init: 8/16/13 HA ☑ Bal. Cal.		
	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	1	2	(%) Dry Weight	Comments
17	ARC 1811	SED-DA-048 (0-0.5) MS	1.31	2.86	2.05	2.03	46.45	
18	ARC 1812	SED-DA-048 (0-0.5) MSD	1.32	3.14	2.24	2.24	50.55	
19	ARC 1813	SED-DA-048 (0.5-1.0)	1.31	2.68	2.25	2.25	68.61	
20	ARC 1814	SED-DA-048 (1.0-1.5)	1.30	3.33	2.82	2.82	74.88	
21	ARC 1815	SED-DA-DUP-07-081213	1.33	~~2.33~~	2.00	2.00	63.81	2.38g
22	ARC 1787 DUP	Duplicate	1.30	3.08	2.68	2.68	77.53	
23								
24								

$$\% \text{ Dry Weight} = \frac{[\text{Beaker + Dry SMPL (g)}] - [\text{Beaker Weight (g)}]}{[\text{Beaker + Wet SMPL (g)}] - [\text{Beaker Weight (g)}]} \times 100$$

$$\text{RPD} = \frac{[\text{Original \% Dry Weight Value} - \text{Duplicate \% Dry Weight Value}]}{[\text{Original \% Dry Weight Value} + \text{Duplicate \% Dry Weight Value}] \times 0.5} \times 100$$

The Relative Percent Difference (RPD) between duplicates must be ≤ 25%.

Date / Init.	RPD
8/19/13 CK	0.018%
Sample # ARC1787	
Duplicate # ARC1787 Dup	

DRY 1363

B&B LABORATORIES % DRY WEIGHT LOGBOOK

MATRIX
- ☐ OTHER
- ☒ SEDIMENT
- ☐ TISSUE Type

Job #: J13034 SDG #: 13081401

Client: Arcadis - Mayflower AR

General comments:

Lab Mananger		Date/Init: ☒ Bal. Cal.	Beaker + Dry Smpl (g)		Date/Init:
Date:	Init:		Date/Init:	Date/Init:	
8/21/13		8/15/13 CBS	8/16/13 HA ☑ Bal. Cal.	8/19/13 ☑ Bal. Cal.	8/21/13 CK

	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	1	2	(%) Dry Weight	Comments
1	ARC1833	SO-DA-001 (0-0.5)	1.32	2.74	2.50	2.49	82.39	
2	ARC1834	SO-DA-001 (0.5-1.0)	1.30	2.63	2.39	2.39	81.95	
3	ARC1835	SO-DA-001 (1.0-1.5)	1.31	2.50	2.38	2.38	89.92	
4	ARC1836	SO-DA-002 (0-0.5)	1.30	2.66	2.38	2.37	78.68	
5	ARC1837	SO-DA-002 (0-0.5) MS	1.31	2.57	2.28	2.28	76.98	
6	ARC1838	SO-DA-002 (0-0.5) MSD	1.29	3.32	2.89	2.89	78.82	
7	ARC1839	SO-DA-002 (0.5-1.0)	1.32	2.62	2.38	2.37	80.77	
8	ARC1840	SO-PA-002 (1.0-1.5)	1.31	2.95	2.59	2.59	78.05	
9	ARC1841	SO-DA-003 (0-0.5)	1.31	2.40	2.16	2.15	77.06	
10	ARC1842	SO-DA-003 (0.5-1.0)	1.29	2.91	2.63	2.63	82.72	
11	ARC1843	SO-DA-003 (1.0-1.5)	1.30	2.71	2.49	2.49	84.40	
12	ARC1844	SO-DA-004 (0-0.5)	1.29	2.45	2.16	2.16	75.00	
13	ARC1845	SO-DA-004 (0.5-1.0)	1.32	2.59	2.40	2.40	85.04	
14	ARC1846	SO-DA-004 (1.0-1.5)	1.32	3.09	2.74	2.72	79.10	
15	ARC1847	SO-DA-005 (0-0.5)	1.32	3.35	3.02	3.01	83.25	
16	ARC1848	SO-DA-005 (0.5-1.0)	1.32	2.55	2.36	2.36	84.55	

DRY 1364

B&B LABORATORIES % DRY WEIGHT LOGBOOK

					Beaker + Dry Smpl (g) Date/Init: 8/16/13 HA [X] Bal. Cal.	Beaker + Dry Smpl (g) Date/Init: 8/19/13 HA [✓] Bal. Cal.		
	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	1	2	(%) Dry Weight	Comments
17	ARC1849	SO-DA-005 (1.0-1.5)	1.33	2.92	2.58	2.58	78.62	
18	ARC1850	SO-DA-006 (0-0.5)	1.33	2.53	2.22	2.22	74.17	
19	ARC1851	SO-DA-006 (0.5-1.0)	1.31	3.11	2.74	2.74	79.44	
20	ARC1852	SO-DA-006 (1.0-1.5)	1.32	2.83	2.62	2.61	85.43	
21	ARC1853	SO-DA-DUP-06-081313	1.30	2.77	2.45	2.45	78.23	
22	ARC1853 Dup	Duplicate	1.31	2.95	2.67	2.67	82.93	
23								
24								

$$\%\ \text{Dry Weight} = \frac{[\text{Beaker + Dry SMPL (g)}] - [\text{Beaker Weight (g)}]}{[\text{Beaker + Wet SMPL (g)}] - [\text{Beaker Weight (g)}]} \times 100$$

$$\text{RPD} = \frac{[\text{Original \% Dry Weight Value} - \text{Duplicate \% Dry Weight Value}]}{[\text{Original \% Dry Weight Value} + \text{Duplicate \% Dry Weight Value}] \times 0.5} \times 100$$

The Relative Percent Difference (RPD) between duplicates must be ≤ 25%.

Date / Init.	RPD
8/21/13 CK	5.827%
Sample # ARC1853	
Duplicate # ARC1853 Dup	

DRY 1364

Last Page