

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

Arcadis
Mayflower AR Project
(Contract # B0086003.1302)
August 13, 2013 through August 16, 2013
Collection Dates

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

(QC Batch ENV 3089)

September 19, 2013

Technical Report 13-3109

**Arcadis
Mayflower AR Project
(Contract # B0086003.1302)
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Table of Contents
B&B Laboratories
September 19, 2013**

Heading	Page Number
Sample/Analyses Description	1
Water Samples.....	3
Aliphatic Hydrocarbons (C9-C40)/Total Petroleum Hydrocarbons/Extractable	
Organic Matter Concentrations	4
Total Petroleum Hydrocarbons Chromatograms.....	9
Polycyclic Aromatic Hydrocarbon Concentration	12
Polycyclic Aromatic Hydrocarbon Histograms.....	31
Polycyclic Aromatic Hydrocarbon Total Ion Chromatograms	42
Total Petroleum Hydrocarbons/Aliphatic Hydrocarbons Raw Data.....	53
Polycyclic Aromatic Hydrocarbon Raw Data.....	94
Aliphatic Hydrocarbons/Total Petroleum Hydrocarbons/Initial Calibration Data and	
Initial Calibration Verification Data	220
TPH/Aliphatic ICAL FID1C08FRONT081213.M GC/FID-1 FRONT	221
Aliphatic Mass Discrimination Ratio	254
Aliphatic Internal Standard Area Data	256
Polycyclic Aromatic Hydrocarbon Initial Calibration Data and Initial Calibration	
Verification Data.....	258
PAH ICAL AR 60149.M GC/MS 6 (PAH-2012)	259
PAH Mass Discrimination Ratio	294
PAH Internal Standard Area Data	296
SRM-2779 Reference Oil Aliphatic and PAH Resolution Checks	298
Supporting Documents.....	301
Shipping, Sample Receiving, and Project Initiation Documents	302
Laboratory Bench Sheet Logs.....	334
Last Page.....	339

Narrative

Technical Report 13-3109
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Water Samples

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Introduction

B&B Laboratories received a shipment of two (2) ice chests that were sent by Ryan Lewis of Arcadis using FedEx on August 15, 2013 and arrived on August 16, 2013 in College Station, Texas. The ice chests arrived sealed and in good condition.

Cooler Number	Temperature	Samples Received
1	1.4°C 1.9°C (Temp Blank)	Nineteen (19) sediment/soils in 8oz or 4oz jars
2	2.4°C 2.0°C (Temp Blank)	Four (4) sediments in 8oz or 4oz jars Four (4) 1L water samples in B/R amber bottles.

B&B Laboratories received a shipment of three (3) ice chests that were sent by Jessica Geurts of Arcadis using FedEx on August 19, 2013 and arrived on August 20, 2013 in College Station, Texas. The ice chests arrived sealed and in good condition.

Cooler Number	Temperature	Samples Received
1	5.7°C 5.1°C (Temp Blank)	Nine (9) 1L water samples in B/R amber bottles.
2	4.7°C 0.6°C (Temp Blank)	Nine (9) sediments in 8oz or 4oz jars Two (2) 1L water samples in B/R amber bottles.
3	8.2°C 2.4°C (Temp Blank)	Eight (8) 1L water samples in B/R amber bottles.

The water and sediment/soil samples were collected between August 13, 2013 and August 16, 2013 in support of the Mayflower AR, Project (Arcadis-US Contract # B0086003.1301 and B0086003.1302). The water samples were logged in according to B&B Laboratories standard operating procedure (B&B 1009) and were stored in an access-controlled refrigerator (4.0°C) prior to analysis. The sediment/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. The water samples were analyzed for Total Petroleum Hydrocarbons (TPH) and C₉ to C₄₀ 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 ALI, TPH, PAH, and biological markers are included in this report.

Analytical Methods

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

Table 1. Standard Operating Procedures for each analytical test.

Matrix	Extraction	ALI/TPH	PAH
Water	B&B 1011	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 an "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
Water	µg/L	µg/L	ng/L

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	Water MDLs
Sample size	1L, 1ml final extract volume
Unit of measure	µg/L
n-C9	0.288
n-C10	0.252
n-C11	0.251
n-C12	0.266
n-C13	0.258
i-c15	0.256
n-C14	0.277
i-c16	0.234
n-C15	0.256
n-C16	0.234
i-c18	0.100
n-C17	0.174
Pristane	0.190
n-C18	0.100
Phytane	0.201
n-C19	0.073
n-C20	0.077
n-C21	0.081
n-C22	0.150
n-C23	0.117
n-C24	0.069
n-C25	0.066
n-C26	0.070
n-C27	0.069
n-C28	0.077
n-C29	0.087
n-C30	0.081
n-C31	0.126
n-C32	0.083
n-C33	0.282
n-C34	0.106
n-C35	0.112
n-C36	0.113
n-C37	0.148
n-C38	0.127
n-C39	0.160
n-C40	0.144
Total Petroleum Hydrocarbons	13
Total Resolved Hydrocarbons	13
Unresolved Complex Mixture	13
Extractable Organic Matter	100

Table 4. Continued. Method Detection Limits.

PAH	Water MDLs
Sample size	1.0L, 1mL final extract
Unit of measure	ng/L
cis/trans Decalin	1.14
C1-Decalins	2.28
C2-Decalins	2.28
C3-Decalins	2.28
C4-Decalins	2.28
Naphthalene	2.91
C1-Naphthalenes	1.36
C2-Naphthalenes	5.82
C3-Naphthalenes	5.82
C4-Naphthalenes	5.82
Benzothiophene	1.29
C1-Benzothiophenes	2.57
C2-Benzothiophenes	2.57
C3-Benzothiophenes	2.57
C4-Benzothiophenes	2.57
Biphenyl	5.09
Acenaphthylene	1.17
Acenaphthene	1.44
Dibenzofuran	1.19
Fluorene	0.81
C1-Fluorenes	1.63
C2-Fluorenes	1.63
C3-Fluorenes	1.63
Carbazole	0.83
Anthracene	0.77
Phenanthrene	2.26
C1-Phenanthrenes/Anthracenes	0.70
C2-Phenanthrenes/Anthracenes	3.03
C3-Phenanthrenes/Anthracenes	3.03
C4-Phenanthrenes/Anthracenes	3.03
Dibenzothiophene	0.82
C1-Dibenzothiophenes	0.67
C2-Dibenzothiophenes	1.34
C3-Dibenzothiophenes	1.34
C4-Dibenzothiophenes	1.34
Fluoranthene	1.09
Pyrene	1.37
C1-Fluoranthenes/Pyrenes	2.47
C2-Fluoranthenes/Pyrenes	2.47
C3-Fluoranthenes/Pyrenes	2.47
C4-Fluoranthenes/Pyrenes	2.47
Naphthobenzothiophene	1.03
C1-Naphthobenzothiophenes	2.07
C2-Naphthobenzothiophenes	2.07
C3-Naphthobenzothiophenes	2.07
C4-Naphthobenzothiophenes	2.07
Benz(a)anthracene	0.74
Chrysene/Triphenylene	0.80
C1-Chrysenes	1.60

PAH (continued)	
Sample size	Water MDLs
Unit of measure	1.0L, 1mL final extract ng/L
C2-Chrysenes	1.60
C3-Chrysenes	1.60
C4-Chrysenes	1.60
Benzo(b)fluoranthene	2.38
Benzo(k,j)fluoranthene	2.51
Benzo(a)fluoranthene	2.51
Benzo(e)pyrene	2.69
Benzo(a)pyrene	1.91
Perylene	0.63
Indeno(1,2,3-c,d)pyrene	1.39
Dibenzo(a,h)anthracene	1.14
Benzo(g,h,i)perylene	2.51
Individual Alkyl Isomers, TAS, and Hopanes	
2-Methylnaphthalene	1.10
1-Methylnaphthalene	1.42
2,6-Dimethylnaphthalene	0.70
1,6,7-Trimethylnaphthalene	0.67
1-Methylfluorene	1.47
4-Methyldibenzothiophene	0.97
2/3-Methyldibenzothiophene	0.97
1-Methyldibenzothiophene	0.97
3-Methylphenanthrene	0.94
2-Methylphenanthrene	0.94
2-Methylantracene	0.94
4/9-Methylphenanthrene	0.94
1-Methylphenanthrene	0.94
3,6-Dimethylphenanthrene	1.67
Retene	1.59
2-Methylfluoranthene	1.15
Benzo(b)fluorene	1.37
C29-Hopane	8.19
18a-Oleanane	8.19
C30-Hopane	8.19
C20-TAS	2.60
C21-TAS	2.60
C26(20S)-TAS	2.60
C26(20R)/C27(20S)-TAS	2.60
C28(20S)-TAS	2.60
C27(20R)-TAS	2.60
C28(20R)-TAS	2.60

Quality Assurance/Quality Control - Waters

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

The quality assurance/quality control procedure for this program included the analyses of a procedural blank and a blank spike/blank 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 blank spike/blank 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 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 and a blank spike/blank spike duplicate of no more than 20 samples. A standard reference oil (NIST 2779) were analyzed with this data set. Procedural blanks are used to determine that sample preparation and analyses are free of contaminants. The blank spike/blank 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 the reference oil 2779 SRM is ± 20% the NIST reference range for those compounds whose concentration is greater than the detection limit of 10 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 - Waters

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.

Blank Spike/Blank Spike Duplicate

Observation

- No variances were observed.

Laboratory Control Standard (Petroleum)

Observation

- No variances were observed.

Additional QC Batch Information

Observation

- No variances were observed.

Polycyclic Aromatic Hydrocarbons (PAH)

Initial Calibration (Six Point)

Observation

- No variances were observed.

Initial Calibration Verification

Observation

- No variances were observed.

Mass Discrimination Ratio

Observation

- No variances were observed.

Internal Standard Area Response

Observation

- No variances were observed.

Continuing Calibration Checks

Observation

- No variances were observed.

Surrogate Recoveries

Observation

- No variances were observed.

Procedural Blank

Observation

- No variances were observed.

Blank Spike/Blank Spike Duplicate

Observation

- No variances were observed.

Matrix Spike/Matrix Spike Duplicate

Observation

- No variances were observed.

Laboratory Control Standard (Solution and Petroleum)

Observation

- 2-Methylphenanthrene was detected outside of the certified concentration limits of $\pm 20\%$ in MS60149K (AR-SRM2779-WK-4.0-002).

Comment

- It is unknown as to why this analyte was detected outside of the certified concentration limits of $\pm 20\%$ 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.

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 $\leq 30\%$. 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 $\leq 30\%$. 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 $\leq 30\%$ 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, determine if corrective action is needed.

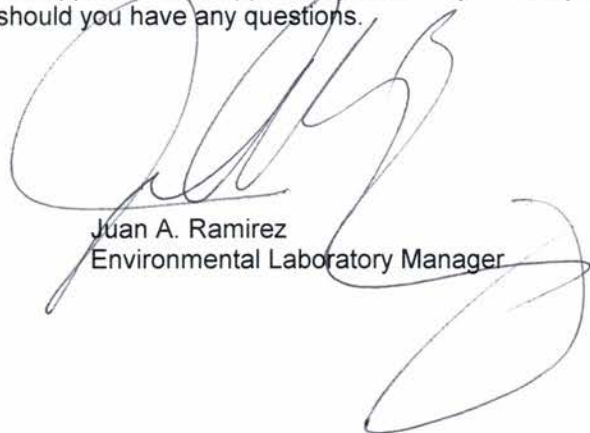
Table 6. Method Performance Criteria for Extended PAH (Parent and Alkyl Homologs) and Related Compounds.

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 $\leq$ 20%	Resolve before proceeding.
Continuing Calibration Verification (CCV)	Every 12 hours or 6-9 field samples	RPD $\leq$ 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 $\pm$ 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 $\pm$ 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 $\leq$ 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 $\leq$ 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

#	File Number	Client Identification	Collection Date	Received Date	Analysis	Matrix	Comments	B&B SDG	Client Project #
1	ARC1878	SED-DA-EB-09-081513	08/15/13	08/16/13	PAH, TPH, ALI	Water	1 of 2	13081601	B0086003.1302
2	ARC1880	SO-DA-EB-06-081513	08/15/13	08/16/13	PAH	Water	44 analytes, 1 of 2	13081601	B0086003.1302
3	ARC1905	WS-025DA(mid depth)081513	08/15/13	08/20/13	PAH	Water	1 of 1, bottle 2 received broken	13082001	B0086003.1302
4	ARC1906	WS-026DA(mid depth)081513	08/15/13	08/20/13	PAH	Water	1 of 2	13082001	B0086003.1302
5	ARC1908	WS-027DA(mid depth)081513	08/15/13	08/20/13	PAH	Water	1 of 2	13082001	B0086003.1302
6	ARC1910	WS-024DA(mid depth)081313	08/13/13	08/20/13	PAH	Water	1 of 2	13082001	B0086003.1302
7	ARC1912	WS-024DA(mid depth)081313 MS/MSD	08/13/13	08/20/13	PAH	Water	1 of 4, MS	13082001	B0086003.1302
8	ARC1913	WS-024DA(mid depth)081313 MS/MSD	08/13/13	08/20/13	PAH	Water	2 of 4, MSD	13082001	B0086003.1302
9	ARC1916	WS-022DA(surface)081313	08/13/13	08/20/13	PAH	Water	1 of 2	13082001	B0086003.1302
10	ARC1918	WS-023DA(surface)081313	08/13/13	08/20/13	PAH	Water	1 of 2	13082001	B0086003.1302
11	ARC1920	WS-DUP-01DA-081513	08/15/13	08/20/13	PAH	Water	1 of 2	13082001	B0086003.1302
12	ARC1922	SED-DA-EB-10-081613	08/16/13	08/20/13	PAH, TPH, ALI	Water	1 of 2	13082001	B0086003.1302

Water Samples

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

Sample Name	ARC1878.D	ARC1922.D
Client Name	SED-DA-EB-09-081513	SED-DA-EB-10-081613
Matrix	Water	Water
Collection Date	08/15/13	08/16/13
Received Date	08/16/13	08/20/13
Extraction Date	08/21/13	08/21/13
Extraction Batch	ENV 3089	ENV 3089
Date Acquired	27-Aug-2013, 05:46:52	27-Aug-2013, 06:57:00
Method	ALIFRONT.M	ALIFRONT.M
Sample Volume (L)	1.05	1.03
Dilution	1X	1X

Target Compounds	Su. Corrected Conc. (µg/L)	Q	Su. Corrected Conc. (µg/L)	Q
n-C9	<0.288 U		<0.288 U	
n-C10	<0.252 U		<0.252 U	
n-C11	<0.251 U		<0.251 U	
n-C12	<0.266 U		<0.266 U	
n-C13	<0.258 U		<0.258 U	
i-C15	<0.256 U		<0.256 U	
n-C14	<0.277 U		<0.277 U	
i-C16	<0.234 U		<0.234 U	
n-C15	<0.256 U		<0.256 U	
n-C16	<0.234 U		<0.234 U	
i-C18	<0.1 U		<0.1 U	
n-C17	<0.174 U		<0.174 U	
Pristane	<0.19 U		<0.19 U	
n-C18	<0.1 U		<0.1 U	
Phytane	<0.201 U		<0.201 U	
n-C19	<0.073 U		<0.073 U	
n-C20	<0.077 U		<0.077 U	
n-C21	<0.081 U		<0.081 U	
n-C22	<0.15 U		<0.15 U	
n-C23	<0.117 U		<0.117 U	
n-C24	<0.069 U		<0.069 U	
n-C25	<0.066 U		<0.066 U	
n-C26	<0.07 U		<0.07 U	
n-C27	<0.069 U		<0.069 U	
n-C28	<0.077 U		<0.077 U	
n-C29	<0.087 U		<0.087 U	
n-C30	<0.081 U		<0.081 U	
n-C31	<0.126 U		<0.126 U	
n-C32	<0.083 U		<0.083 U	
n-C33	<0.282 U		<0.282 U	
n-C34	<0.106 U		<0.106 U	
n-C35	<0.112 U		<0.112 U	
n-C36	<0.113 U		<0.113 U	
n-C37	<0.148 U		<0.148 U	
n-C38	<0.127 U		<0.127 U	
n-C39	<0.16 U		<0.16 U	
n-C40	<0.144 U		<0.144 U	
Total Alkanes		U		U
Total Petroleum Hydrocarbons		149		146
Total Resolved Hydrocarbons		137		10 J
Unresolved Complex Mixture		12		135
EOM (µg/L)		400		320
Surrogate (Su)	Su Recovery (%)		Su Recovery (%)	
n-dodecane-d26	66		73	
n-eicosane-d42	98		95	
n-triacontane-d62	95		96	

Sample Name ENV3089A.D
Client Name Procedural Blank
Matrix Water
Collection Date NA
Received Date NA
Extraction Date 08/21/13
Extraction Batch ENV 3089
Date Acquired 27-Aug-2013, 02:16:09
Method ALIFRONT.M
Sample Volume (L) 1.0
Dilution 1X

Target Compounds	Su. Corrected Conc. (µg/L)	Q Q	3X MDL Conc. (µg/L)	Actual MDL Conc. (µg/L)
n-C9	<0.288 U		0.865	0.288
n-C10	<0.252 U		0.755	0.252
n-C11	<0.251 U		0.752	0.251
n-C12	<0.266 U		0.799	0.266
n-C13	<0.258 U		0.775	0.258
i-C15	<0.256 U		0.769	0.256
n-C14	<0.277 U		0.830	0.277
i-C16	<0.234 U		0.702	0.234
n-C15	<0.256 U		0.769	0.256
n-C16	<0.234 U		0.702	0.234
i-C18	<0.1 U		0.301	0.100
n-C17	<0.174 U		0.521	0.174
Pristane	<0.19 U		0.570	0.190
n-C18	<0.1 U		0.301	0.100
Phytane	<0.201 U		0.602	0.201
n-C19	<0.073 U		0.220	0.073
n-C20	<0.077 U		0.232	0.077
n-C21	<0.081 U		0.242	0.081
n-C22	<0.15 U		0.449	0.150
n-C23	<0.117 U		0.351	0.117
n-C24	<0.069 U		0.206	0.069
n-C25	<0.066 U		0.197	0.066
n-C26	<0.07 U		0.211	0.070
n-C27	<0.069 U		0.206	0.069
n-C28	<0.077 U		0.231	0.077
n-C29	<0.087 U		0.262	0.087
n-C30	<0.081 U		0.243	0.081
n-C31	<0.126 U		0.378	0.126
n-C32	<0.083 U		0.248	0.083
n-C33	<0.282 U		0.846	0.282
n-C34	<0.106 U		0.319	0.106
n-C35	<0.112 U		0.335	0.112
n-C36	<0.113 U		0.339	0.113
n-C37	<0.148 U		0.444	0.148
n-C38	<0.127 U		0.382	0.127
n-C39	<0.16 U		0.481	0.160
n-C40	<0.144 U		0.431	0.144
Total Alkanes	U			
Total Petroleum Hydrocarbons	<13 U		39.0	13.0
Total Resolved Hydrocarbons	<13 U		39.0	13.0
Unresolved Complex Mixture	<13 U		39.0	13.0
EOM (µg/L)	<100 U		300	100
Surrogate (Su)	Su Recovery (%)			
n-dodecane-d26	73			
n-eicosane-d42	98			
n-triacontane-d62	97			

Sample Name	ENV3089B.D	ENV3089C.D
Client Name	Blank Spike	Blank Spike Duplicate
Matrix	Water	Water
Collection Date	NA	NA
Received Date	NA	NA
Extraction Date	08/21/13	08/21/13
Extraction Batch	ENV 3089	ENV 3089
Date Acquired	27-Aug-2013, 03:26:24	27-Aug-2013, 04:36:35
Method	ALIFRONT.M	ALIFRONT.M
Sample Volume (L)	1.0	1.0
Dilution	1X	1X

Target Compounds	Su. Corrected Conc. (µg/L)	Recovery Q (%)	Su. Corrected Conc. (µg/L)	Recovery Q (%)	RPD Q (%)	Spike Amount (µg)
n-C9	6.71	67	6.12	61	9	10.0
n-C10	7.45	74	7.08	71	5	10.0
n-C11	7.96	80	7.47	75	6	9.90
n-C12	7.98	80	7.52	75	6	10.0
n-C13	8.21	82	7.89	79	4	10.0
n-C14	8.46	86	8.34	85	1	9.86
n-C15	9.12	91	9.15	92	0	9.98
n-C16	9.63	97	9.81	98	2	10.0
n-C17	10.1	102	10.2	102	1	9.94
Pristane	10.1	102	10.2	103	1	9.90
n-C18	10.5	105	10.6	106	1	10.0
Phytane	10.4	105	10.5	106	0	9.91
n-C19	10.7	107	10.6	107	0	10.0
n-C20	10.6	106	10.6	106	0	10.0
n-C21	10.6	105	10.6	105	0	10.0
n-C22	10.7	107	10.7	107	0	9.95
n-C23	10.5	106	10.6	107	0	9.91
n-C24	10.5	105	10.5	105	0	10.0
n-C25	10.5	105	10.6	106	0	10.0
n-C26	10.6	106	10.6	106	0	10.0
n-C27	10.6	107	10.6	107	0	9.89
n-C28	10.8	108	10.8	107	0	10.0
n-C29	10.5	104	10.4	104	1	10.0
n-C30	10.4	105	10.4	105	0	10.0
n-C31	10.5	105	10.4	104	1	10.0
n-C32	10.3	103	10.3	102	0	10.0
n-C33	10.3	103	10.3	103	0	10.0
n-C34	10.4	104	10.3	103	0	10.0
n-C35	10.5	105	10.5	105	0	10.0
n-C36	10.2	103	10.3	104	1	9.90
n-C37	10.5	105	10.5	105	0	10.0
n-C38	10.6	106	10.7	107	0	10.0
n-C39	10.8	107	10.8	108	0	10.0
n-C40	10.7	107	10.8	108	0	10.0
Average %Recovery		100		99		
Surrogate (Su)	Su Recovery (%)		Su Recovery (%)			
n-dodecane-d26	63		66			
n-eicosane-d42	96		92			
n-triacontane-d62	95		91			

Sample Name FID10084C.D
Client Name AL-SRM2779-20-01
Matrix Reference Oil
Collection Date NA
Received Date NA
Extraction Date 08/21/13
Extraction Batch ENV 3089
Date Acquired 26-Aug-2013, 21:35:08
Method ALIFRONT.M
Sample Dry Weight (mg) 20.0
Sample Wet Weight (mg) NA
% Dry NA
% Moisture NA
% Lipid (dry) NA
% Lipid (wet) NA
Dilution 1X

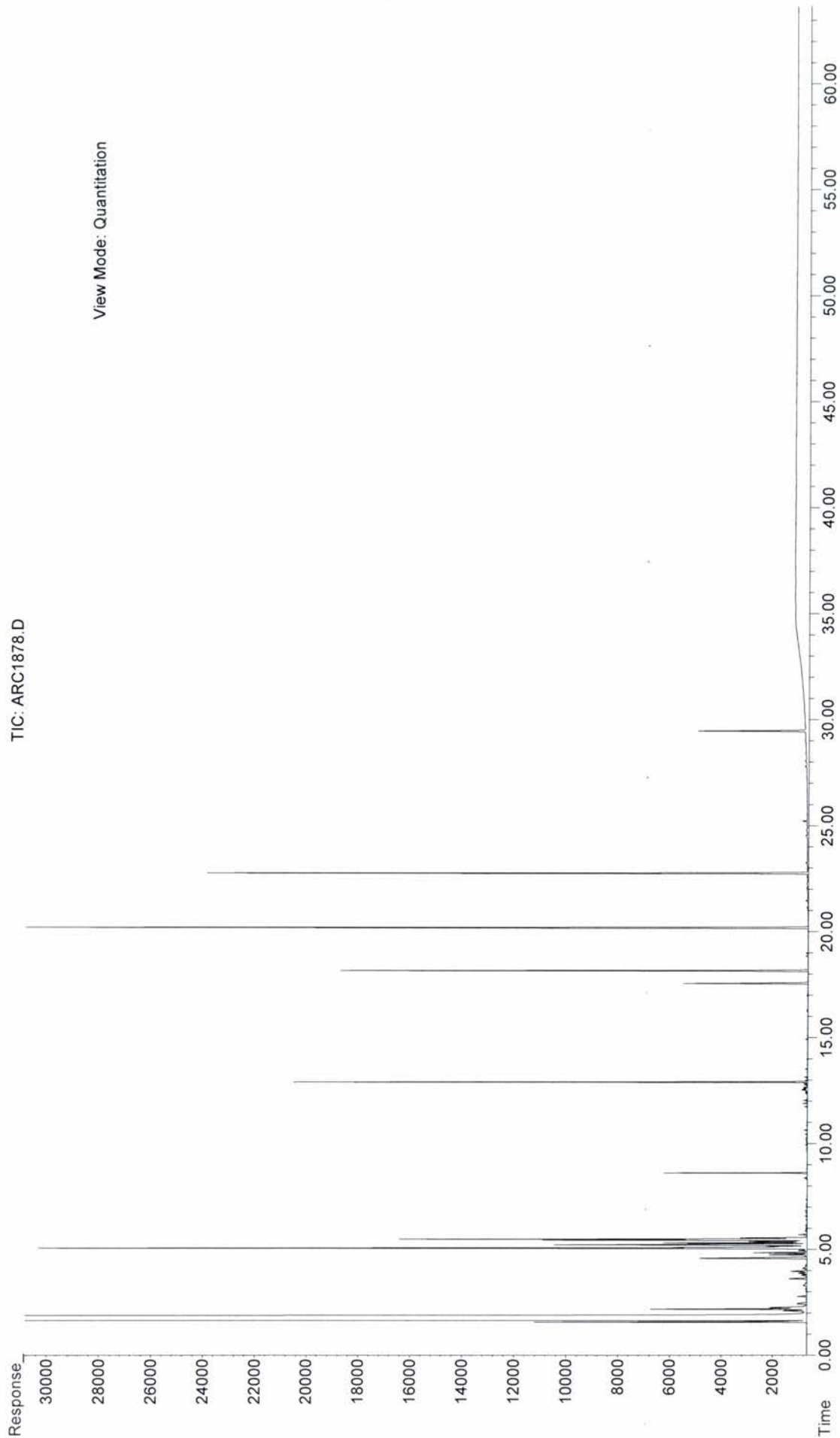
Target Compounds	Su. Corrected Conc. (µg/mg)	Q Q RPD (%)	B&B Average	-20% Conc. (µg/mg)	+20% Conc. (µg/mg)
n-C9	14.4	7	13.5	10.8	16.2
n-C10	12.7	6	12.0	9.60	14.4
n-C11	11.6	7	10.8	8.64	13.0
n-C12	10.2	3	9.82	7.86	11.8
n-C13	9.17	9	8.41	6.73	10.1
i-C15	2.09	7	1.95	1.56	2.34
n-C14	8.13	5	7.70	6.16	9.24
i-C16	2.91	1	2.95	2.36	3.54
n-C15	7.68	6	7.23	5.78	8.68
n-C16	6.37	4	6.15	4.92	7.38
i-C18	1.61	3	1.56	1.25	1.87
n-C17	5.17	10	4.69	3.75	5.63
Pristane	2.66	9	2.42	1.94	2.90
n-C18	4.15	8	3.84	3.07	4.61
Phytane	1.61	6	1.51	1.21	1.81
n-C19	3.07	12	3.47	2.78	4.16
n-C20	3.15	10	2.84	2.27	3.41
n-C21	2.64	11	2.37	1.90	2.84
n-C22	2.30	12	2.04	1.63	2.45
n-C23	1.97	7	1.84	1.47	2.21
n-C24	1.85	11	1.66	1.33	1.99
n-C25	1.50	9	1.37	1.10	1.64
n-C26	1.19	5	1.13	0.904	1.36
n-C27	1.003	12	0.892	0.714	1.07
n-C28	0.875	12	0.776	0.621	0.931
n-C29	0.815	10	0.739	0.591	0.887
n-C30	0.683	3	0.666	0.533	0.799
n-C31	0.596	10	0.539	0.431	0.647
n-C32	0.441	0	0.443	0.354	0.532
n-C33	0.521	11	0.467	0.374	0.560
n-C34	0.436	2	0.428	0.342	0.514
n-C35	0.347 J	1	0.342	0.274	0.410
n-C36	0.211 J	0	0.211	0.169	0.253
n-C37	0.220 J	7	0.206	0.165	0.247
n-C38	0.168 J	2	0.172	0.138	0.206
n-C39	0.171 J	1	0.169	0.135	0.203
n-C40	0.189 J	7	0.176	0.141	0.211
Total Petroleum Hydrocarbons	613	1	607	484	726

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

Total Petroleum Hydrocarbons Chromatograms

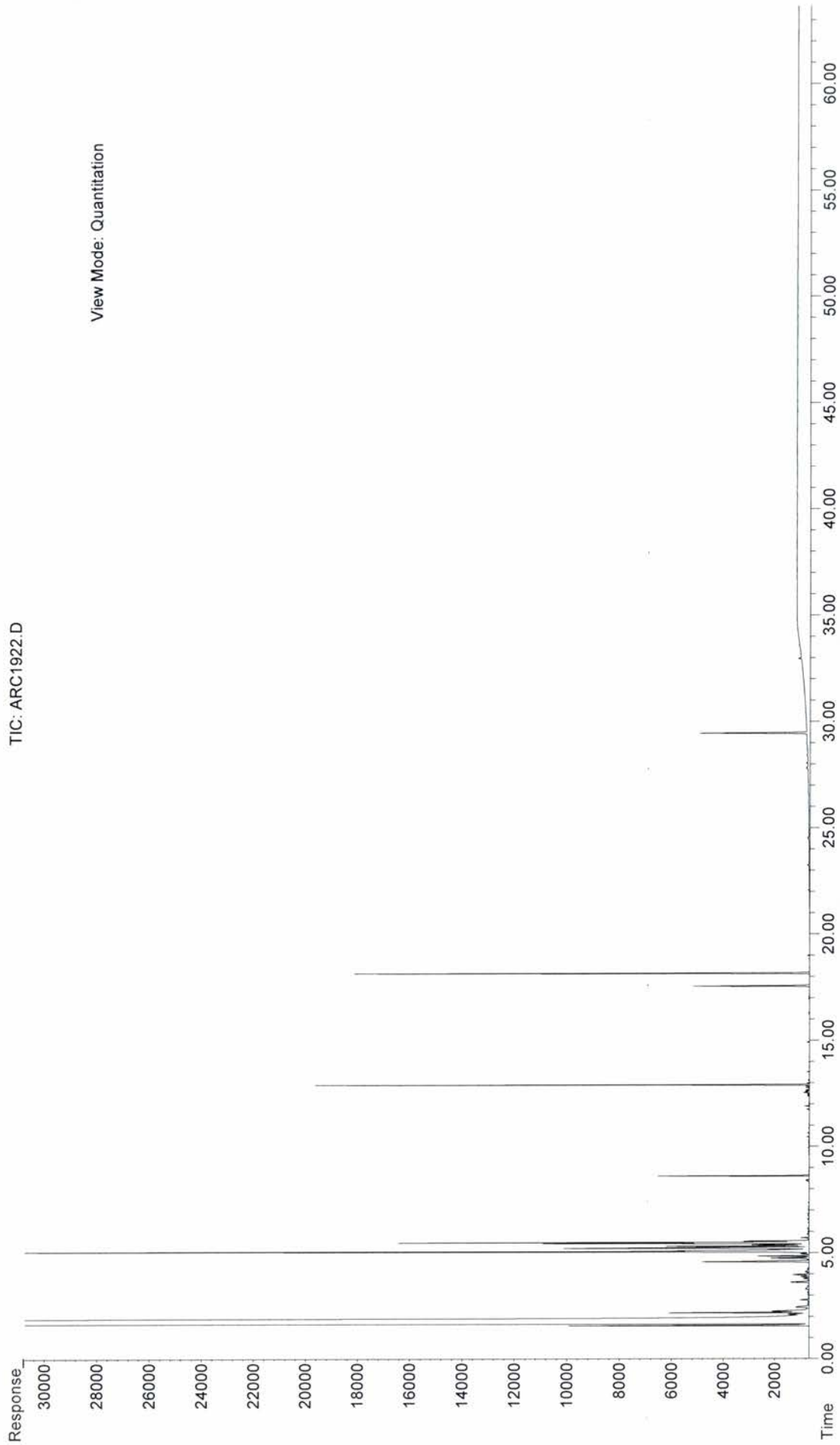
File : P:\2013\J13034\Aliphatics\ENV 3089\FID10084\ARC1878.D
Operator : Meghan Dailey
Acquired : 27-Aug-2013, 05:46 using AcqMethod ALIFRONT.M
Instrument : HP5890
Sample Name: SED-DA-EB-09-081513
Misc Info :
Vial Number: 9

TIC: ARC1878.D



File : P:\2013\J13034\Aliphatics\ENV 3089\FID10084\ARC1922.D
Operator : Meghan Dailey
Acquired : 27-Aug-2013, 06:57 using AcqMethod ALIFRONT.M
Instrument : HP5890
Sample Name: SED-DA-EB-10-081613
Misc Info :
Vial Number: 10

TIC: ARC1922.D



Polycyclic Aromatic Hydrocarbon Concentration

Sample Name	ARC1878.D	ARC1880.D	ARC1905.D	ARC1906.D
Client Name	SED-DA-EB-09-081513	SO-DA-EB-06-081513	WS-025DA(mid depth)081513	WS-026DA(mid depth)081513
Matrix	Water	Water	Water	Water
Collection Date	08/15/13	08/15/13	08/15/13	08/15/13
Received Date	08/16/13	08/16/13	08/20/13	08/20/13
Extraction Date	08/21/13	08/21/13	08/21/13	08/21/13
Extraction Batch	ENV 3089	ENV 3089	ENV 3089	ENV 3089
Date Acquired	9/14/13 12:48	9/14/13 13:59	9/14/13 15:09	9/14/13 17:29
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Volume (L)	1.1	1.1	1.0	1.0
% Dry	NA	NA	NA	NA
% Moisture	NA	NA	NA	NA
Dilution	1X	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/L)	Q	Su. Corrected Conc. (ng/L)	Q	Su. Corrected Conc. (ng/L)	Q	Su. Corrected Conc. (ng/L)	Q
cis/trans Decalin	<1.1 U	U	NA		<1.1 U	U	<1.2 U	U
C1-Decalins	<2.3 U	U	NA		<2.3 U	U	<2.4 U	U
C2-Decalins	<2.3 U	U	NA		<2.3 U	U	<2.4 U	U
C3-Decalins	<2.3 U	U	NA		<2.3 U	U	<2.4 U	U
C4-Decalins	<2.3 U	U	NA		<2.3 U	U	<2.4 U	U
Naphthalene	66.9		42.7		6.08		8.45	
C1-Naphthalenes	2.73		2.37		2.18		10.26	
C2-Naphthalenes	<5.8 U	U	<5.8 U	U	<5.8 U	U	30.85	
C3-Naphthalenes	<5.8 U	U	<5.8 U	U	<5.8 U	U	43.27	
C4-Naphthalenes	<5.8 U	U	<5.8 U	U	<5.8 U	U	<6 U	U
Benzothiophene	<1.3 U	U	NA		<1.3 U	U	<1.3 U	U
C1-Benzothiophenes	<2.6 U	U	NA		<2.6 U	U	<2.7 U	U
C2-Benzothiophenes	<2.6 U	U	NA		<2.6 U	U	<2.7 U	U
C3-Benzothiophenes	<2.6 U	U	NA		<2.6 U	U	<2.7 U	U
C4-Benzothiophenes	<2.6 U	U	NA		<2.6 U	U	<2.7 U	U
Biphenyl	1.36 J	J	NA		<5.1 U	U	3.47 J	J
Acenaphthylene	<1.2 U	U	<1.2 U	U	<1.2 U	U	2.09	
Acenaphthene	<1.4 U	U	<1.4 U	U	<1.4 U	U	1.31 J	J
Dibenzofuran	2.07		NA		<1.2 U	U	3.29	
Fluorene	1.00		0.975		<0.8 U	U	4.95	
C1-Fluorenes	<1.6 U	U	<1.6 U	U	<1.6 U	U	8.81	
C2-Fluorenes	<1.6 U	U	<1.6 U	U	<1.6 U	U	<1.7 U	U
C3-Fluorenes	<1.6 U	U	<1.6 U	U	<1.6 U	U	<1.7 U	U
Carbazole	0.775 J	J	NA		<0.8 U	U	<0.9 U	U
Anthracene	<0.8 U	U	<0.8 U	U	<0.8 U	U	1.85	
Phenanthrene	3.94		4.26		<2.3 U	U	6.70	
C1-Phenanthrenes/Anthracenes	<0.7 U	U	<0.7 U	U	<0.7 U	U	<0.7 U	U
C2-Phenanthrenes/Anthracenes	<3 U	U	<3 U	U	<3 U	U	<3.1 U	U
C3-Phenanthrenes/Anthracenes	<3 U	U	<3 U	U	<3 U	U	<3.1 U	U
C4-Phenanthrenes/Anthracenes	<3 U	U	<3 U	U	<3 U	U	<3.1 U	U
Dibenzothiophene	<0.8 U	U	<0.8 U	U	<0.8 U	U	3.09	
C1-Dibenzothiophenes	<0.7 U	U	<0.7 U	U	<0.7 U	U	7.46	
C2-Dibenzothiophenes	<1.3 U	U	<1.3 U	U	<1.3 U	U	10.26	
C3-Dibenzothiophenes	<1.3 U	U	<1.3 U	U	<1.3 U	U	8.27	
C4-Dibenzothiophenes	<1.3 U	U	<1.3 U	U	<1.3 U	U	<1.4 U	U
Fluoranthene	1.33		1.21		<1.1 U	U	4.79	
Pyrene	6.79		8.73		<1.4 U	U	3.05	
C1-Fluoranthenes/Pyrenes	<2.5 U	U	<2.5 U	U	<2.5 U	U	<2.5 U	U
C2-Fluoranthenes/Pyrenes	<2.5 U	U	<2.5 U	U	<2.5 U	U	<2.5 U	U
C3-Fluoranthenes/Pyrenes	<2.5 U	U	<2.5 U	U	<2.5 U	U	<2.5 U	U
C4-Fluoranthenes/Pyrenes	<2.5 U	U	<2.5 U	U	<2.5 U	U	<2.5 U	U
Naphthobenzothiophene	<1 U	U	NA		<1 U	U	<1.1 U	U
C1-Naphthobenzothiophenes	<2.1 U	U	NA		<2.1 U	U	<2.1 U	U
C2-Naphthobenzothiophenes	<2.1 U	U	NA		<2.1 U	U	<2.1 U	U
C3-Naphthobenzothiophenes	<2.1 U	U	NA		<2.1 U	U	<2.1 U	U
C4-Naphthobenzothiophenes	<2.1 U	U	NA		<2.1 U	U	<2.1 U	U
Benz(a)anthracene	<0.7 U	U	<0.7 U	U	<0.7 U	U	1.08	
Chrysene/Triphenylene	<0.8 U	U	<0.8 U	U	<0.8 U	U	2.52	
C1-Chrysenes	<1.6 U	U	<1.6 U	U	<1.6 U	U	<1.6 U	U
C2-Chrysenes	<1.6 U	U	<1.6 U	U	<1.6 U	U	<1.6 U	U
C3-Chrysenes	<1.6 U	U	<1.6 U	U	<1.6 U	U	<1.6 U	U
C4-Chrysenes	<1.6 U	U	<1.6 U	U	<1.6 U	U	<1.6 U	U
Benzo(b)fluoranthene	<2.4 U	U	<2.4 U	U	<2.4 U	U	2.47	
Benzo(k,j)fluoranthene	<2.5 U	U	<2.5 U	U	<2.5 U	U	0.75 J	J
Benzo(a)fluoranthene	<2.5 U	U	NA		<2.5 U	U	<2.6 U	U
Benzo(e)pyrene	<2.7 U	U	<2.7 U	U	<2.7 U	U	<2.8 U	U
Benzo(a)pyrene	<1.9 U	U	<1.9 U	U	<1.9 U	U	<2 U	U
Perylene	0.91		<0.6 U	U	<0.6 U	U	0.97	
Indeno(1,2,3-c,d)pyrene	<1.4 U	U	<1.4 U	U	<1.4 U	U	1.73	
Dibenzo(a,h)anthracene	<1.1 U	U	<1.1 U	U	<1.1 U	U	1.11 J	J
Benzo(g,h,i)perylene	<2.5 U	U	<2.5 U	U	<2.5 U	U	2.12 J	J
Total PAHs	87.8		60.3		8.25		175	

Sample Name	ARC1878.D	ARC1880.D	ARC1905.D	ARC1906.D
Client Name	SED-DA-EB-09-081513	SO-DA-EB-06-081513	WS-025DA(mid depth)081513	WS-026DA(mid depth)081513
Matrix	Water	Water	Water	Water
Collection Date	08/15/13	08/15/13	08/15/13	08/15/13
Received Date	08/16/13	08/16/13	08/20/13	08/20/13
Extraction Date	08/21/13	08/21/13	08/21/13	08/21/13
Extraction Batch	ENV 3089	ENV 3089	ENV 3089	ENV 3089
Date Acquired	9/14/13 12:48	9/14/13 13:59	9/14/13 15:09	9/14/13 17:29
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Volume (L)	1.1	1.1	1.0	1.0
% Dry	NA	NA	NA	NA
% Moisture	NA	NA	NA	NA
Dilution	1X	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/L)	Q	Su. Corrected Conc. (ng/L)	Q	Su. Corrected Conc. (ng/L)	Q	Su. Corrected Conc. (ng/L)	Q
Individual Alkyl Isomers and Hopanes								
2-Methylnaphthalene	2.36		2.11		2.25		5.25	
1-Methylnaphthalene	1.79		1.49		1.04 J		10.5	
2,6-Dimethylnaphthalene	<0.7 U		NA		<0.7 U		6.72	
1,6,7-Trimethylnaphthalene	<0.7 U		NA		<0.7 U		4.48	
1-Methylfluorene	<1.5 U		NA		<1.5 U		4.89	
4-Methyldibenzothiophene	<1 U		NA		<1 U		4.69	
2/3-Methyldibenzothiophene	<1 U		NA		<1 U		3.13	
1-Methyldibenzothiophene	<1 U		NA		<1 U		4.68	
3-Methylphenanthrene	<0.9 U		NA		<0.9 U		<1 U	
2-Methylphenanthrene	<0.9 U		NA		<0.9 U		<1 U	
2-Methylanthracene	<0.9 U		NA		<0.9 U		<1 U	
4/9-Methylphenanthrene	<0.9 U		NA		<0.9 U		<1 U	
1-Methylphenanthrene	<0.9 U		NA		<0.9 U		<1 U	
3,6-Dimethylphenanthrene	<1.7 U		NA		<1.7 U		<1.7 U	
Retene	<1.6 U		NA		<1.6 U		<1.6 U	
2-Methylfluoranthene	<1.1 U		NA		<1.1 U		<1.2 U	
Benzo(b)fluorene	<1.4 U		NA		<1.4 U		<1.4 U	
C29-Hopane	<8.2 U		NA		<8.2 U		<8.4 U	
18a-Oleanane	<8.2 U		NA		<8.2 U		<8.4 U	
C30-Hopane	<8.2 U		NA		<8.2 U		<8.4 U	
C20-TAS	<2.6 U		NA		<2.6 U		<2.7 U	
C21-TAS	<2.6 U		NA		<2.6 U		<2.7 U	
C26(20S)-TAS	<2.6 U		NA		<2.6 U		<2.7 U	
C26(20R)/C27(20S)-TAS	<2.6 U		NA		<2.6 U		<2.7 U	
C28(20S)-TAS	<2.6 U		NA		<2.6 U		<2.7 U	
C27(20R)-TAS	<2.6 U		NA		<2.6 U		<2.7 U	
C28(20R)-TAS	<2.6 U		NA		<2.6 U		<2.7 U	
Surrogate Recovery								
Naphthalene-d8	72		74		71		79	
Acenaphthene-d10	78		79		77		82	
Phenanthrene-d10	77		77		83		83	
Chrysene-d12	81		78		88		84	
Perylene-d12	89		91		93		94	

Sample Name	ARC1908.D	ARC1910.D	ARC1916.D	ARC1918.D
Client Name	WS-027DA(mid depth)081513	WS-024DA(mid depth)081313	WS-022DA(surface)081313	WS-023DA(surface)081313
Matrix	Water	Water	Water	Water
Collection Date	08/15/13	08/13/13	08/13/13	08/13/13
Received Date	08/20/13	08/20/13	08/20/13	08/20/13
Extraction Date	08/21/13	08/21/13	08/21/13	08/21/13
Extraction Batch	ENV 3089	ENV 3089	ENV 3089	ENV 3089
Date Acquired	9/14/13 18:39	9/14/13 19:48	9/14/13 20:58	9/14/13 22:08
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Volume (L)	0.9	1.0	1.0	1.0
% Dry	NA	NA	NA	NA
% Moisture	NA	NA	NA	NA
Dilution	1X	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/L)	Q	Su. Corrected Conc. (ng/L)	Q	Su. Corrected Conc. (ng/L)	Q	Su. Corrected Conc. (ng/L)	Q
cis/trans Decalin		<1.2 U		<1.1 U		<1.2 U		<1.2 U
C1-Decalins		<2.5 U		<2.3 U		<2.4 U		<2.4 U
C2-Decalins		<2.5 U		<2.3 U		<2.4 U		<2.4 U
C3-Decalins		<2.5 U		<2.3 U		<2.4 U		<2.4 U
C4-Decalins		<2.5 U		<2.3 U		<2.4 U		<2.4 U
Naphthalene	21.45		47.35		6.29		10.08	
C1-Naphthalenes	27.29		2.80		<1.4 U		3.52	
C2-Naphthalenes	68.40		<5.8 U		<6 U		<6.1 U	
C3-Naphthalenes	75.78		<5.8 U		<6 U		<6.1 U	
C4-Naphthalenes	53.07		<5.8 U		<6 U		<6.1 U	
Benzothiophene	<1.4 U		<1.3 U		<1.3 U		<1.4 U	
C1-Benzothiophenes	<2.8 U		<2.6 U		<2.7 U		<2.7 U	
C2-Benzothiophenes	<2.8 U		<2.6 U		<2.7 U		<2.7 U	
C3-Benzothiophenes	<2.8 U		<2.6 U		<2.7 U		<2.7 U	
C4-Benzothiophenes	<2.8 U		<2.6 U		<2.7 U		<2.7 U	
Biphenyl	30.87		1.72 J		2.68 J		2.05 J	
Acenaphthylene	14.03		3.64		6.86		9.92	
Acenaphthene	7.00		<1.4 U		<1.5 U		<1.5 U	
Dibenzofuran	9.97		2.31		2.85		2.87	
Fluorene	17.93		1.64		<0.8 U		1.61	
C1-Fluorenes	24.02		<1.6 U		<1.7 U		<1.7 U	
C2-Fluorenes	<1.7 U		<1.6 U		<1.7 U		<1.7 U	
C3-Fluorenes	<1.7 U		<1.6 U		<1.7 U		<1.7 U	
Carbazole	8.65		2.14		2.18		2.82	
Anthracene	24.47		6.76		18.49		27.62	
Phenanthrene	42.38		5.73		2.91		4.25	
C1-Phenanthrenes/Anthracenes	95.11		<0.7 U		<0.7 U		<0.7 U	
C2-Phenanthrenes/Anthracenes	139.61		<3 U		<3.1 U		<3.2 U	
C3-Phenanthrenes/Anthracenes	67.38		<3 U		<3.1 U		<3.2 U	
C4-Phenanthrenes/Anthracenes	44.96		<3 U		<3.1 U		<3.2 U	
Dibenzothiophene	15.60		<0.8 U		<0.8 U		<0.9 U	
C1-Dibenzothiophenes	27.86		<0.7 U		<0.7 U		<0.7 U	
C2-Dibenzothiophenes	42.31		<1.3 U		<1.4 U		<1.4 U	
C3-Dibenzothiophenes	52.14		<1.3 U		<1.4 U		<1.4 U	
C4-Dibenzothiophenes	40.11		<1.3 U		<1.4 U		<1.4 U	
Fluoranthene	64.56		10.33		9.36		15.48	
Pyrene	49.78		5.11		9.30		12.84	
C1-Fluoranthenes/Pyrenes	43.19		<2.5 U		9.32		<2.6 U	
C2-Fluoranthenes/Pyrenes	49.50		<2.5 U		11.09		<2.6 U	
C3-Fluoranthenes/Pyrenes	<2.7 U		<2.5 U		4.71		<2.6 U	
C4-Fluoranthenes/Pyrenes	<2.7 U		<2.5 U		<2.5 U		<2.6 U	
Naphthobenzothiophene	19.50		<1 U		<1.1 U		<1.1 U	
C1-Naphthobenzothiophenes	21.79		<2.1 U		<2.1 U		<2.2 U	
C2-Naphthobenzothiophenes	36.65		<2.1 U		<2.1 U		<2.2 U	
C3-Naphthobenzothiophenes	34.26		<2.1 U		<2.1 U		<2.2 U	
C4-Naphthobenzothiophenes	<2.2 U		<2.1 U		<2.1 U		<2.2 U	
Benz(a)anthracene	25.39		2.33		3.57		5.10	
Chrysene/Triphenylene	54.38		8.11		11.77		16.80	
C1-Chrysenes	<1.7 U		<1.6 U		<1.6 U		<1.7 U	
C2-Chrysenes	<1.7 U		<1.6 U		<1.6 U		<1.7 U	
C3-Chrysenes	<1.7 U		<1.6 U		<1.6 U		<1.7 U	
C4-Chrysenes	<1.7 U		<1.6 U		<1.6 U		<1.7 U	
Benzo(b)fluoranthene	99.8		12.40		27.76		39.22	
Benzo(k,j)fluoranthene	32.9		2.89		6.41		9.39	
Benzo(a)fluoranthene	9.36		1.10 J		2.29 J		3.47	
Benzo(e)pyrene	59.95		7.43		17.51		23.56	
Benzo(a)pyrene	34.75		3.69		6.47		10.48	
Perylene	105		<0.6 U		3.44		5.10	
Indeno(1,2,3-c,d)pyrene	43.43		5.63		11.05		15.63	
Dibenzo(a,h)anthracene	13.82		1.59		3.33		4.35	
Benzo(g,h,i)perylene	49.14		5.89		13.56		18.67	
Total PAHs	1798		141		193		245	

Sample Name	ARC1908.D	ARC1910.D	ARC1916.D	ARC1918.D
Client Name	WS-027DA(mid depth)081513	WS-024DA(mid depth)081313	WS-022DA(surface)081313	WS-023DA(surface)081313
Matrix	Water	Water	Water	Water
Collection Date	08/15/13	08/13/13	08/13/13	08/13/13
Received Date	08/20/13	08/20/13	08/20/13	08/20/13
Extraction Date	08/21/13	08/21/13	08/21/13	08/21/13
Extraction Batch	ENV 3089	ENV 3089	ENV 3089	ENV 3089
Date Acquired	9/14/13 18:39	9/14/13 19:48	9/14/13 20:58	9/14/13 22:08
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Volume (L)	0.9	1.0	1.0	1.0
% Dry	NA	NA	NA	NA
% Moisture	NA	NA	NA	NA
Dilution	1X	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/L)	Q	Su. Corrected Conc. (ng/L)	Q	Su. Corrected Conc. (ng/L)	Q	Su. Corrected Conc. (ng/L)	Q
Individual Alkyl Isomers and Hopanes								
2-Methylnaphthalene	23.4		2.35		<1.1 U		2.94	
1-Methylnaphthalene	18.0		1.91		<1.5 U		2.41	
2,6-Dimethylnaphthalene	21.5		<0.7 U		<0.7 U		<0.7 U	
1,6,7-Trimethylnaphthalene	9.97		<0.7 U		<0.7 U		<0.7 U	
1-Methylfluorene	12.5		<1.5 U		<1.5 U		<1.5 U	
4-Methyldibenzothiophene	18.1		<1 U		<1 U		<1 U	
2/3-Methyldibenzothiophene	13.7		<1 U		<1 U		<1 U	
1-Methyldibenzothiophene	14.8		<1 U		<1 U		<1 U	
3-Methylphenanthrene	8.1		<0.9 U		<1 U		<1 U	
2-Methylphenanthrene	13.0		<0.9 U		<1 U		<1 U	
2-Methylantracene	57.6		<0.9 U		<1 U		<1 U	
4/9-Methylphenanthrene	11.6		<0.9 U		<1 U		<1 U	
1-Methylphenanthrene	10.3		<0.9 U		<1 U		<1 U	
3,6-Dimethylphenanthrene	2.96		<1.7 U		<1.7 U		<1.8 U	
Retene	7.24		<1.6 U		<1.6 U		<1.7 U	
2-Methylfluoranthene	5.04		<1.1 U		1.01 J		<1.2 U	
Benzo(b)fluorene	9.90		<1.4 U		0.57 J		<1.4 U	
C29-Hopane	<8.8 U		<8.2 U		<8.4 U		<8.6 U	
18a-Oleanane	<8.8 U		<8.2 U		<8.4 U		<8.6 U	
C30-Hopane	<8.8 U		<8.2 U		<8.4 U		<8.6 U	
C20-TAS	<2.8 U		<2.6 U		<2.7 U		<2.7 U	
C21-TAS	<2.8 U		<2.6 U		<2.7 U		<2.7 U	
C26(20S)-TAS	<2.8 U		<2.6 U		<2.7 U		<2.7 U	
C26(20R)/C27(20S)-TAS	<2.8 U		<2.6 U		<2.7 U		<2.7 U	
C28(20S)-TAS	<2.8 U		<2.6 U		<2.7 U		<2.7 U	
C27(20R)-TAS	<2.8 U		<2.6 U		<2.7 U		<2.7 U	
C28(20R)-TAS	<2.8 U		<2.6 U		<2.7 U		<2.7 U	
Surrogate Recovery								
Naphthalene-d8	70		73		73		68	
Acenaphthene-d10	76		79		78		72	
Phenanthrene-d10	79		76		76		75	
Chrysene-d12	86		80		78		76	
Perylene-d12	89		84		95		94	

Sample Name	ARC1920.D	ARC1922.D
Client Name	WS-DUP-01DA-081513	SED-DA-EB-10-081613
Matrix	Water	Water
Collection Date	08/15/13	08/16/13
Received Date	08/20/13	08/20/13
Extraction Date	08/21/13	08/21/13
Extraction Batch	ENV 3089	ENV 3089
Date Acquired	9/14/13 23:18	9/15/13 0:27
Method	PAH-2012.M	PAH-2012.M
Sample Volume (L)	0.9	1.0
% Dry	NA	NA
% Moisture	NA	NA
Dilution	1X	1X

Target Compounds	Su. Corrected Conc. (ng/L)	Q	Su. Corrected Conc. (ng/L)	Q
cis/trans Decalin	<1.3 U		<1.1 U	
C1-Decalins	<2.6 U		<2.3 U	
C2-Decalins	<2.6 U		<2.3 U	
C3-Decalins	<2.6 U		<2.3 U	
C4-Decalins	<2.6 U		<2.3 U	
Naphthalene	31.01		274.34	
C1-Naphthalenes	34.25		3.22	
C2-Naphthalenes	92.46		<5.8 U	
C3-Naphthalenes	127.75		<5.8 U	
C4-Naphthalenes	<6.7 U		<5.8 U	
Benzothiophene	<1.5 U		<1.3 U	
C1-Benzothiophenes	<3 U		<2.6 U	
C2-Benzothiophenes	<3 U		<2.6 U	
C3-Benzothiophenes	<3 U		<2.6 U	
C4-Benzothiophenes	<3 U		<2.6 U	
Biphenyl	38.08		1.48 J	
Acenaphthylene	15.34		0.84 J	
Acenaphthene	10.88		0.52 J	
Dibenzofuran	15.57		2.18	
Fluorene	24.87		0.92	
C1-Fluorenes	32.12		<1.6 U	
C2-Fluorenes	<1.9 U		<1.6 U	
C3-Fluorenes	<1.9 U		<1.6 U	
Carbazole	9.62		0.74 J	
Anthracene	28.84		<0.8 U	
Phenanthrene	61.62		4.38	
C1-Phenanthrenes/Anthracenes	111.31		<0.7 U	
C2-Phenanthrenes/Anthracenes	161.29		<3 U	
C3-Phenanthrenes/Anthracenes	<3.5 U		<3 U	
C4-Phenanthrenes/Anthracenes	<3.5 U		<3 U	
Dibenzothiophene	20.16		<0.8 U	
C1-Dibenzothiophenes	38.07		<0.7 U	
C2-Dibenzothiophenes	63.35		<1.3 U	
C3-Dibenzothiophenes	76.63		<1.3 U	
C4-Dibenzothiophenes	55.70		<1.3 U	
Fluoranthene	90.01		1.37	
Pyrene	59.38		0.69 J	
C1-Fluoranthenes/Pyrenes	49.73		<2.5 U	
C2-Fluoranthenes/Pyrenes	79.71		<2.5 U	
C3-Fluoranthenes/Pyrenes	40.83		<2.5 U	
C4-Fluoranthenes/Pyrenes	<2.8 U		<2.5 U	
Naphthobenzothiophene	19.91		<1 U	
C1-Naphthobenzothiophenes	32.25		<2.1 U	
C2-Naphthobenzothiophenes	54.35		<2.1 U	
C3-Naphthobenzothiophenes	51.49		<2.1 U	
C4-Naphthobenzothiophenes	<2.4 U		<2.1 U	
Benz(a)anthracene	24.58		<0.7 U	
Chrysene/Triphenylene	62.62		<0.8 U	
C1-Chrysenes	<1.8 U		<1.6 U	
C2-Chrysenes	<1.8 U		<1.6 U	
C3-Chrysenes	<1.8 U		<1.6 U	
C4-Chrysenes	<1.8 U		<1.6 U	
Benzo(b)fluoranthene	100.66		<2.4 U	
Benzo(k,j)fluoranthene	31.31		<2.5 U	
Benzo(a)fluoranthene	<2.9 U		<2.5 U	
Benzo(e)pyrene	65.24		<2.7 U	
Benzo(a)pyrene	39.48		<1.9 U	
Perylene	136.81		1.23	
Indeno(1,2,3-c,d)pyrene	48.14		<1.4 U	
Dibenzo(a,h)anthracene	5.31		<1.1 U	
Benzo(g,h,i)perylene	54.74		<2.5 U	
Total PAHs	2095		292	

Sample Name	ARC1920.D	ARC1922.D
Client Name	WS-DUP-01DA-081513	SED-DA-EB-10-081613
Matrix	Water	Water
Collection Date	08/15/13	08/16/13
Received Date	08/20/13	08/20/13
Extraction Date	08/21/13	08/21/13
Extraction Batch	ENV 3089	ENV 3089
Date Acquired	9/14/13 23:18	9/15/13 0:27
Method	PAH-2012.M	PAH-2012.M
Sample Volume (L)	0.9	1.0
% Dry	NA	NA
% Moisture	NA	NA
Dilution	1X	1X

Target Compounds	Su. Corrected Conc. (ng/L)	Q	Su. Corrected Conc. (ng/L)	Q
Individual Alkyl Isomers and Hopanes				
2-Methylnaphthalene	28.63		2.78	
1-Methylnaphthalene	23.41		2.10	
2,6-Dimethylnaphthalene	32.23		<0.7 U	
1,6,7-Trimethylnaphthalene	11.02		<0.7 U	
1-Methylfluorene	18.09		0.52 J	
4-Methyldibenzothiophene	24.36		<1 U	
2/3-Methyldibenzothiophene	19.39		<1 U	
1-Methyldibenzothiophene	19.95		<1 U	
3-Methylphenanthrene	11.88		<0.9 U	
2-Methylphenanthrene	16.89		<0.9 U	
2-Methylanthracene	59.92		<0.9 U	
4/9-Methylphenanthrene	18.19		<0.9 U	
1-Methylphenanthrene	10.93		<0.9 U	
3,6-Dimethylphenanthrene	<1.9 U		<1.7 U	
Retene	<1.8 U		<1.6 U	
2-Methylfluoranthene	4.82		<1.1 U	
Benzo(b)fluorene	11.42		<1.4 U	
C29-Hopane	<9.4 U		<8.2 U	
18a-Oleanane	<9.4 U		<8.2 U	
C30-Hopane	<9.4 U		<8.2 U	
C20-TAS	<3 U		<2.6 U	
C21-TAS	<3 U		<2.6 U	
C26(20S)-TAS	<3 U		<2.6 U	
C26(20R)/C27(20S)-TAS	<3 U		<2.6 U	
C28(20S)-TAS	<3 U		<2.6 U	
C27(20R)-TAS	<3 U		<2.6 U	
C28(20R)-TAS	<3 U		<2.6 U	

Surrogate Recovery

Naphthalene-d8	60	77
Acenaphthene-d10	67	80
Phenanthrene-d10	63	76
Chrysene-d12	71	78
Perylene-d12	71	89

Sample Name ENV3089A.D
Client Name Procedural Blank
Matrix Water
Collection Date NA
Received Date NA
Extraction Date 08/21/13
Extraction Batch ENV 3089
Date Acquired 9/14/13 6:58
Method PAH-2012.M
Sample Volume (L) 1.0
% Dry NA
% Moisture NA
Dilution 1X

Target Compounds	Su. Corrected Conc. (ng/L)	Q	3X MDL	Actual MDL
cis/trans Decalin	<1.1 U		3.43	1.14
C1-Decalins	<2.3 U		6.85	2.28
C2-Decalins	<2.3 U		6.85	2.28
C3-Decalins	<2.3 U		6.85	2.28
C4-Decalins	<2.3 U		6.85	2.28
Naphthalene	2.82 J		8.72	2.91
C1-Naphthalenes	1.65		4.09	1.36
C2-Naphthalenes	<5.8 U		17.4	5.82
C3-Naphthalenes	<5.8 U		17.4	5.82
C4-Naphthalenes	<5.8 U		17.4	5.82
Benzothiophene	<1.3 U		3.86	1.29
C1-Benzothiophenes	<2.6 U		7.72	2.57
C2-Benzothiophenes	<2.6 U		7.72	2.57
C3-Benzothiophenes	<2.6 U		7.72	2.57
C4-Benzothiophenes	<2.6 U		7.72	2.57
Biphenyl	1.12 J		15.27	5.09
Acenaphthylene	<1.2 U		3.52	1.17
Acenaphthene	<1.4 U		4.31	1.44
Dibenzofuran	<1.2 U		3.57	1.19
Fluorene	<0.8 U		2.44	0.81
C1-Fluorenes	<1.6 U		4.88	1.63
C2-Fluorenes	<1.6 U		4.88	1.63
C3-Fluorenes	<1.6 U		4.88	1.63
Carbazole	<0.8 U		2.50	0.833
Anthracene	<0.8 U		2.30	0.767
Phenanthrene	2.26		6.79	2.26
C1-Phenanthrenes/Anthracenes	<0.7 U		2.10	0.701
C2-Phenanthrenes/Anthracenes	<3 U		9.09	3.03
C3-Phenanthrenes/Anthracenes	<3 U		9.09	3.03
C4-Phenanthrenes/Anthracenes	<3 U		9.09	3.03
Dibenzothiophene	<0.8 U		2.47	0.824
C1-Dibenzothiophenes	<0.7 U		2.01	0.670
C2-Dibenzothiophenes	<1.3 U		4.02	1.34
C3-Dibenzothiophenes	<1.3 U		4.02	1.34
C4-Dibenzothiophenes	<1.3 U		4.02	1.34
Fluoranthene	0.8 J		3.28	1.09
Pyrene	0.6 J		4.12	1.37
C1-Fluoranthenes/Pyrenes	<2.5 U		7.41	2.47
C2-Fluoranthenes/Pyrenes	<2.5 U		7.41	2.47
C3-Fluoranthenes/Pyrenes	<2.5 U		7.41	2.47
C4-Fluoranthenes/Pyrenes	<2.5 U		7.41	2.47
Naphthobenzothiophene	<1 U		3.10	1.03
C1-Naphthobenzothiophenes	<2.1 U		6.20	2.07
C2-Naphthobenzothiophenes	<2.1 U		6.20	2.07
C3-Naphthobenzothiophenes	<2.1 U		6.20	2.07
C4-Naphthobenzothiophenes	<2.1 U		6.20	2.07
Benz(a)anthracene	<0.7 U		2.21	0.737
Chrysene/Triphenylene	<0.8 U		2.40	0.799
C1-Chrysenes	<1.6 U		4.80	1.60
C2-Chrysenes	<1.6 U		4.80	1.60
C3-Chrysenes	<1.6 U		4.80	1.60
C4-Chrysenes	<1.6 U		4.80	1.60
Benzo(b)fluoranthene	<2.4 U		7.15	2.38
Benzo(k,j)fluoranthene	<2.5 U		7.53	2.51
Benzo(a)fluoranthene	<2.5 U		7.53	2.51
Benzo(e)pyrene	<2.7 U		8.08	2.69
Benzo(a)pyrene	<1.9 U		5.74	1.91
Perylene	<0.6 U		1.90	0.635
Indeno(1,2,3-c,d)pyrene	<1.4 U		4.18	1.39
Dibenzo(a,h)anthracene	<1.1 U		3.41	1.14
Benzo(g,h,i)perylene	<2.5 U		7.53	2.51
Total PAHs		9.3		

Sample Name ENV3089A.D
Client Name Procedural Blank
Matrix Water
Collection Date NA
Received Date NA
Extraction Date 08/21/13
Extraction Batch ENV 3089
Date Acquired 9/14/13 6:58
Method PAH-2012.M
Sample Volume (L) 1.0
% Dry NA
% Moisture NA
Dilution 1X

Target Compounds	Su. Corrected Conc. (ng/L)	Q	3X MDL	Actual MDL
Individual Alkyl Isomers and Hopanes				
2-Methylnaphthalene	1.44		3.31	1.10
1-Methylnaphthalene	1.05 J		4.26	1.42
2,6-Dimethylnaphthalene	<0.7 U		2.09	0.696
1,6,7-Trimethylnaphthalene	<0.7 U		2.00	0.668
1-Methylfluorene	<1.5 U		4.41	1.470
4-Methyldibenzothiophene	<1 U		2.90	0.966
2/3-Methyldibenzothiophene	<1 U		2.90	0.966
1-Methyldibenzothiophene	<1 U		2.90	0.966
3-Methylphenanthrene	<0.9 U		2.82	0.939
2-Methylphenanthrene	<0.9 U		2.82	0.939
2-Methylantracene	<0.9 U		2.82	0.939
4/9-Methylphenanthrene	<0.9 U		2.82	0.939
1-Methylphenanthrene	<0.9 U		2.82	0.939
3,6-Dimethylphenanthrene	<1.7 U		5.01	1.67
Retene	<1.6 U		4.78	1.59
2-Methylfluoranthene	<1.1 U		3.44	1.15
Benzo(b)fluorene	<1.4 U		4.12	1.37
C29-Hopane	<8.2 U		24.6	8.19
18a-Oleanane	<8.2 U		24.6	8.19
C30-Hopane	<8.2 U		24.6	8.19
C20-TAS	<2.6 U		7.80	2.60
C21-TAS	<2.6 U		7.80	2.60
C26(20S)-TAS	<2.6 U		7.80	2.60
C26(20R)/C27(20S)-TAS	<2.6 U		7.80	2.60
C28(20S)-TAS	<2.6 U		7.80	2.60
C27(20R)-TAS	<2.6 U		7.80	2.60
C28(20R)-TAS	<2.6 U		7.80	2.60

Surrogate Recovery

Naphthalene-d8	81
Acenaphthene-d10	84
Phenanthrene-d10	83
Chrysene-d12	90
Perylene-d12	90

Sample Name	ENV3089B.D	ENV3089C.D
Client Name	Blank Spike	Blank Spike Dupl.
Matrix	Water	Water
Collection Date	NA	NA
Received Date	NA	NA
Extraction Date	08/21/13	08/21/13
Extraction Batch	ENV 3089	ENV 3089
Date Acquired	9/14/13 8:08	9/14/13 9:18
Method	PAH-2012.M	PAH-2012.M
Sample Volume (L)	1.0	1.0
% Dry	NA	NA
% Moisture	NA	NA
Dilution	1X	1X

Target Compounds	Su. Corrected Amount (ng)	Q	Recovery (%)	Q	Su. Corrected Amount (ng)	Q	Recovery (%)	Q	RPD (%)	Q	Spike amount (ng)
cis/trans Decalin	82.4		83		82.7		84		0		98.9
C1-Decalins	NA				NA						
C2-Decalins	NA				NA						
C3-Decalins	NA				NA						
C4-Decalins	NA				NA						
Naphthalene	92.1		92		91.9		92		0		100
C1-Naphthalenes	NA				NA						
C2-Naphthalenes	NA				NA						
C3-Naphthalenes	NA				NA						
C4-Naphthalenes	NA				NA						
Benzothiophene	91.4		92		88.6		89		3		99.4
C1-Benzothiophenes	NA				NA						
C2-Benzothiophenes	NA				NA						
C3-Benzothiophenes	NA				NA						
C4-Benzothiophenes	NA				NA						
Biphenyl	120		121		119		120		1		99.1
Acenaphthylene	87.3		88		87.3		88		0		99.2
Acenaphthene	91.1		91		89.3		89		2		100
Dibenzofuran	92.7		93		93.2		94		0		99.5
Fluorene	93.0		93		87.2		87		6		100
C1-Fluorenes	NA				NA						
C2-Fluorenes	NA				NA						
C3-Fluorenes	NA				NA						
Carbazole	88.1		89		85.1		86		3		99.1
Anthracene	91.3		91		94.9		95		4		100
Phenanthrene	92.7		93		96.4		97		4		99.1
C1-Phenanthrenes/Anthracenes	NA				NA						
C2-Phenanthrenes/Anthracenes	NA				NA						
C3-Phenanthrenes/Anthracenes	NA				NA						
C4-Phenanthrenes/Anthracenes	NA				NA						
Dibenzothiophene	99.1		101		98.3		100		1		98.6
C1-Dibenzothiophenes	NA				NA						
C2-Dibenzothiophenes	NA				NA						
C3-Dibenzothiophenes	NA				NA						
C4-Dibenzothiophenes	NA				NA						
Fluoranthene	93.6		94		97.7		98		4		100
Pyrene	88.9		89		85.4		85		4		100
C1-Fluoranthenes/Pyrenes	NA				NA						
C2-Fluoranthenes/Pyrenes	NA				NA						
C3-Fluoranthenes/Pyrenes	NA				NA						
C4-Fluoranthenes/Pyrenes	NA				NA						
Naphthobenzothiophene	92.5		92		87.6		87		5		101
C1-Naphthobenzothiophenes	NA				NA						
C2-Naphthobenzothiophenes	NA				NA						
C3-Naphthobenzothiophenes	NA				NA						
C4-Naphthobenzothiophenes	NA				NA						
Benz(a)anthracene	94.5		95		90.9		91		4		99.8
Chrysene/Triphenylene	107		107		110		110		3		99.4
C1-Chrysenes	NA				NA						
C2-Chrysenes	NA				NA						
C3-Chrysenes	NA				NA						
C4-Chrysenes	NA				NA						
Benzo(b)fluoranthene	96.5		96		102		102		5		100
Benzo(k,j)fluoranthene	95.0		95		91.0		91		4		99.6
Benzo(a)fluoranthene	NA				NA						
Benzo(e)pyrene	112		112		114		114		2		99.6
Benzo(a)pyrene	95.0		95		97.5		98		3		99.8
Perylene	81.7		82		94.8		95		15		100
Indeno(1,2,3-c,d)pyrene	97.5		99		102		104		4		98.3
Dibenzo(a,h)anthracene	97.8		99		104		105		6		99.1
Benzo(g,h,i)perylene	98.3		99		102		103		3		99.1
Average % Recovery			95				96				

Sample Name	ENV3089B.D	ENV3089C.D
Client Name	Blank Spike	Blank Spike Dupl.
Matrix	Water	Water
Collection Date	NA	NA
Received Date	NA	NA
Extraction Date	08/21/13	08/21/13
Extraction Batch	ENV 3089	ENV 3089
Date Acquired	9/14/13 8:08	9/14/13 9:18
Method	PAH-2012.M	PAH-2012.M
Sample Volume (L)	1.0	1.0
% Dry	NA	NA
% Moisture	NA	NA
Dilution	1X	1X

Target Compounds	Su. Corrected Amount (ng)	Q Recovery (%)	Q	Su. Corrected Amount (ng)	Q Recovery (%)	Q	RPD (%)	Q	Spike amount (ng)
Individual Alkyl Isomers and Hopanes									
2-Methylnaphthalene	89.2	89		87.4	87		2		100
1-Methylnaphthalene	89.0	89		87.8	88		1		99.9
2,6-Dimethylnaphthalene	85.1	85		87.2	87		2		100
1,6,7-Trimethylnaphthalene	89.7	90		92.8	93		3		100
1-Methylfluorene	101	100		102	101		0		101
4-Methyldibenzothiophene	87.0	86		83.8	83		4		101
2/3-Methyldibenzothiophene	NA			NA					
1-Methyldibenzothiophene	NA			NA					
3-Methylphenanthrene	NA			NA					
2-Methylphenanthrene	NA			NA					
2-Methylantracene	NA			NA					
4/9-Methylphenanthrene	NA			NA					
1-Methylphenanthrene	92.9	94		88.8	90		4		98.9
3,6-Dimethylphenanthrene	106	106		103	103		3		100
Retene	81.4	91		102	114		22		89.4
2-Methylfluoranthene	87	87		82.2	82		6		101
Benzo(b)fluorene	89	89		87.0	86		3		101
C29-Hopane	NA			NA					
18a-Oleanane	NA			NA					
C30-Hopane	111	111		120	120		7		100
C20-TAS	NA			NA					
C21-TAS	NA			NA					
C26(20S)-TAS	NA			NA					
C26(20R)/C27(20S)-TAS	105	105		106	106		2		100
C28(20S)-TAS	NA			NA					
C27(20R)-TAS	NA			NA					
C28(20R)-TAS	NA			NA					

Surrogate Recovery

Naphthalene-d8	80	75
Acenaphthene-d10	83	79
Phenanthrene-d10	85	82
Chrysene-d12	94	88
Perylene-d12	90	89

Sample Name	ARC1910.D	ENV3089D.D	ENV3089E.D
Client Name	WS-024DA(mid depth)081313	MS (WS-024DA(mid depth)081313 MS/MSD)	MSD (WS-024DA(mid depth)081313 MS/MSD)
Matrix	Water	Water	Water
Collection Date	08/13/13	08/13/13	08/13/13
Received Date	08/20/13	08/20/13	08/20/13
Extraction Date	08/21/13	08/21/13	08/21/13
Extraction Batch	ENV 3089	ENV 3089	ENV 3089
Date Acquired	9/14/13 19:48	9/14/13 10:28	9/14/13 11:38
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Volume (L)	1.0	0.9	0.9
% Dry	NA	NA	NA
% Moisture	NA	NA	NA
Dilution	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/L)	Q	Su. Corrected Conc. (ng/L)	Q	Recovery (%)	Q1	Su. Corrected Conc. (ng/L)	Q	Recovery (%)	Q1	RPD (%)	Q	Spike Amount (ng)
cis/trans Decalin	<1.1 U	U	110	105			100	93			9		98.9
C1-Decalins	<2.3 U	U	NA				NA						
C2-Decalins	<2.3 U	U	NA				NA						
C3-Decalins	<2.3 U	U	NA				NA						
C4-Decalins	<2.3 U	U	NA				NA						
Naphthalene	47.4		105	50			102	46			2		100
C1-Naphthalenes	2.80		NA				NA						
C2-Naphthalenes	<5.8 U	U	NA				NA						
C3-Naphthalenes	<5.8 U	U	NA				NA						
C4-Naphthalenes	<5.8 U	U	NA				NA						
Benzo[thiophene]	<1.3 U	U	100	94			100	93			1		99.4
C1-Benzo[thiophenes]	<2.6 U	U	NA				NA						
C2-Benzo[thiophenes]	<2.6 U	U	NA				NA						
C3-Benzo[thiophenes]	<2.6 U	U	NA				NA						
C4-Benzo[thiophenes]	<2.6 U	U	NA				NA						
Biphenyl	1.72 J	J	137	128			136	124			1		99.1
Acenaphthylene	3.64		89.5	81			93.7	83			5		99.2
Acenaphthene	<1.4 U	U	102	96			98.8	91			4		100
Dibenzofuran	2.31		102	94			107	97			5		100
Fluorene	1.64		100	93			98.1	88			2		100
C1-Fluorenes	<1.6 U	U	NA				NA						
C2-Fluorenes	<1.6 U	U	NA				NA						
C3-Fluorenes	<1.6 U	U	NA				NA						
Carbazole	2.14		85.2	79			90.6	82			6		99.1
Anthracene	6.76		94.8	82			104	88			9		100
Phenanthrene	5.73		113	101			123	109			9		99.1
C1-Phenanthrenes/Anthracenes	<0.7 U	U	NA				NA						
C2-Phenanthrenes/Anthracenes	<3 U	U	NA				NA						
C3-Phenanthrenes/Anthracenes	<3 U	U	NA				NA						
C4-Phenanthrenes/Anthracenes	<3 U	U	NA				NA						
Dibenzothiophene	<0.8 U	U	104	99			108	101			4		98.6
C1-Dibenzothiophenes	<0.7 U	U	NA				NA						
C2-Dibenzothiophenes	<1.3 U	U	NA				NA						
C3-Dibenzothiophenes	<1.3 U	U	NA				NA						
C4-Dibenzothiophenes	<1.3 U	U	NA				NA						
Fluoranthene	10.3		118	100			139	118			17		100
Pyrene	5.11		89.8	79			105	91			16		100
C1-Fluoranthenes/Pyrenes	<2.5 U	U	NA				NA						
C2-Fluoranthenes/Pyrenes	<2.5 U	U	NA				NA						
C3-Fluoranthenes/Pyrenes	<2.5 U	U	NA				NA						
C4-Fluoranthenes/Pyrenes	<2.5 U	U	NA				NA						
Naphthobenzothiophene	<1 U	U	NA				NA						
C1-Naphthobenzothiophenes	<2.1 U	U	NA				NA						
C2-Naphthobenzothiophenes	<2.1 U	U	NA				NA						
C3-Naphthobenzothiophenes	<2.1 U	U	NA				NA						
C4-Naphthobenzothiophenes	<2.1 U	U	NA				NA						
Benz(a)anthracene	2.33		89.9	82			96.9	87			8		100
Chrysene/Triphenylene	8.11		119	104			138	120			15		99.4
C1-Chrysenes	<1.6 U	U	NA				NA						
C2-Chrysenes	<1.6 U	U	NA				NA						
C3-Chrysenes	<1.6 U	U	NA				NA						
C4-Chrysenes	<1.6 U	U	NA				NA						
Benzo(b)fluoranthene	12.4		127	107			137	113			7		100
Benzo(k,j)fluoranthene	2.89		102	93			103	92			1		100
Benzo(a)fluoranthene	1.10 J	J	NA				NA						
Benzo(e)pyrene	7.43		124	109			127	109			2		100
Benzo(a)pyrene	3.69		106	96			115	103			9		100
Perylene	<0.6 U	U	124	116			125	115			1		100
Indeno(1,2,3-c,d)pyrene	5.63		121	110			123	109			2		98.3
Dibenzo(a,h)anthracene	1.59		124	116			123	112			1		99.1
Benzo(g,h,i)perylene	5.89		122	109			125	110			3		99.1
Average % Recovery					95				97				

Sample Name	ARC1910.D	ENV3089D.D	ENV3089E.D
Client Name	WS-024DA(mid depth)081313	MS (WS-024DA(mid depth)081313 MS/MSD)	MSD (WS-024DA(mid depth)081313 MS/MSD)
Matrix	Water	Water	Water
Collection Date	08/13/13	08/13/13	08/13/13
Received Date	08/20/13	08/20/13	08/20/13
Extraction Date	08/21/13	08/21/13	08/21/13
Extraction Batch	ENV 3089	ENV 3089	ENV 3089
Date Acquired	9/14/13 19:48	9/14/13 10:28	9/14/13 11:38
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Volume (L)	1.0	0.9	0.9
% Dry	NA	NA	NA
% Moisture	NA	NA	NA
Dilution	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/L)	Q	Su. Corrected Conc. (ng/L)	Q	Recovery (%)	Q Q1	Su. Corrected Conc. (ng/L)	Q	Recovery (%)	Q Q1	RPD (%)	Q	Spike Amount (ng)
Individual Alkyl Isomers and Hopanes													
2-Methylnaphthalene		2.35		101	92		100	90		0			100
1-Methylnaphthalene		1.91		98.5	91		98.1	88		0			100
2,6-Dimethylnaphthalene		<0.7 U		94.7	89		99.3	91		5			100
1,6,7-Trimethylnaphthalene		<0.7 U		100	94		108	99		7			100
1-Methylfluorene		<1.5 U		120	112		118	108		1			101
4-Methyldibenzothiophene		<1 U		88.2	82		91.6	84		4			101
2/3-Methyldibenzothiophene		<1 U		NA			NA						
1-Methyldibenzothiophene		<1 U		NA			NA						
3-Methylphenanthrene		<0.9 U		NA			NA						
2-Methylphenanthrene		<0.9 U		NA			NA						
2-Methylantracene		<0.9 U		NA			NA						
4/9-Methylphenanthrene		<0.9 U		NA			NA						
1-Methylphenanthrene		<0.9 U		89.6	85		94.2	88		5			98.9
3,6-Dimethylphenanthrene		<1.7 U		103	97		113	104		9			100
Retene		<1.6 U		76.5	81		80.2	83		5			89.4
2-Methylfluoranthene		<1.1 U		81.5	76		86.8	79		6			101
Benzo(b)fluorene		<1.4 U		86.9	81		92.3	84		6			101
C29-Hopane		<8.2 U		NA			NA						
18a-Oleanane		<8.2 U		NA			NA						
C30-Hopane		<8.2 U		NA			NA						
C20-TAS		<2.6 U		NA			NA						
C21-TAS		<2.6 U		NA			NA						
C26(20S)-TAS		<2.6 U		NA			NA						
C26(20R)/C27(20S)-TAS		<2.6 U		126	119		121	112		4			100
C28(20S)-TAS		<2.6 U		NA			NA						
C27(20R)-TAS		<2.6 U		NA			NA						
C28(20R)-TAS		<2.6 U		NA			NA						

Surrogate Recovery

Naphthalene-d8	73	79	75
Acenaphthene-d10	79	81	80
Phenanthrene-d10	76	81	82
Chrysene-d12	80	85	86
Perylene-d12	84	90	90

Sample Name MS60149K.D
Client Name AR-SRM2779-WK-4.0-002
Matrix Gulf of Mexico Crude Oil
Collection Date NA
Received Date NA
Extraction Date NA
Extraction Batch ENV 3089
Date Acquired 9/14/13 5:48
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	667				
C1-Decalins	926				
C2-Decalins	834				
C3-Decalins	864				
C4-Decalins	528				
Naphthalene	677	23	855 ± 46	647	1081
C1-Naphthalenes	1484				
C2-Naphthalenes	1921				
C3-Naphthalenes	1355				
C4-Naphthalenes	740				
Benzothiophene	7.81 J				
C1-Benzothiophenes	35.4				
C2-Benzothiophenes	30.7				
C3-Benzothiophenes	34.3				
C4-Benzothiophenes	35.3				
Biphenyl	143				
Acenaphthylene	7.55 J				
Acenaphthene	10.6				
Dibenzofuran	30.9				
Fluorene	117				
C1-Fluorenes	231				
C2-Fluorenes	358				
C3-Fluorenes	242				
Carbazole	6.7 J				
Anthracene	4.0 J	16	3.42 ± 0.59	2.26	4.81
Phenanthrene	223	15	258 ± 27	185	342
C1-Phenanthrenes/Anthracenes	629				
C2-Phenanthrenes/Anthracenes	723				
C3-Phenanthrenes/Anthracenes	510				
C4-Phenanthrenes/Anthracenes	251				
Dibenzothiophene	44.1	16	51.8 ± 2.1	39.8	64.7
C1-Dibenzothiophenes	117				
C2-Dibenzothiophenes	154				
C3-Dibenzothiophenes	132				
C4-Dibenzothiophenes	67.1				
Fluoranthene	5.43 J	22	4.36 ± 0.40	3.17	5.71
Pyrene	11.7	23	14.81 ± 0.39	11.5	18.2
C1-Fluoranthenes/Pyrenes	72.2				
C2-Fluoranthenes/Pyrenes	167				
C3-Fluoranthenes/Pyrenes	152				
C4-Fluoranthenes/Pyrenes	111				
Naphthobenzothiophene	20.8				
C1-Naphthobenzothiophenes	43.5				
C2-Naphthobenzothiophenes	64.7				
C3-Naphthobenzothiophenes	43.7				
C4-Naphthobenzothiophenes	19.2				
Benz(a)anthracene	6.77 J	4	7.03 ± 0.85	4.94	9.5
Chrysene/Triphenylene	37.9	22	47.4 ± 1.7	36.6	58.9
C1-Chrysenes	121				
C2-Chrysenes	159				
C3-Chrysenes	105				
C4-Chrysenes	66.5				
Benzo(b)fluoranthene	4.95 J	13	5.62 ± 0.34	4.22	7.15
Benzo(k,l)fluoranthene	0.493 J				
Benzo(a)fluoranthene	<10 U				
Benzo(e)pyrene	9.5 J	12	10.78 ± 0.60	8.14	13.7
Benzo(a)pyrene	1.36 J				
Perylene	0.643 J				
Indeno(1,2,3-c,d)pyrene	0.672 J				
Dibenzo(a,h)anthracene	0.699 J	20	0.574 ± 0.091	0.386	0.798
Benzo(g,h,i)perylene	1.73 J	20	2.11 ± 0.26	1.48	2.84
Total PAHs	15369				

Sample Name MS60149K.D
Client Name AR-SRM2779-WK-4.0-002
Matrix Gulf of Mexico Crude Oil
Collection Date NA
Received Date NA
Extraction Date NA
Extraction Batch ENV 3089
Date Acquired 9/14/13 5:48
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	1324		21	1630 ± 50	1264	2016
1-Methylnaphthalene	926		21	1140 ± 20	896	1392
2,6-Dimethylnaphthalene	836					
1,6,7-Trimethylnaphthalene	228					
1-Methylfluorene	175					
4-Methyldibenzothiophene	113					
2/3-Methyldibenzothiophene	44.7					
1-Methyldibenzothiophene	37.6					
3-Methylphenanthrene	171		19	206 ± 32	139	286
2-Methylphenanthrene	149	*	43	230 ± 14	173	293
2-Methylantracene	11.5					
4/9-Methylphenanthrene	183		23	232 ± 19	170	301
1-Methylphenanthrene	152		11	169 ± 10	127	215
3,6-Dimethylphenanthrene	38.6					
Retene	7.88	J				
2-Methylfluoranthene	6.65	J				
Benzo(b)fluorene	18.3					
C29-Hopane	24.8					
18a-Oleanane	<10	U				
C30-Hopane	39.3					
C20-TAS	2.65	J				
C21-TAS	3.02	J				
C26(20S)-TAS	3.26	J				
C26(20R)/C27(20S)-TAS	10.5					
C28(20S)-TAS	7.79	J				
C27(20R)-TAS	6.19	J				
C28(20R)-TAS	5.61	J				

Surrogate Recovery

Naphthalene-d8	89
Acenaphthene-d10	92
Phenanthrene-d10	88
Chrysene-d12	87
Perylene-d12	89

Peak Resolution

4/9-Methylphenanthrene from 1-Methylphenanthrene (m/z 192)	94%
---	-----

Sample Name MS60149J.D
Client Name AR-WKCC-250-038
Matrix Solution
Collection Date NA
Received Date NA
Extraction Date NA
Extraction Batch ENV 3089
Date Acquired 9/14/13 4:39
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	237	4.2		247	210	284
C1-Decalins	NA					
C2-Decalins	NA					
C3-Decalins	NA					
C4-Decalins	NA					
Naphthalene	229	9.0		250	213	288
C1-Naphthalenes	NA					
C2-Naphthalenes	NA					
C3-Naphthalenes	NA					
C4-Naphthalenes	NA					
Benzo[thiophene]	233	6.6		249	211	286
C1-Benzo[thiophenes]	NA					
C2-Benzo[thiophenes]	NA					
C3-Benzo[thiophenes]	NA					
C4-Benzo[thiophenes]	NA					
Biphenyl	225	9.7		248	211	285
Acenaphthylene	220	12.0		248	211	285
Acenaphthene	228	9.6		251	213	288
Dibenzofuran	225	9.9		249	211	286
Fluorene	216	14.8		251	213	288
C1-Fluorenes	NA					
C2-Fluorenes	NA					
C3-Fluorenes	NA					
Carbazole	242	2.3		248	211	285
Anthracene	260	3.5		251	213	288
Phenanthrene	260	4.7		248	211	285
C1-Phenanthrenes/Anthracenes	NA					
C2-Phenanthrenes/Anthracenes	NA					
C3-Phenanthrenes/Anthracenes	NA					
C4-Phenanthrenes/Anthracenes	NA					
Dibenzothiophene	241	2.4		247	210	283
C1-Dibenzothiophenes	NA					
C2-Dibenzothiophenes	NA					
C3-Dibenzothiophenes	NA					
C4-Dibenzothiophenes	NA					
Fluoranthene	262	4.8		250	213	288
Pyrene	230	8.2		250	213	288
C1-Fluoranthenes/Pyrenes	NA					
C2-Fluoranthenes/Pyrenes	NA					
C3-Fluoranthenes/Pyrenes	NA					
C4-Fluoranthenes/Pyrenes	NA					
Naphthobenzothiophene	239	5.0		252	214	289
C1-Naphthobenzothiophenes	NA					
C2-Naphthobenzothiophenes	NA					
C3-Naphthobenzothiophenes	NA					
C4-Naphthobenzothiophenes	NA					
Benzo(a)anthracene	246	1.5		250	212	287
Chrysene/Triphenylene	285	13.8		249	211	286
C1-Chrysenes	NA					
C2-Chrysenes	NA					
C3-Chrysenes	NA					
C4-Chrysenes	NA					
Benzo(b)fluoranthene	226	10.3		251	213	288
Benzo(k,j)fluoranthene	234	6.4		249	212	286
Benzo(a)fluoranthene	NA					
Benzo(e)pyrene	254	1.8		249	212	286
Benzo(a)pyrene	233	6.6		250	212	287
Perylene	243	3.0		250	213	288
Indeno(1,2,3-c,d)pyrene	239	2.8		246	209	283
Dibenzo(a,h)anthracene	244	1.3		248	211	285
Benzo(g,h,i)perylene	244	1.5		248	211	285

Sample Name MS60149J.D
Client Name AR-WKCC-250-038
Matrix Solution
Collection Date NA
Received Date NA
Extraction Date NA
Extraction Batch ENV 3089
Date Acquired 9/14/13 4:39
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	223	223	11.7	250	213	288
1-Methylnaphthalene	227	227	9.4	250	212	287
2,6-Dimethylnaphthalene	223	223	11.3	250	213	288
1,6,7-Trimethylnaphthalene	228	228	9.0	250	213	288
1-Methylfluorene	236	236	6.4	252	214	290
4-Methyldibenzothiophene	227	227	10.5	252	214	290
2/3-Methyldibenzothiophene	NA	NA				
1-Methyldibenzothiophene	NA	NA				
3-Methylphenanthrene	NA	NA				
2-Methylphenanthrene	NA	NA				
2-Methylantracene	NA	NA				
4/9-Methylphenanthrene	NA	NA				
1-Methylphenanthrene	226	226	8.8	247	210	284
3,6-Dimethylphenanthrene	263	263	4.9	250	213	288
Retene	206	206	8.3	223	190	257
2-Methylfluoranthene	221	221	13.1	252	214	289
Benzo(b)fluorene	216	216	15.7	252	214	290
C29-Hopane	NA	NA				
18a-Oleanane	NA	NA				
C30-Hopane	258	258	3.2	250	213	288
C20-TAS	NA	NA				
C21-TAS	NA	NA				
C26(20S)-TAS	NA	NA				
C26(20R)/C27(20S)-TAS	229	229	8.8	250	213	288
C28(20S)-TAS	NA	NA				
C27(20R)-TAS	NA	NA				
C28(20R)-TAS	NA	NA				

Surrogate Recovery

Naphthalene-d8	91
Acenaphthene-d10	91
Phenanthrene-d10	103
Chrysene-d12	115
Perylene-d12	97

Sample Name MS60149I.D
Client Name AR-WKICV-250-004
Matrix Solution
Collection Date NA
Received Date NA
Extraction Date NA
Extraction Batch ENV 3089
Date Acquired 9/14/13 3:29
Method PAH-2012.M
Sample Volume (mL) 1.0

Target Compounds	Concentration (ng/mL)	Q	RPD (%)	ICV Certified Conc. (ng/mL)	-20% Certified Conc. (ng/mL)	+20% Certified Conc. (ng/mL)
cis/trans Decalin	279	10.7		250	200	300
C1-Decalins	NA					
C2-Decalins	NA					
C3-Decalins	NA					
C4-Decalins	NA					
Naphthalene	260	3.8		250	200	300
C1-Naphthalenes	NA					
C2-Naphthalenes	NA					
C3-Naphthalenes	NA					
C4-Naphthalenes	NA					
Benzothiophene	268	7.0		250	200	300
C1-Benzothiophenes	NA					
C2-Benzothiophenes	NA					
C3-Benzothiophenes	NA					
C4-Benzothiophenes	NA					
Biphenyl	269	7.0		251	201	301
Acenaphthylene	264					
Acenaphthene	269	7.3		250	200	300
Dibenzofuran	272	8.2		250	200	300
Fluorene	253	1.2		250	200	300
C1-Fluorenes	NA					
C2-Fluorenes	NA					
C3-Fluorenes	NA					
Carbazole	243	3.1		250	200	300
Anthracene	274	9.0		250	200	300
Phenanthrene	272	8.4		250	200	300
C1-Phenanthrenes/Anthracenes	NA					
C2-Phenanthrenes/Anthracenes	NA					
C3-Phenanthrenes/Anthracenes	NA					
C4-Phenanthrenes/Anthracenes	NA					
Dibenzothiophene	245	2.2		250	200	300
C1-Dibenzothiophenes	NA					
C2-Dibenzothiophenes	NA					
C3-Dibenzothiophenes	NA					
C4-Dibenzothiophenes	NA					
Fluoranthene	279	10.8		250	200	300
Pyrene	234	6.7		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	264	5.2		250	200	300
Chrysene/Triphenylene	293	15.8		250	200	300
C1-Chrysenes	NA					
C2-Chrysenes	NA					
C3-Chrysenes	NA					
C4-Chrysenes	NA					
Benzo(b)fluoranthene	286	13.5		250	200	300
Benzo(k,j)fluoranthene	287	13.6		250	200	300
Benzo(a)fluoranthene	NA					
Benzo(e)pyrene	291	15.0		250	200	300
Benzo(a)pyrene	281	11.7		250	200	300
Perylene	283	12.2		251	200	301
Indeno(1,2,3-c,d)pyrene	290	14.9		250	200	300
Dibenzo(a,h)anthracene	288	14.1		250	200	300
Benzo(g,h,i)perylene	292	15.4		250	200	300

Sample Name MS60149I.D
Client Name AR-WKICV-250-004
Matrix Solution
Collection Date NA
Received Date NA
Extraction Date NA
Extraction Batch ENV 3089
Date Acquired 9/14/13 3:29
Method PAH-2012.M
Sample Volume (mL) 1.0

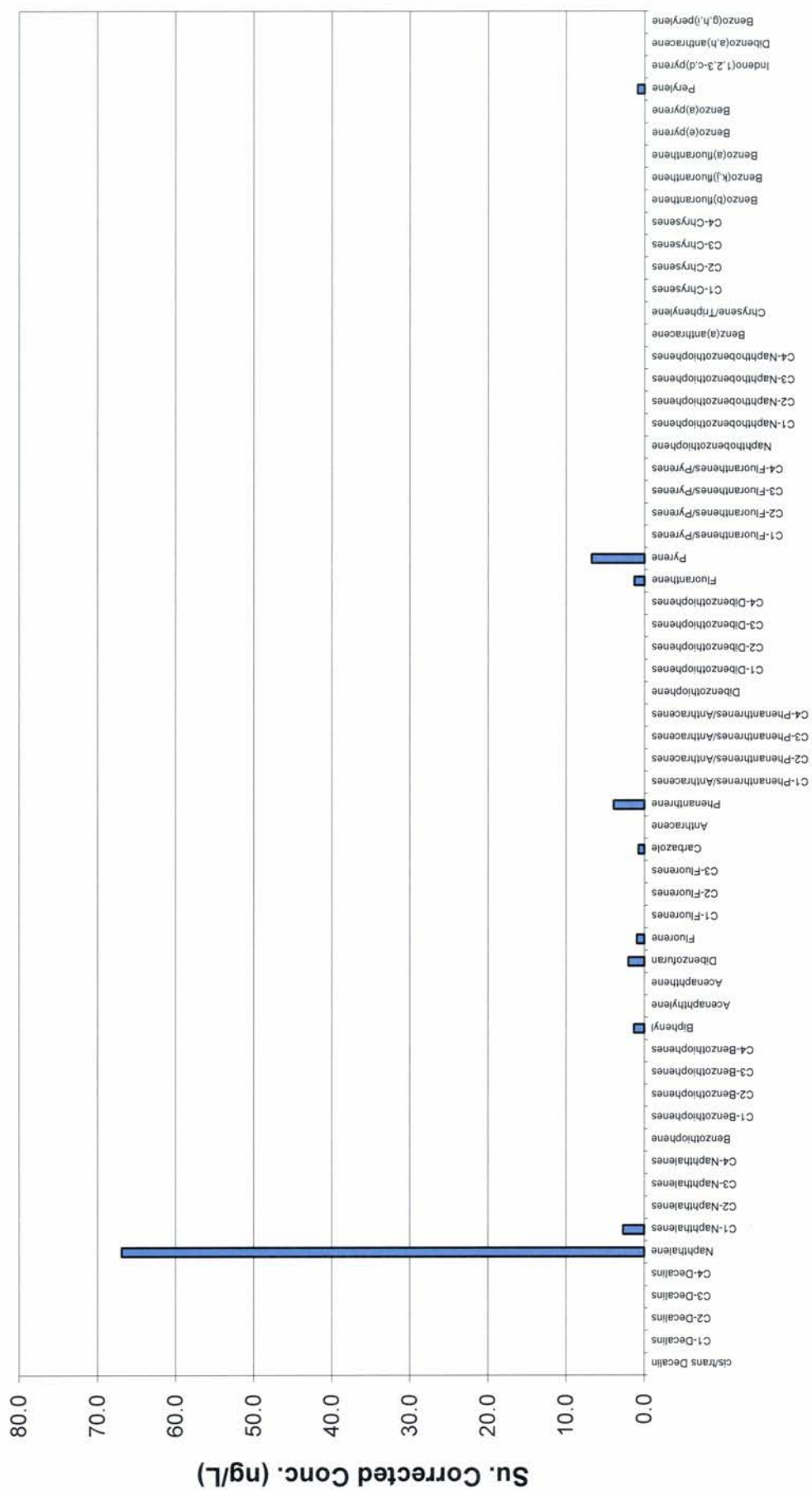
Target Compounds	Concentration (ng/mL)	Q	RPD (%)	ICV Certified Conc. (ng/mL)	-20% Certified Conc. (ng/mL)	+20% Certified Conc. (ng/mL)
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	272	8.1		250	200	301
1-Methylnaphthalene	270	7.5		251	200	301
2,6-Dimethylnaphthalene	265	5.9		250	200	300
1,6,7-Trimethylnaphthalene	286	13.1		250	200	301
1-Methylfluorene	NA					
4-Methyldibenzothiophene	NA					
2/3-Methyldibenzothiophene	NA					
1-Methyldibenzothiophene	NA					
3-Methylphenanthrene	NA					
2-Methylphenanthrene	NA					
2-Methylanthracene	NA					
4/9-Methylphenanthrene	NA					
1-Methylphenanthrene	232	7.5		250	200	300
3,6-Dimethylphenanthrene	NA					
Retene	NA					
2-Methylfluoranthene	NA					
Benzo(b)fluorene	NA					
C29-Hopane	NA					
18a-Oleanane	NA					
C30-Hopane	NA					
C20-TAS	NA					
C21-TAS	NA					
C26(20S)-TAS	NA					
C26(20R)/C27(20S)-TAS	NA					
C28(20S)-TAS	NA					
C27(20R)-TAS	NA					
C28(20R)-TAS	NA					

Surrogate Recovery

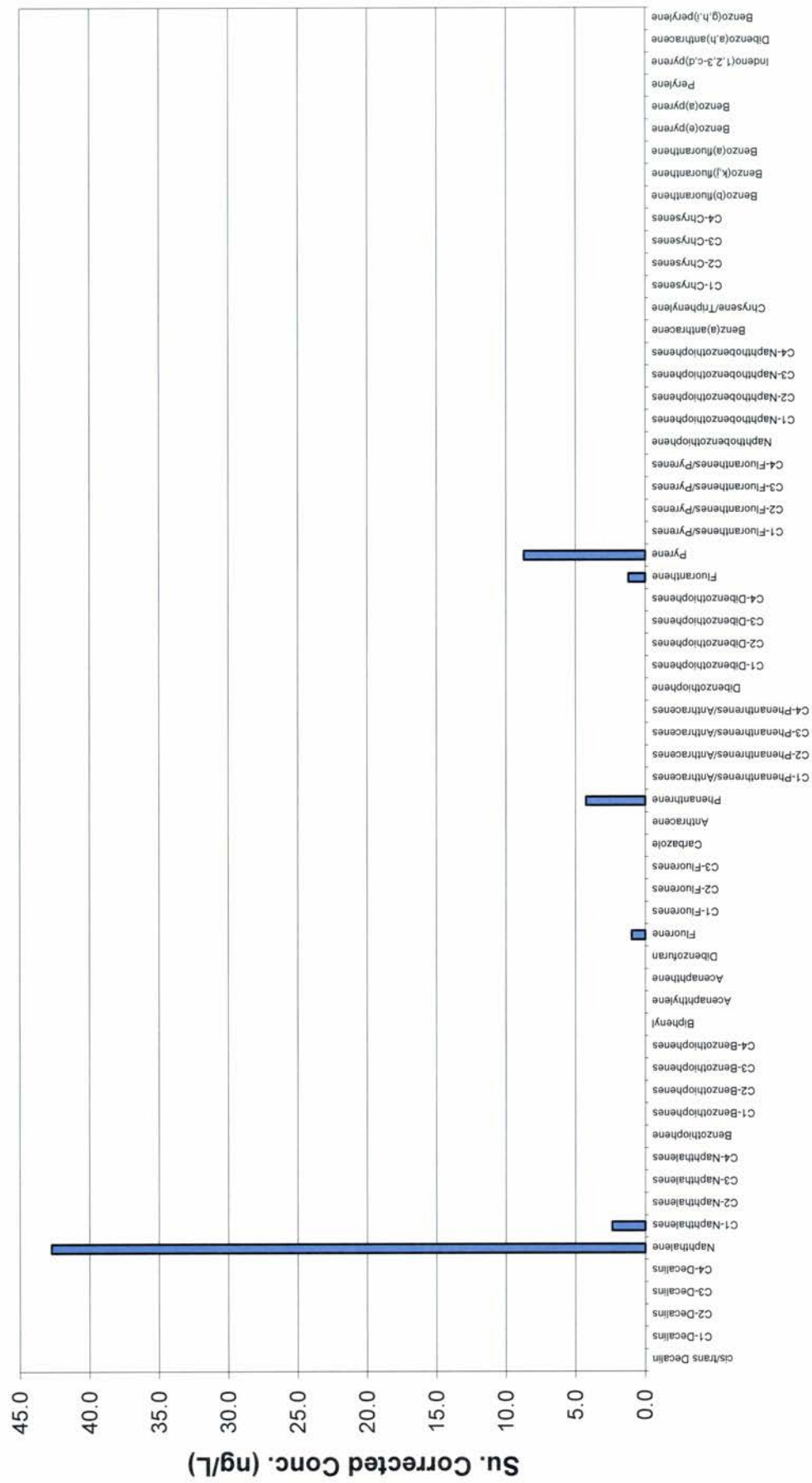
Naphthalene-d8	221	12.5		250	200	300
Acenaphthene-d10	222	11.9		250	200	300
Phenanthrene-d10	219	13.2		250	200	300
Chrysene-d12	234	6.5		250	200	300
Perylene-d12	230	8.4		250	200	300

Polycyclic Aromatic Hydrocarbon Histograms

SED-DA-EB-09-081513 (Water)
ARC1878

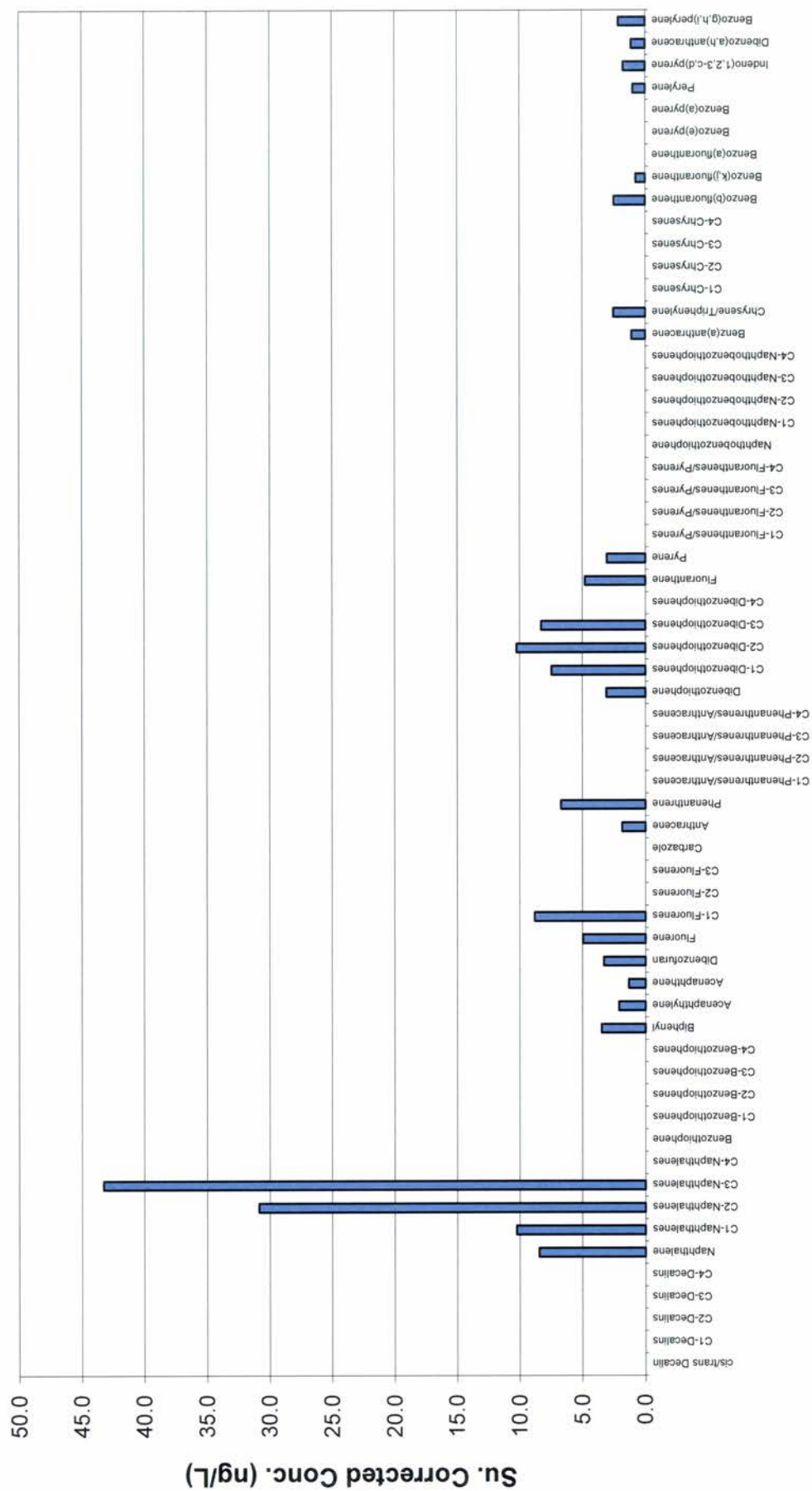


SO-DA-EB-06-081513 (Water) ARC1880

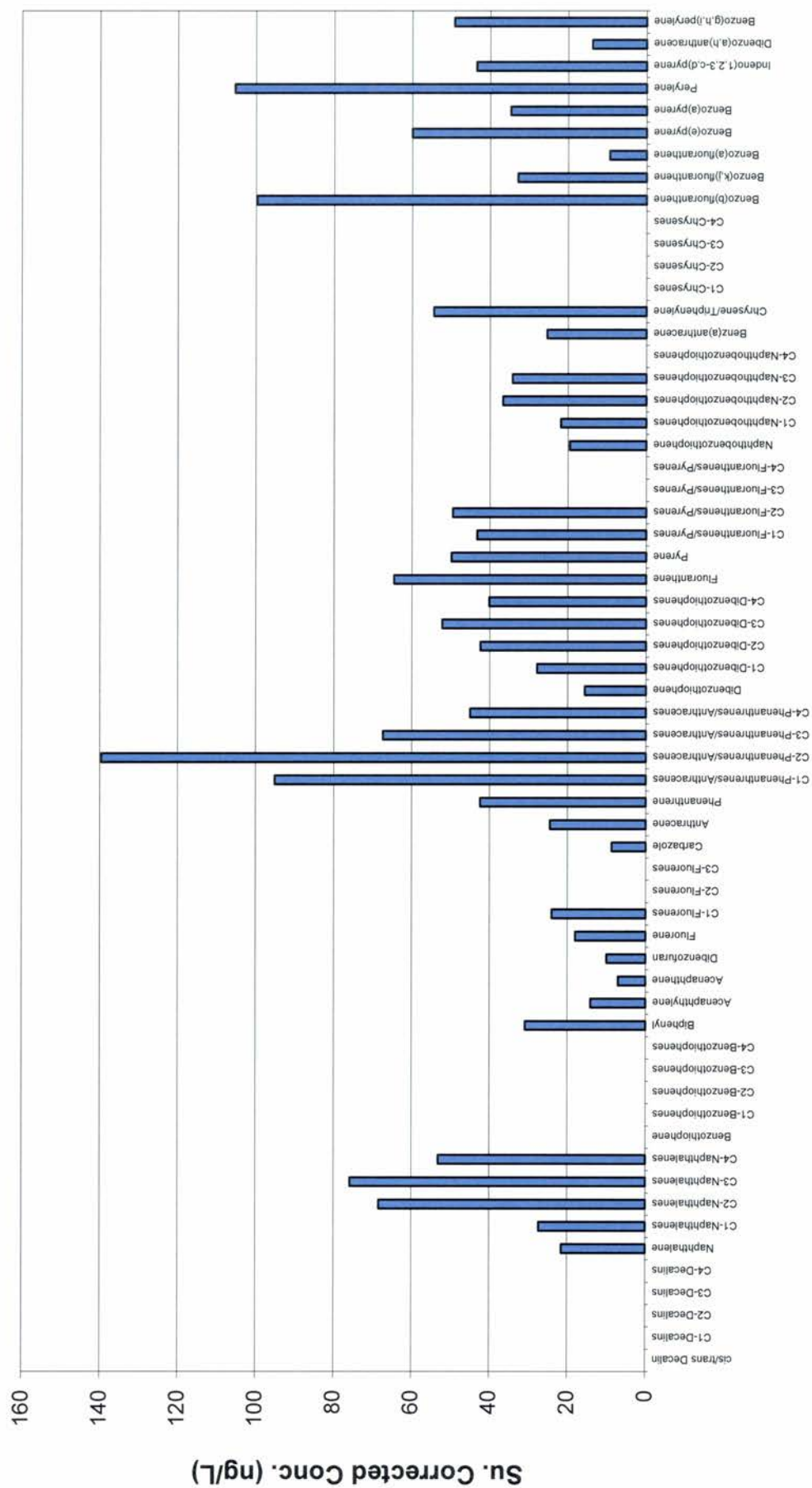


PAH Name	Sum Corrected Conc. (ng/L)
cis/trans Decalin	0.0
C1-Decalins	0.0
C2-Decalins	0.0
C3-Decalins	0.0
C4-Decalins	0.0
Naphthalene	6.1
C1-Naphthalenes	2.1
C2-Naphthalenes	0.0
C3-Naphthalenes	0.0
C4-Naphthalenes	0.0
Benzothioophene	0.0
C1-Benzothioophenes	0.0
C2-Benzothioophenes	0.0
C3-Benzothioophenes	0.0
C4-Benzothioophenes	0.0
Biphenyl	0.0
Acenaphthylene	0.0
Acenaphthene	0.0
Dibenzofuran	0.0
Fluorene	0.0
C1-Fluorenes	0.0
C2-Fluorenes	0.0
C3-Fluorenes	0.0
Carbazole	0.0
Anthracene	0.0
Phenanthrene	0.0
C1-Phenanthrenes/Anthracenes	0.0
C2-Phenanthrenes/Anthracenes	0.0
C3-Phenanthrenes/Anthracenes	0.0
C4-Phenanthrenes/Anthracenes	0.0
Dibenzo[ghi]perylene	0.0
C1-Dibenzo[ghi]perylenes	0.0
C2-Dibenzo[ghi]perylenes	0.0
C3-Dibenzo[ghi]perylenes	0.0
C4-Dibenzo[ghi]perylenes	0.0
Fluoranthene	0.0
Pyrene	0.0
C1-Fluoranthenes/Pyrenes	0.0
C2-Fluoranthenes/Pyrenes	0.0
C3-Fluoranthenes/Pyrenes	0.0
C4-Fluoranthenes/Pyrenes	0.0
Naphthobenzothioophene	0.0
C1-Naphthobenzothioophenes	0.0
C2-Naphthobenzothioophenes	0.0
C3-Naphthobenzothioophenes	0.0
C4-Naphthobenzothioophenes	0.0
Benz[a]anthracene	0.0
Chrysene/Triphenylene	0.0
C1-Chrysenes	0.0
C2-Chrysenes	0.0
C3-Chrysenes	0.0
C4-Chrysenes	0.0
Benzo[b]fluoranthene	0.0
Benzo[k]fluoranthene	0.0
Benzo[a]fluoranthene	0.0
Benzo[e]pyrene	0.0
Benzo[a]pyrene	0.0
Perylene	0.0
Indeno[1,2,3-c,d]pyrene	0.0
Dibenzo[a,h]anthracene	0.0
Benzo[g,h,i]perylene	0.0

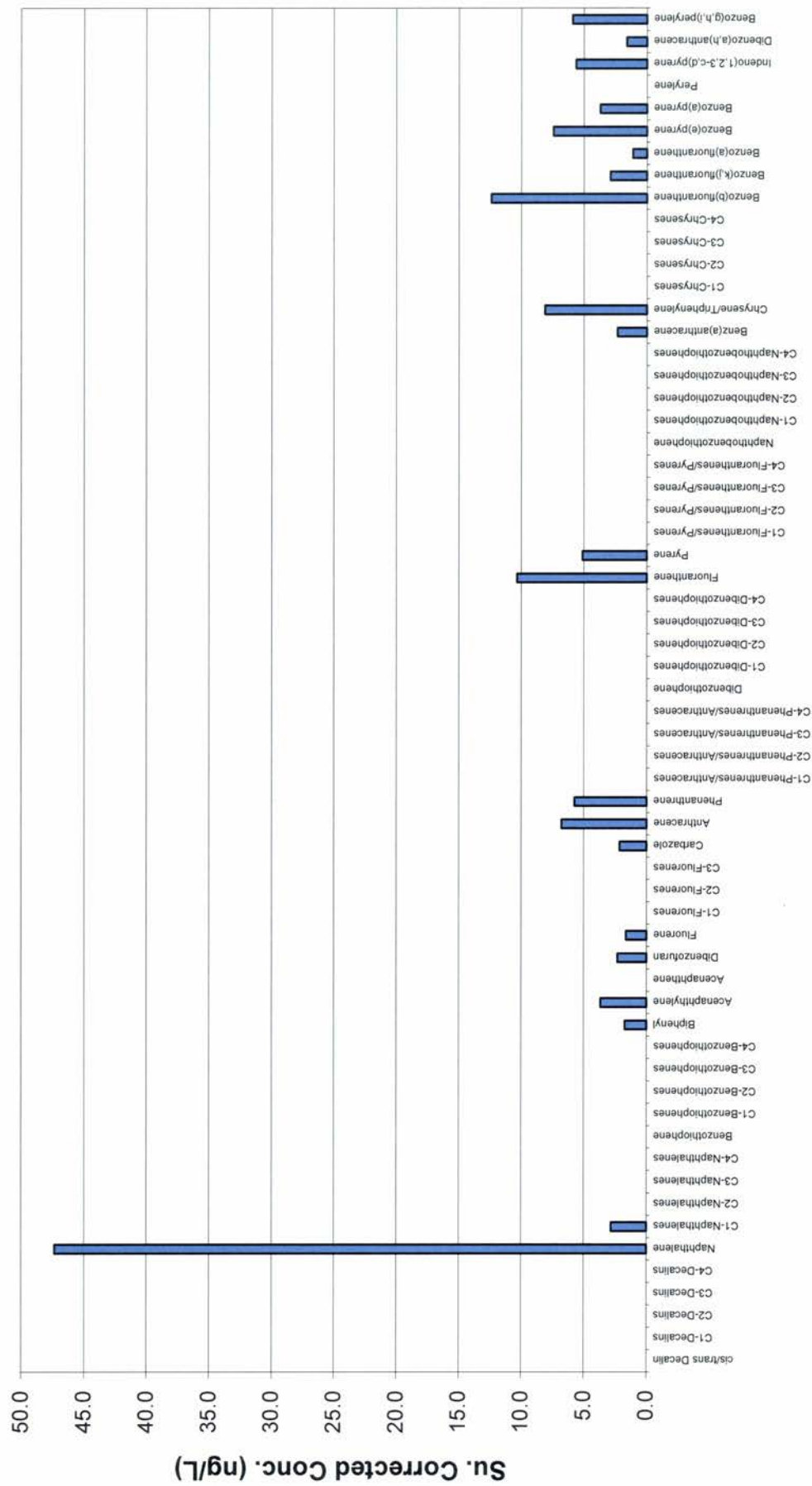
WS-026DA(mid depth)081513 (Water)
ARC1906



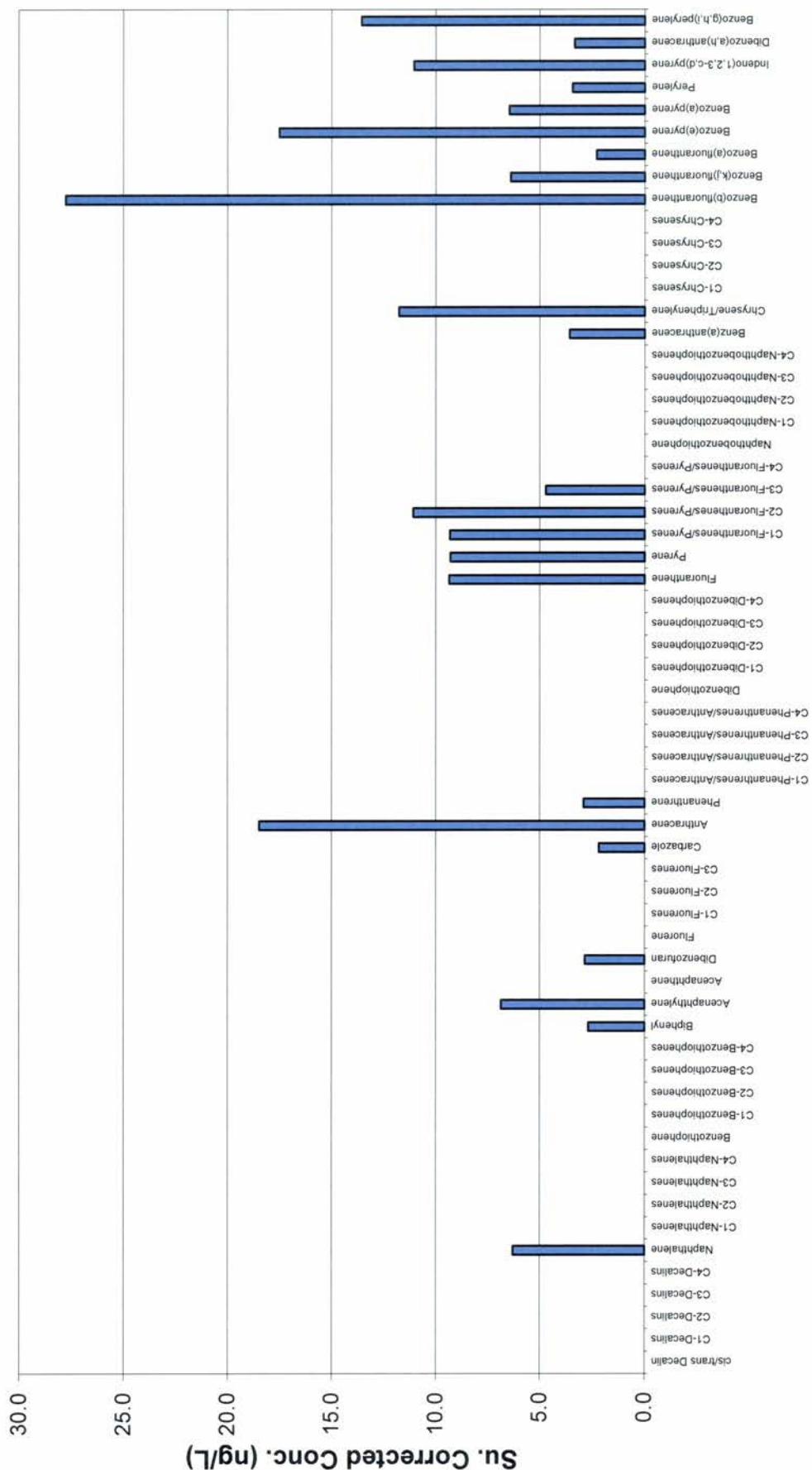
WS-027DA(mid depth)081513 (Water)
ARC1908



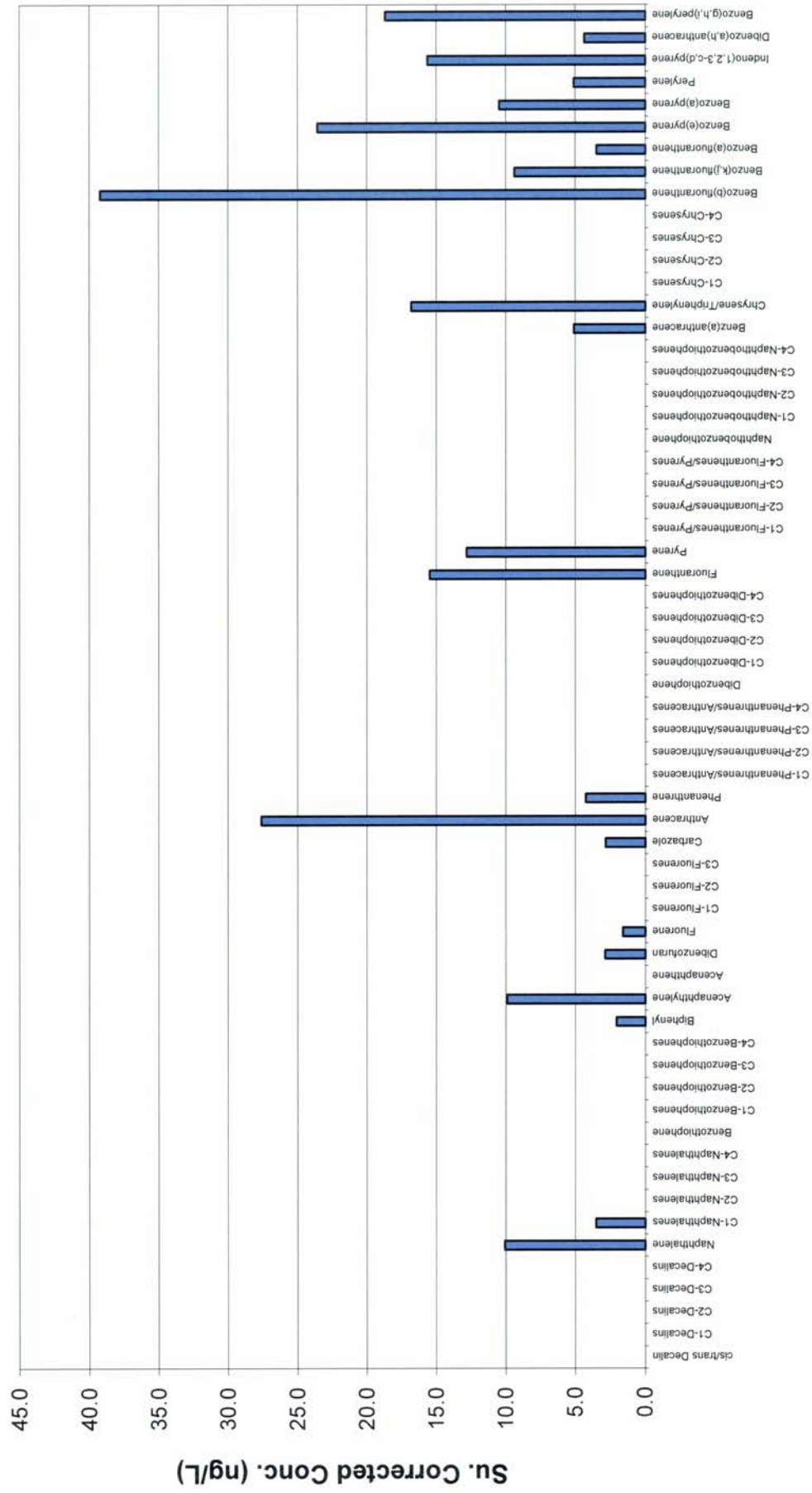
WS-024DA(mid depth)081313 (Water)
ARC1910



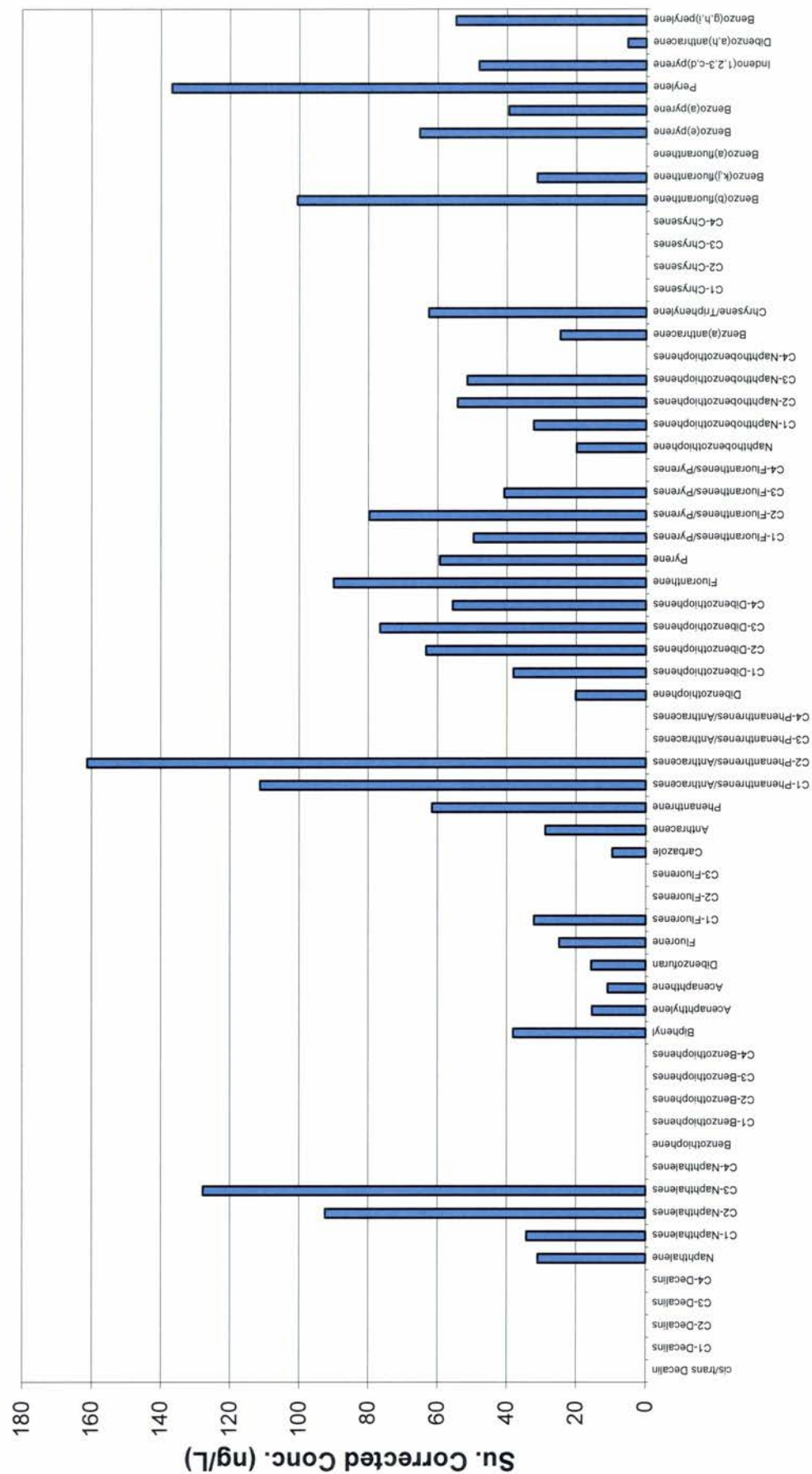
WS-022DA(surface)081313 (Water)
ARC1916



WS-023DA(surface)081313 (Water)
ARC1918



WS-DUP-01DA-081513 (Water)
ARC1920

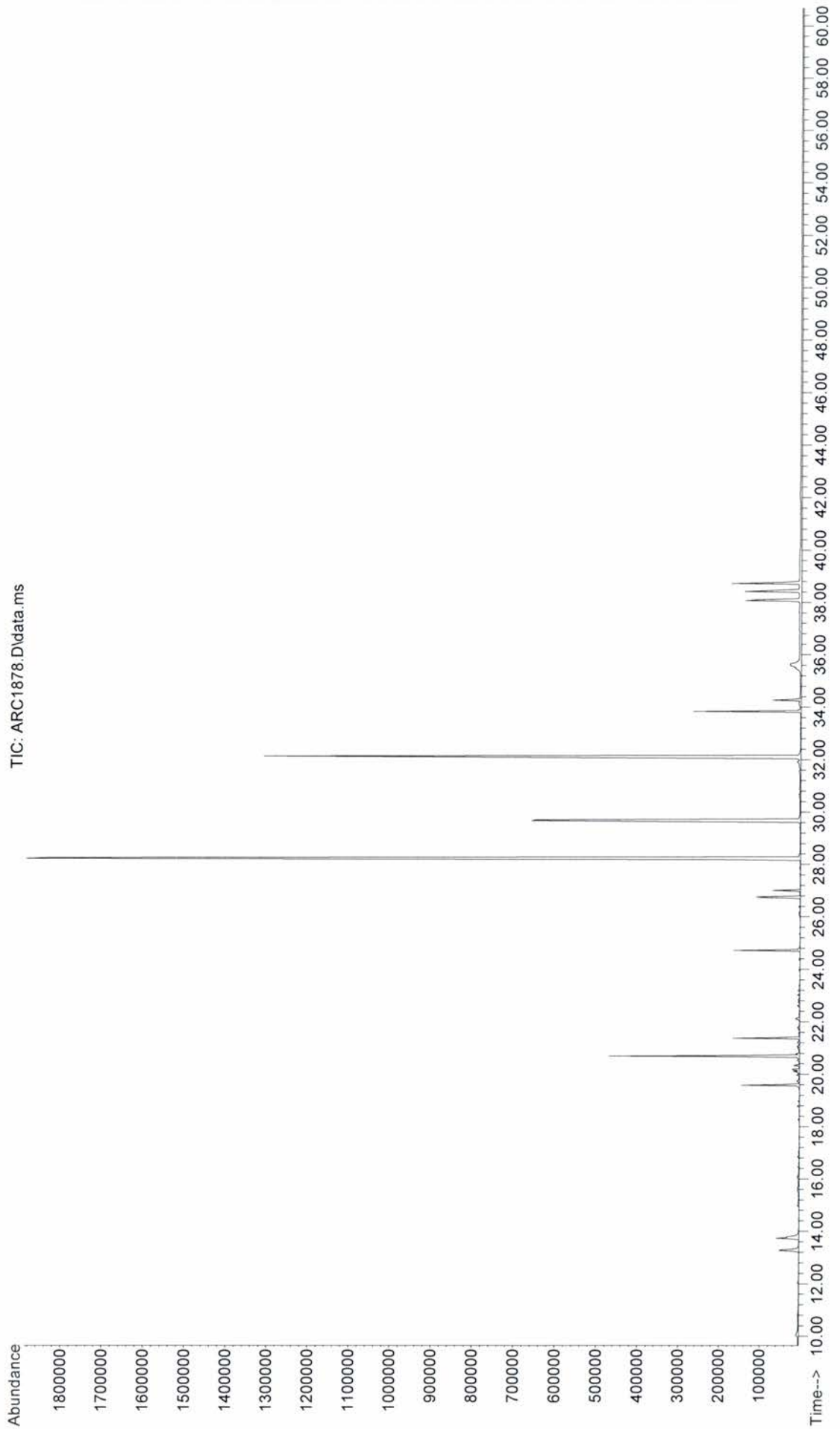


SED-DA-EB-10-081613 (Water) ARC1922

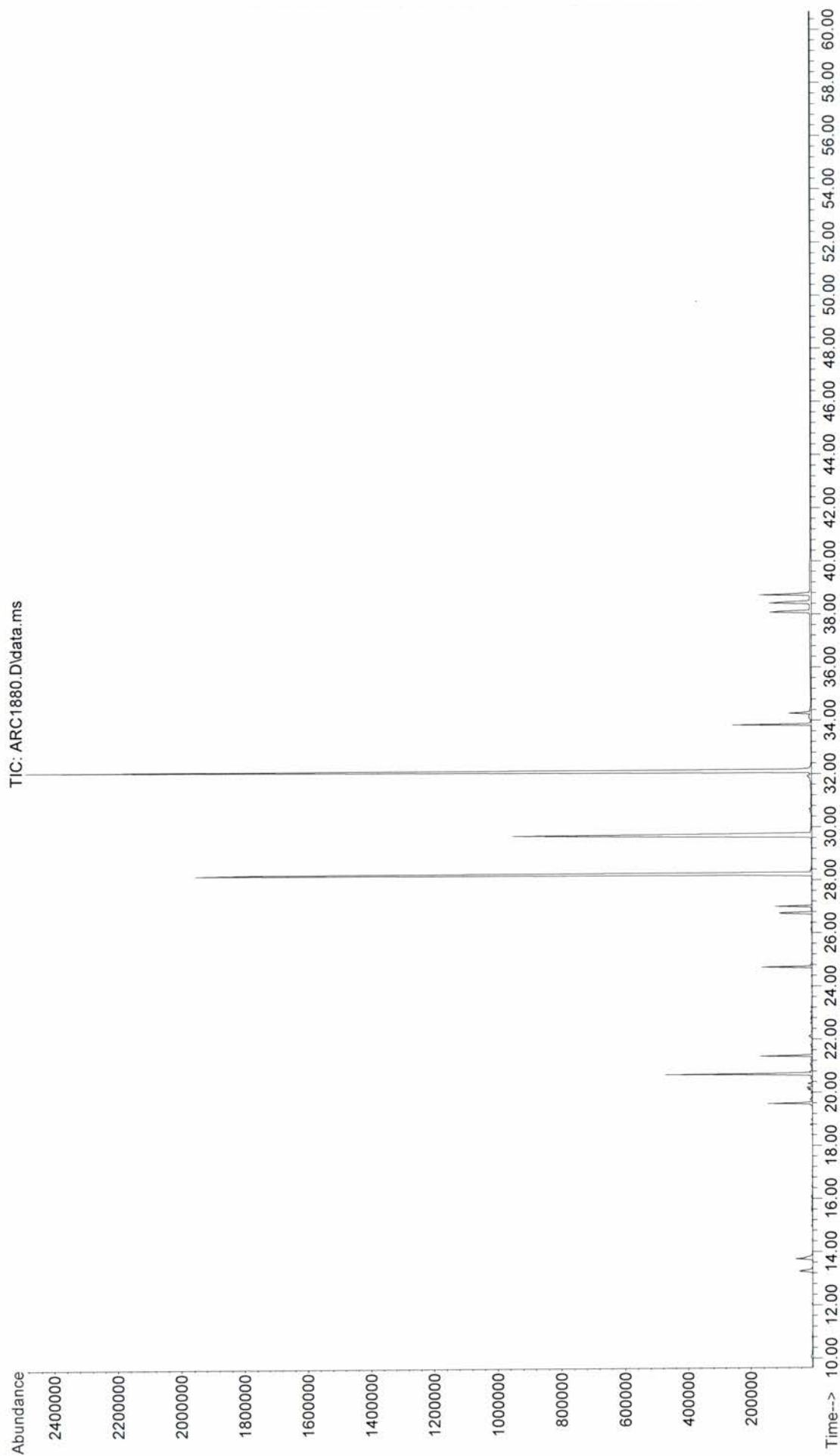


Polycyclic Aromatic Hydrocarbon Total Ion Chromatograms

File : F:\MS60149\ARC1878.D
Operator : MAG
Acquired : 14 Sep 2013 12:48 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-EB-09-081513
Misc Info :
Vial Number: 17

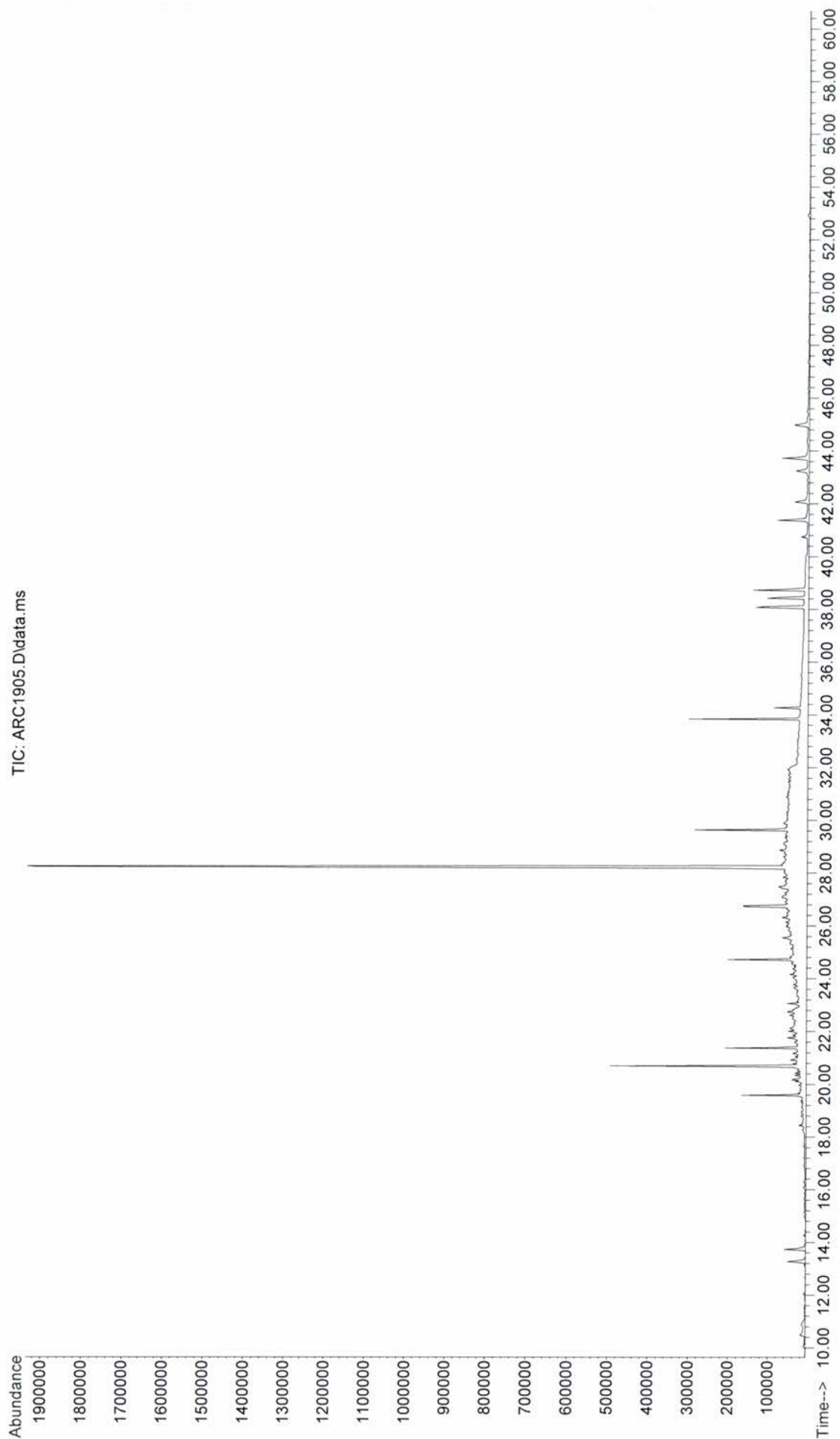


File : F:\MS60149\ARC1880.D
Operator : MAG
Acquired : 14 Sep 2013 13:59 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name : SO-DA-EB-06-081513
Misc Info :
Vial Number: 18



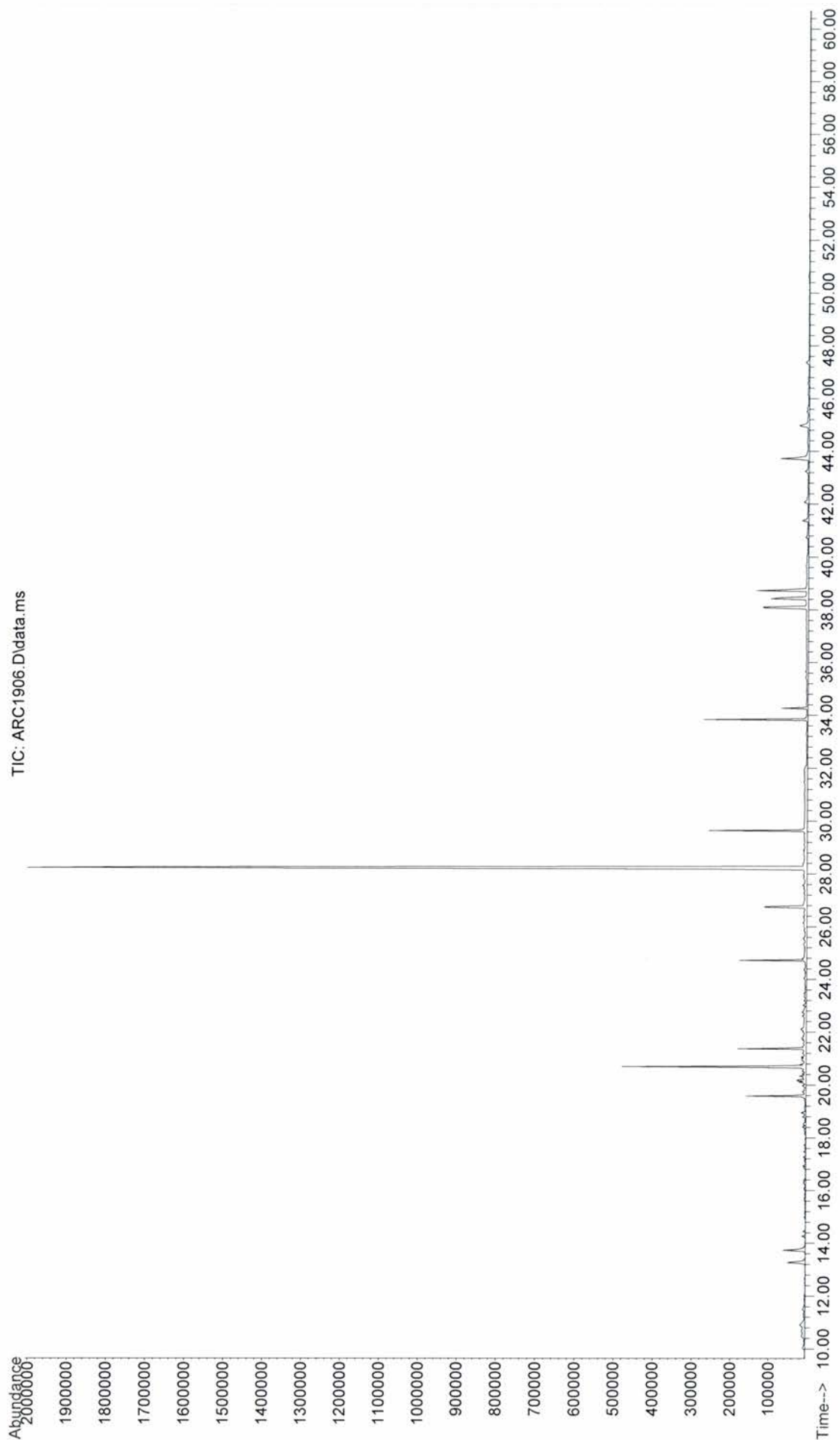
File : F:\MS60149\ARC1905.D
Operator : MAG
Acquired : 14 Sep 2013 15:09 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: WS-025DA(mid depth)081513
Misc Info :
Vial Number: 19

TIC: ARC1905.D\data.ms

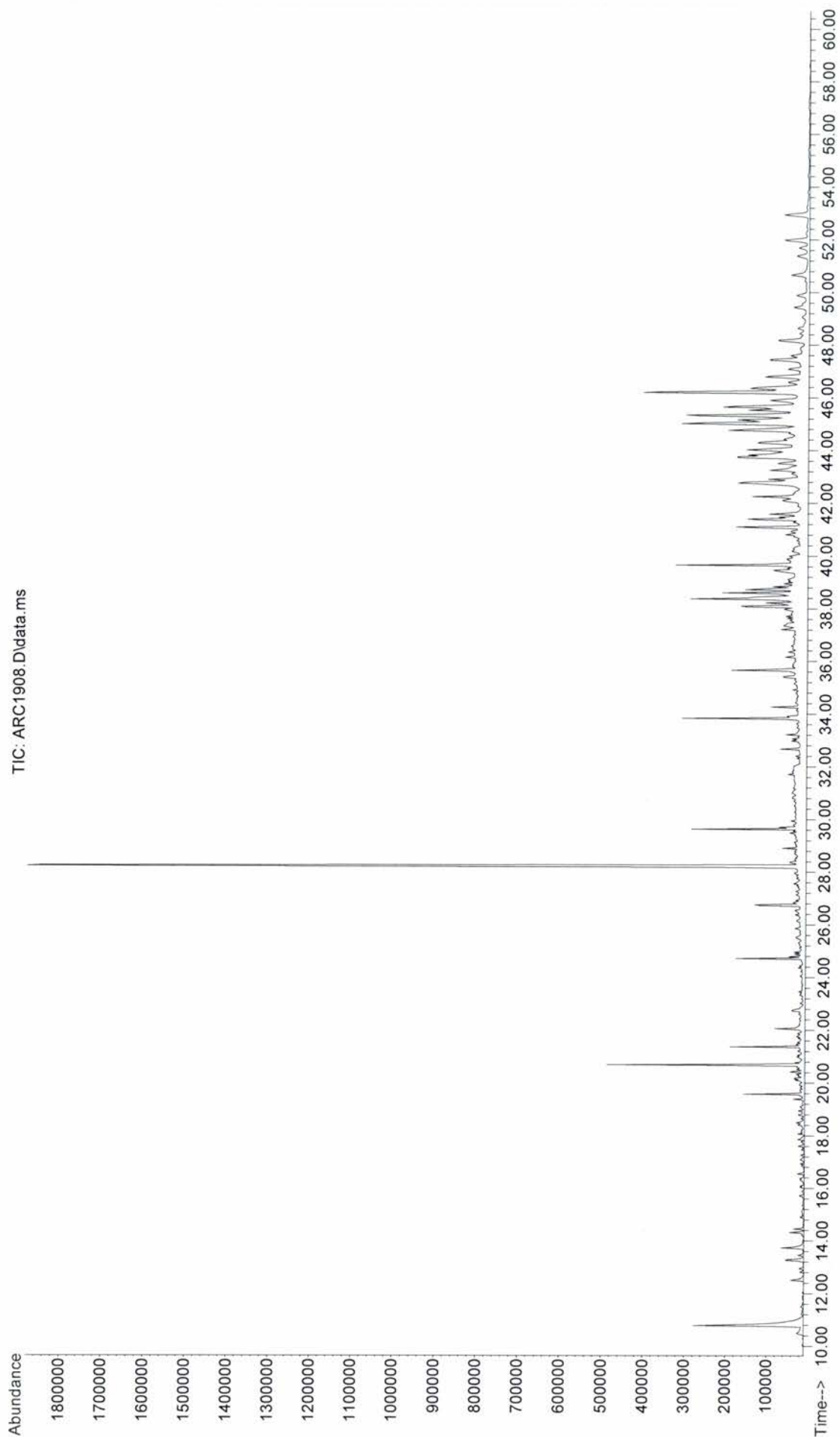


File : F:\MS60149\ARC1906.D
Operator : MAG
Acquired : 14 Sep 2013 17:29 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: WS-026DA(mid depth)081513
Misc Info :
Vial Number: 21

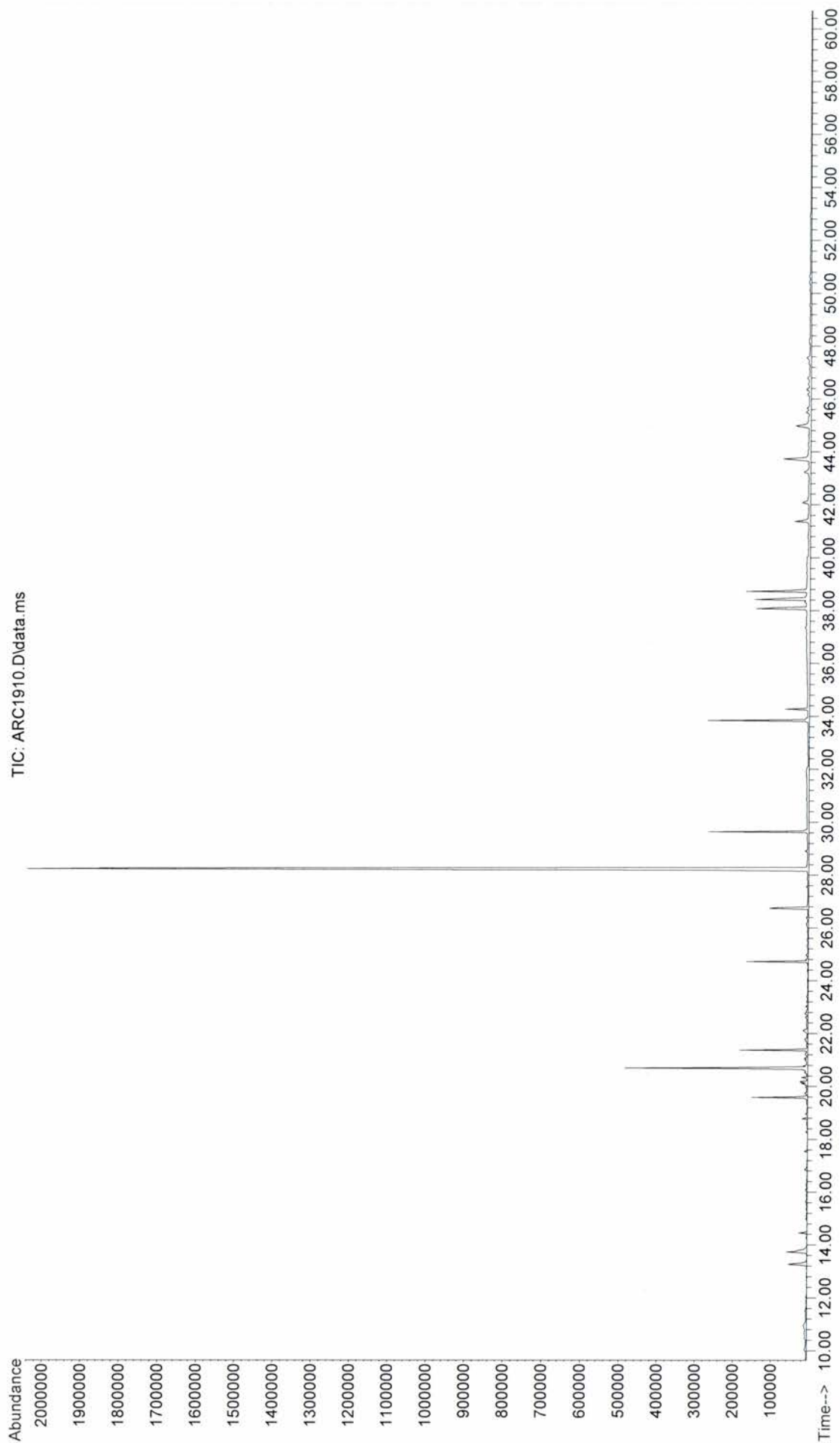
TIC: ARC1906.D\data.ms



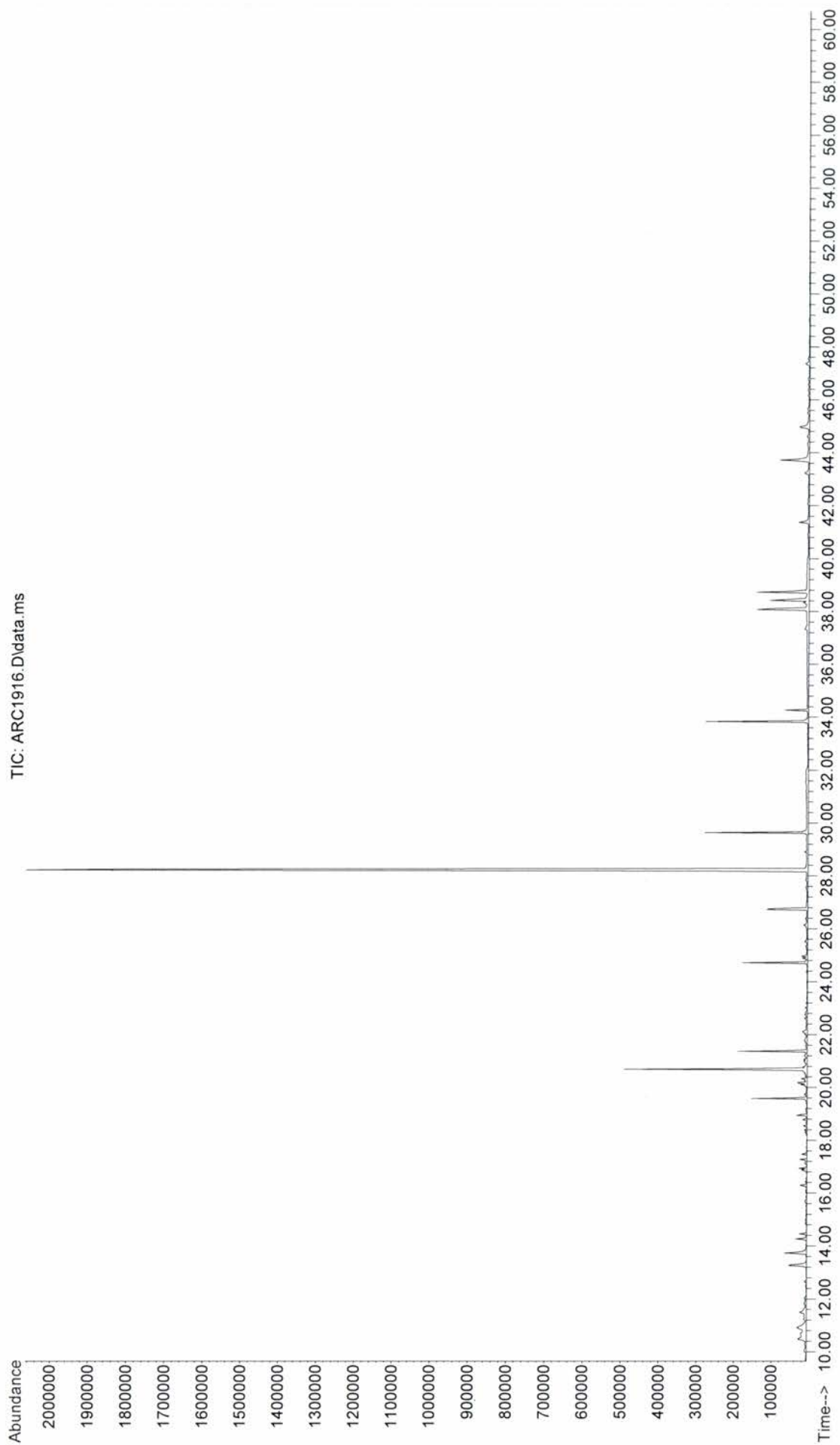
File : F:\MS60149\ARC1908.D
Operator : MAG
Acquired : 14 Sep 2013 18:39 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: WS-027DA(mid depth)081513
Misc Info :
Vial Number: 22



File : F:\MS60149\ARC1910.D
Operator : MAG
Acquired : 14 Sep 2013 19:48 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: WS-024DA(mid depth)081313
Misc Info :
Vial Number: 23

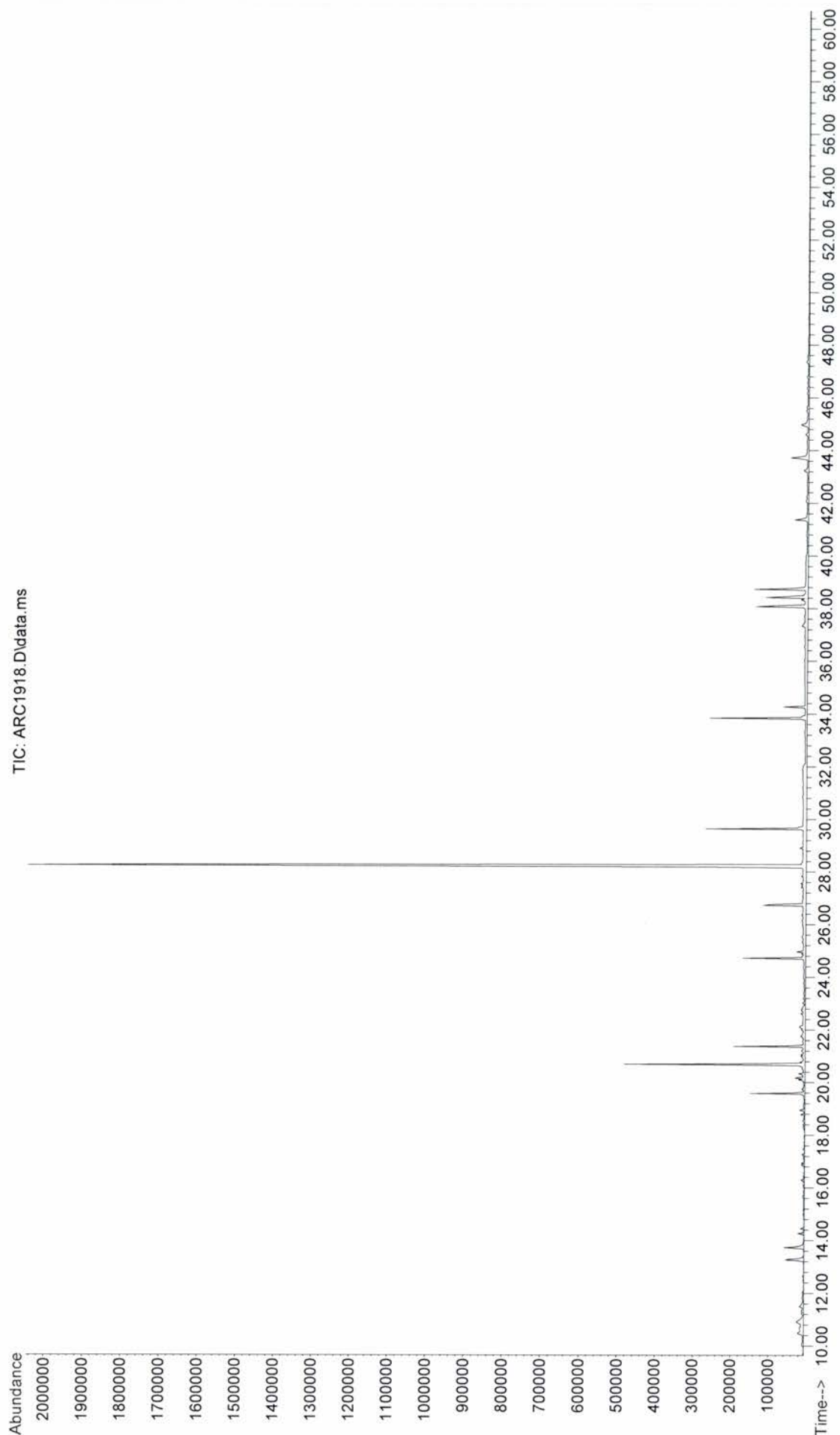


File : F:\MS60149\ARC1916.D
Operator : MAG
Acquired : 14 Sep 2013 20:58 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: WS-022DA(surface)081313
Misc Info :
Vial Number: 24



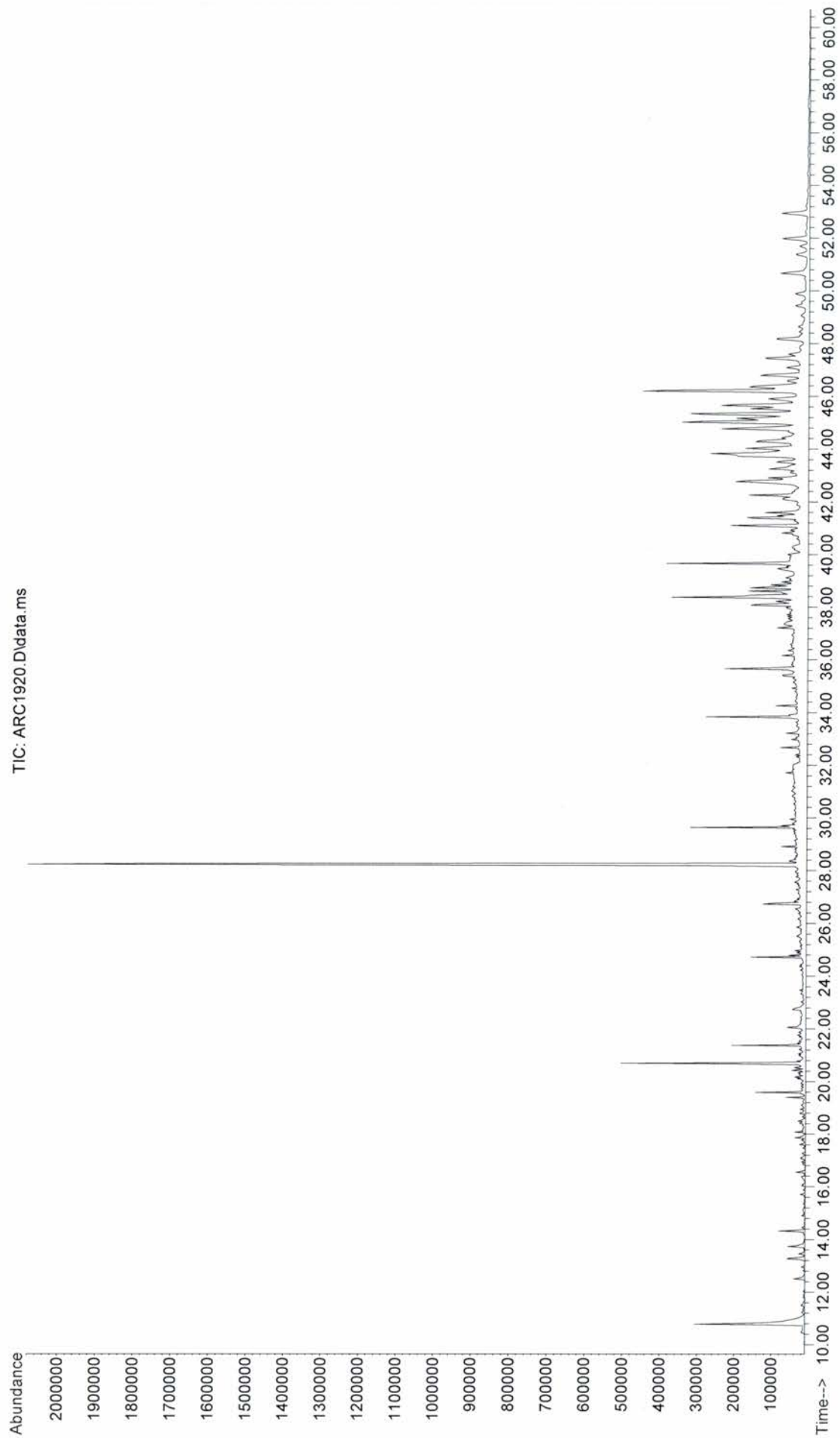
File : F:\MS60149\ARC1918.D
Operator : MAG
Acquired : 14 Sep 2013 22:08 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: WS-023DA(surface)081313
Misc Info :
Vial Number: 25

TIC: ARC1918.D\data.ms

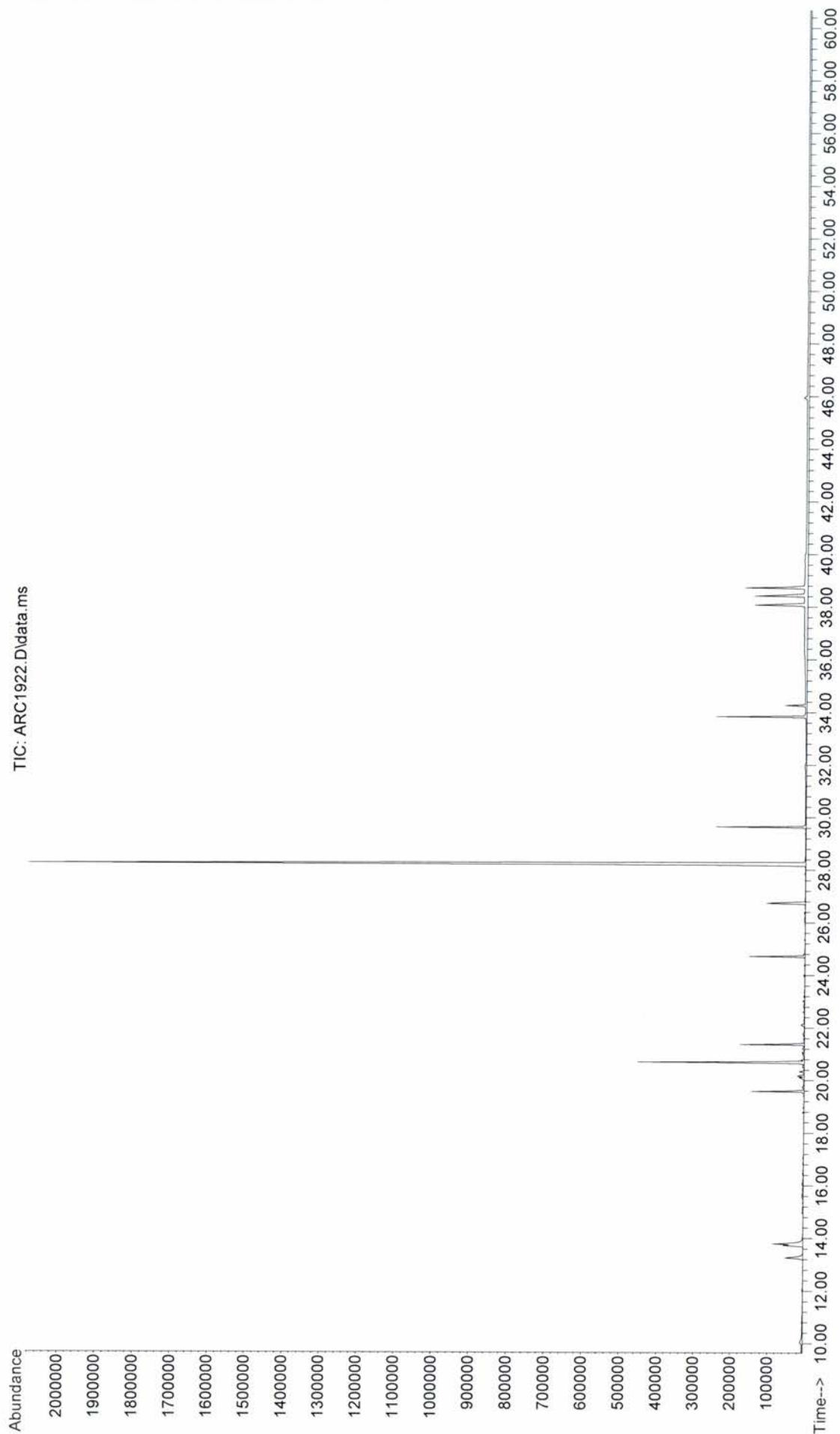


File : F:\MS60149\ARC1920.D
Operator : MAG
Acquired : 14 Sep 2013 23:18 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: WS-DUP-01DA-081513
Misc Info :
Vial Number: 26

TIC: ARC1920.D\data.ms



File : F:\MS60149\ARC1922.D
Operator : MAG
Acquired : 15 Sep 2013 00:27 using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: SED-DA-EB-10-081613
Misc Info :
Vial Number: 27



**Total Petroleum Hydrocarbons/
Aliphatic Hydrocarbons
Raw Data**

B&B LABORATORIES ALIPHATICS/TEH QA FORM

Extraction Page: _____ ENV 3089 _____ Client: _____ Arcadis Mayflower _____ Job #: _____ J13034 _____ SDG #: _____ 13081601 and 13082001 _____	Analyst: _____ M. Dailey _____ Date: _____ September 19, 2013 _____ Project Quality Manager: <u>W. Frank</u> Date: <u>09/20/13</u>
Initial Calibration: No Failures	ICV No Failures
Surrogate Recoveries: No Failures	
Procedural Blank: No Failures	
Blank Spike: No Failures	
Blank Spike Duplicate: No Failures	
Laboratory Duplicate: NA	
Matrix Spike: NA	
Matrix Spike Duplicate: NA	
MC-252 Reference Oil No Failures	
Mass Discrimination Check (n-C36/n-C20 >0.7) No Failures	

FID Sequence Summary Report



Sequence name: FID10084 2013-08-26 15-42-31
 Acquisition date: 8/26/2013 3:42:32 PM
 Acquired by: Meghan Dailey
 Data Directory: C:\CHEM32\3\DATA\FID10084 2013-08-26 15-42-31

Line	Location	Sample Name	Datafile	Method	Injection Date
4	Vial 1	Solvent Blank	FID10084A.D	ALIFRONT.M	08/26/2013 19:14:50
5	Vial 2	AL-WKCC-25-024	FID10084B.D	ALIFRONT.M	08/26/2013 20:24:59
6	Vial 3	AL-SRM2779-20-01	FID10084C.D	ALIFRONT.M	08/26/2013 21:35:08
7	Vial 1	Solvent Blank	FID10084D.D	ALIFRONT.M	08/26/2013 22:45:30
8	Vial 4	AL-RetWin-001	FID10084E.D	ALIFRONT.M	08/26/2013 23:55:46
9	Vial 5	AL-WKPem-001	FID10084F.D	ALIFRONT.M	08/27/2013 01:06:00
10	Vial 6		ENV3089A.D	ALIFRONT.M	08/27/2013 02:16:09
11	Vial 7		ENV3089B.D	ALIFRONT.M	08/27/2013 03:26:24
12	Vial 8		ENV3089C.D	ALIFRONT.M	08/27/2013 04:36:35
13	Vial 9		ARC1878.D	ALIFRONT.M	08/27/2013 05:46:52
14	Vial 10		ARC1922.D	ALIFRONT.M	08/27/2013 06:57:00
15	Vial 11	AL-WKCC-25-024	FID10084G.D	ALIFRONT.M	08/27/2013 08:07:26
16	Vial 12		ENV3092A.D	ALIFRONT.M	08/27/2013 09:17:47
17	Vial 13		ENV3092C.D	ALIFRONT.M	08/27/2013 10:27:56
18	Vial 14		ENV3092D.D	ALIFRONT.M	08/27/2013 11:38:37
19	Vial 15		ENV3092E.D	ALIFRONT.M	08/27/2013 12:48:51
20	Vial 16		ARC1784.D	ALIFRONT.M	08/27/2013 13:59:05
21	Vial 17		ARC1795.D	ALIFRONT.M	08/27/2013 15:09:21
22	Vial 18		ARC1798.D	ALIFRONT.M	08/27/2013 16:19:56
23	Vial 19		ARC1801.D	ALIFRONT.M	08/27/2013 17:30:33
24	Vial 20		ARC1804.D	ALIFRONT.M	08/27/2013 18:40:44
25	Vial 21	AL-WKCC-25-024	FID10084H.D	ALIFRONT.M	08/27/2013 19:51:32

Data Path : P:\2013\J13034\Aliphatics\ENV 3089\FID10084\
 Data File : FID10084B.D
 Signal(s) : FID1A.CH
 Acq On : 26-Aug-2013, 20:24:59
 Operator : Meghan Dailey
 Sample : AL-WKCC-25-024
 Misc :
 ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 28 14:44:02 2013
 Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

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

	Compound	AvgRF	CCRF	%Dev	Area%	Dev (Min)
1 I	n-hexadecane-d34	1.000	1.000	0.0	95	0.00
2	n-C8	0.945	1.015	-7.4	100	0.00
3	n-C9	1.010	1.065	-5.4	99	0.00
4	n-C10	1.087	1.131	-4.0	98	0.00
5	n-C11	1.105	1.136	-2.8	97	0.00
6 S	n-dodecane-d26	1.033	1.049	-1.5	96	0.00
7	n-C12	1.156	1.184	-2.4	96	0.00
10	n-C13	1.154	1.174	-1.7	95	0.00
12	n-C14	1.185	1.206	-1.8	95	0.00
14	n-C15	1.196	1.212	-1.3	95	0.00
15	n-C16	1.200	1.217	-1.4	95	0.00
16 I	5a-androstane	1.000	1.000	0.0	95	0.00
18	n-C17	0.991	1.009	-1.8	95	0.00
19	Pristane	0.986	1.004	-1.8	95	0.00
20	n-C18	0.971	0.992	-2.2	95	0.00
21	Phytane	0.989	1.008	-1.9	95	0.00
22	n-C19	0.965	0.987	-2.3	95	0.00
23 S	n-eicosane-d42	0.769	0.779	-1.3	95	0.00
24	n-C20	0.967	0.988	-2.2	95	0.00
25	n-C21	0.972	0.995	-2.4	95	0.00
26	n-C22	0.972	0.992	-2.1	95	0.00
27	n-C23	0.973	0.994	-2.2	95	0.00
28	n-C24	0.972	0.991	-2.0	95	0.00
29	n-C25	0.973	0.988	-1.5	95	0.00
30	n-C26	0.973	0.988	-1.5	94	0.00
31	n-C27	0.950	0.958	-0.8	94	0.00
32	n-C28	0.963	0.971	-0.8	94	0.00
33	n-C29	0.967	0.971	-0.4	94	0.00
34 S	n-triacontane-d62	0.749	0.741	1.1	93	0.00
35	n-C30	0.959	0.962	-0.3	93	0.00
36	n-C31	0.945	0.946	-0.1	93	0.00
37	n-C32	0.937	0.936	0.1	92	0.00
38	n-C33	0.916	0.911	0.5	92	0.00
39	n-C34	0.926	0.926	0.0	92	0.00
40	n-C35	0.904	0.910	-0.7	92	0.00
41	n-C36	0.975	0.975	0.0	91	0.00
42	n-C37	0.890	0.874	1.8	90	0.00
43	n-C38	0.876	0.855	2.4	89	0.00

44	n-C39	0.839	0.817	2.6	88	0.00
45	n-C40	0.786	0.739	6.0	85	0.00

Evaluate Continuing Calibration Report - Not Found

8	i-13	0.019	0.000	100.0#	0#	-9.03#
9	i-14	0.019	0.000	100.0#	0#	-9.73#
11	i-15	0.019	0.000	100.0#	0#	-10.88#
13	i-16	0.020	0.000	100.0#	0#	-11.78#
17	i-18	0.019	0.000	100.0#	0#	-13.73#
46	TPH	0.019	0.000	100.0#	0#	-29.48#
47	TRH1	0.019	0.000	100.0#	0#	-7.86#
48	TRH2	0.019	0.000	100.0#	0#	-16.16#
49	TRH3	0.019	0.000	100.0#	0#	-23.73#
50	TRH4	0.019	0.000	100.0#	0#	-28.82#
51	TRH5	0.019	0.000	100.0#	0#	-33.88#
52	TRH6	0.019	0.000	100.0#	0#	-45.51#
53	GRO	0.019	0.000	100.0#	0#	-5.35#
54	DRO	0.019	0.000	100.0#	0#	-14.52#
55	RRO	0.019	0.000	100.0#	0#	-33.50#

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

FID1C08FRONT081213.M Wed Aug 28 14:44:07 2013

Data Path : P:\2013\J13034\Aliphatics\ENV 3089\FID10084\
 Data File : FID10084B.D
 Signal(s) : FID1A.CH
 Acq On : 26-Aug-2013, 20:24:59
 Operator : Meghan Dailey
 Sample : AL-WKCC-25-024
 Misc :
 ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 28 14:44:02 2013
 Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

	Compound	R.T.	Response	Conc Units

Internal Standards				
1) I	n-hexadecane-d34	12.911	298580	50.000 ug/mlm
16) I	5a-androstane	18.173	366884	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.620	156671	25.406 ug/mlm
23) S	n-eicosane-d42	17.566	143549	25.463 ug/mlm
34) S	n-triacontane-d62	29.475	135977	24.779 ug/mlm
Target Compounds				
2)	n-C8	3.482	151669	26.866 ug/mlm
3)	n-C9	4.797	159026	26.358 ug/mlm
4)	n-C10	6.210	168785	25.997 ug/mlm
5)	n-C11	7.564	169869	25.744 ug/mlm
7)	n-C12	8.827	173785	25.168 ug/mlm
8)	i-13	0.000	0	N.D. ug/mlm
9)	i-14	0.000	0	N.D. ug/mlm
10)	n-C13	10.000	175604	25.478 ug/mlm
11)	i-15	0.000	0	N.D. ug/mlm
12)	n-C14	11.097	179025	25.295 ug/mlm
13)	i-16	0.000	0	N.D. ug/mlm
14)	n-C15	12.128	180106	25.211 ug/mlm
15)	n-C16	13.163	179899	25.101 ug/mlm
17)	i-18	0.000	0	N.D. ug/mlm
18)	n-C17	14.266	182634	25.155 ug/mlm
19)	Pristane	14.384	182315	25.237 ug/mlm
20)	n-C18	15.445	181809	25.551 ug/mlm
21)	Phytane	15.607	184197	25.420 ug/mlm
22)	n-C19	16.685	180575	25.532 ug/mlm
24)	n-C20	17.966	181188	25.583 ug/mlm
25)	n-C21	19.268	180721	25.369 ug/mlm
26)	n-C22	20.571	181973	25.543 ug/mlm
27)	n-C23	21.860	180213	25.276 ug/mlm
28)	n-C24	23.124	179451	25.190 ug/mlm
29)	n-C25	24.358	180381	25.292 ug/mlm
30)	n-C26	25.559	181243	25.428 ug/mlm
31)	n-C27	26.724	175599	25.226 ug/mlm
32)	n-C28	27.852	177806	25.195 ug/mlm
33)	n-C29	28.951	178135	25.134 ug/mlm
35)	n-C30	30.013	175491	24.985 ug/mlm
36)	n-C31	31.042	173429	25.058 ug/mlm
37)	n-C32	32.038	169204	24.653 ug/mlm
38)	n-C33	33.008	166886	24.877 ug/mlm
39)	n-C34	33.954	169306	24.962 ug/mlm
40)	n-C35	34.965	166808	25.179 ug/mlm

Data Path : P:\2013\J13034\Aliphatics\ENV 3089\FID10084\
 Data File : FID10084B.D
 Signal(s) : FID1A.CH
 Acq On : 26-Aug-2013, 20:24:59
 Operator : Meghan Dailey
 Sample : AL-WKCC-25-024
 Misc :
 ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 28 14:44:02 2013
 Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

	Compound	R.T.	Response	Conc Units
41)	n-C36	36.119	174970	24.485 ug/mlm
42)	n-C37	37.449	160189	24.561 ug/mlm
43)	n-C38	38.996	156820	24.425 ug/mlm
44)	n-C39	40.823	149732	24.351 ug/mlm
45)	n-C40	42.973	135178	23.461 ug/mlm
46)	TPH	0.000	0	N.D. ug/ml
47)	TRH1	0.000	0	N.D. ug/ml
48)	TRH2	0.000	0	N.D. ug/ml
49)	TRH3	0.000	0	N.D. ug/ml
50)	TRH4	0.000	0	N.D. ug/ml
51)	TRH5	0.000	0	N.D. ug/ml
52)	TRH6	0.000	0	N.D. ug/ml
53)	GRO	0.000	0	N.D. ug/ml
54)	DRO	0.000	0	N.D. ug/ml
55)	RRO	0.000	0	N.D. ug/ml

SemiQuant Compounds - Not Calibrated on this Instrument

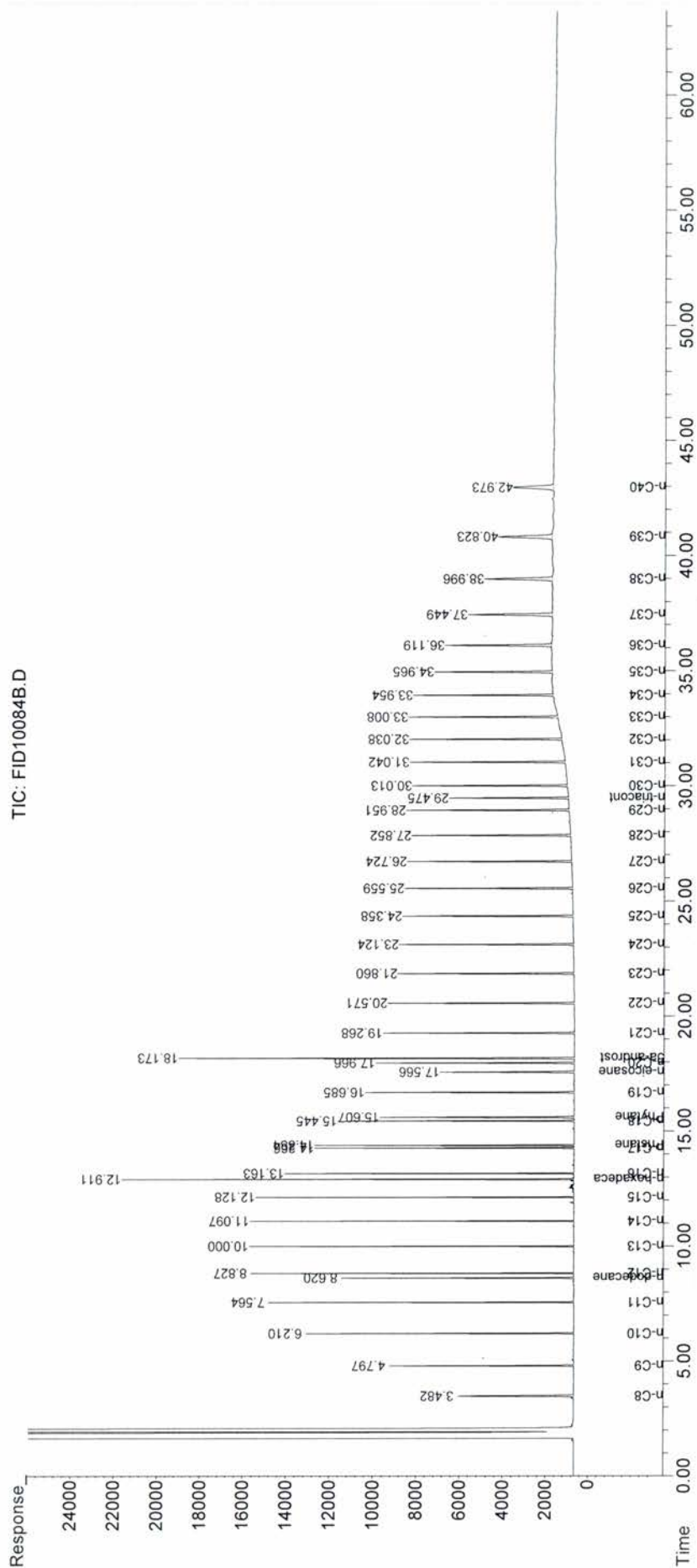
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : P:\2013\J13034\Aliphatics\ENV 3089\FID10084\
Data File : FID10084B.D
Signal(s) : FID1A.CH
Acq On : 26-Aug-2013, 20:24:59
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 28 14:44:02 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3089\FID10084\
 Data File : FID10084G.D
 Signal(s) : FID1A.CH
 Acq On : 27-Aug-2013, 08:07:26
 Operator : Meghan Dailey
 Sample : AL-WKCC-25-024
 Misc :
 ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 28 14:48:53 2013
 Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

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

	Compound	AvgRF	CCRF	%Dev	Area%	Dev (Min)
1 I	n-hexadecane-d34	1.000	1.000	0.0	101	0.00
2	n-C8	0.945	0.972	-2.9	102	0.00
3	n-C9	1.010	1.039	-2.9	103	0.00
4	n-C10	1.087	1.109	-2.0	102	0.00
5	n-C11	1.105	1.120	-1.4	101	0.00
6 S	n-dodecane-d26	1.033	1.040	-0.7	101	0.00
7	n-C12	1.156	1.174	-1.6	101	0.00
10	n-C13	1.154	1.169	-1.3	101	0.00
12	n-C14	1.185	1.205	-1.7	101	0.00
14	n-C15	1.196	1.212	-1.3	101	0.00
15	n-C16	1.200	1.216	-1.3	101	0.00
16 I	5a-androstane	1.000	1.000	0.0	101	-0.01
18	n-C17	0.991	1.013	-2.2	101	0.00
19	Pristane	0.986	1.008	-2.2	101	0.00
20	n-C18	0.971	0.994	-2.4	101	0.00
21	Phytane	0.989	1.012	-2.3	101	0.00
22	n-C19	0.965	0.987	-2.3	101	0.00
23 S	n-eicosane-d42	0.769	0.780	-1.4	101	0.00
24	n-C20	0.967	0.989	-2.3	101	0.00
25	n-C21	0.972	0.996	-2.5	101	0.00
26	n-C22	0.972	0.993	-2.2	101	0.00
27	n-C23	0.973	0.995	-2.3	101	0.00
28	n-C24	0.972	0.991	-2.0	100	-0.01
29	n-C25	0.973	0.987	-1.4	100	0.00
30	n-C26	0.973	0.987	-1.4	100	0.00
31	n-C27	0.950	0.958	-0.8	100	0.00
32	n-C28	0.963	0.971	-0.8	99	0.00
33	n-C29	0.967	0.962	0.5	98	-0.01
34 S	n-triacontane-d62	0.749	0.743	0.8	99	-0.01
35	n-C30	0.959	0.962	-0.3	99	-0.01
36	n-C31	0.945	0.946	-0.1	98	-0.01
37	n-C32	0.937	0.937	0.0	98	-0.01
38	n-C33	0.916	0.909	0.8	97	0.00
39	n-C34	0.926	0.925	0.1	97	-0.01
40	n-C35	0.904	0.899	0.6	97	-0.01
41	n-C36	0.975	0.967	0.8	96	-0.02
42	n-C37	0.890	0.866	2.7	95	-0.02
43	n-C38	0.876	0.849	3.1	93	-0.03

44	n-C39	0.839	0.805	4.1	92	-0.04
45	n-C40	0.786	0.740	5.9	90	-0.03

Evaluate Continuing Calibration Report - Not Found

8	i-13	0.019	0.000	100.0#	0#	-9.03#
9	i-14	0.019	0.000	100.0#	0#	-9.73#
11	i-15	0.019	0.000	100.0#	0#	-10.88#
13	i-16	0.020	0.000	100.0#	0#	-11.78#
17	i-18	0.019	0.000	100.0#	0#	-13.73#
46	TPH	0.019	0.000	100.0#	0#	-29.48#
47	TRH1	0.019	0.000	100.0#	0#	-7.86#
48	TRH2	0.019	0.000	100.0#	0#	-16.16#
49	TRH3	0.019	0.000	100.0#	0#	-23.73#
50	TRH4	0.019	0.000	100.0#	0#	-28.82#
51	TRH5	0.019	0.000	100.0#	0#	-33.88#
52	TRH6	0.019	0.000	100.0#	0#	-45.51#
53	GRO	0.019	0.000	100.0#	0#	-5.35#
54	DRO	0.019	0.000	100.0#	0#	-14.52#
55	RRO	0.019	0.000	100.0#	0#	-33.50#

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

FID1C08FRONT081213.M Wed Aug 28 14:48:58 2013

Data Path : P:\2013\J13034\Aliphatics\ENV 3089\FID10084\
 Data File : FID10084G.D
 Signal(s) : FID1A.CH
 Acq On : 27-Aug-2013, 08:07:26
 Operator : Meghan Dailey
 Sample : AL-WKCC-25-024
 Misc :
 ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 28 14:48:53 2013
 Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

	Compound	R.T.	Response	Conc	Units

Internal Standards					
1) I	n-hexadecane-d34	12.907	318008	50.000	ug/mlm
16) I	5a-androstane	18.161	388609	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.617	165438	25.188	ug/mlm
23) S	n-eicosane-d42	17.559	152264	25.498	ug/mlm
34) S	n-triacontane-d62	29.464	144366	24.837	ug/mlm
Target Compounds					
2)	n-C8	3.478	154630	25.717	ug/mlm
3)	n-C9	4.795	165184	25.706	ug/mlm
4)	n-C10	6.207	176398	25.510	ug/mlm
5)	n-C11	7.562	178375	25.382	ug/mlm
7)	n-C12	8.824	183453	24.944	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mlm
9)	i-14	0.000	0	N.D.	ug/mlm
10)	n-C13	9.997	186108	25.352	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mlm
12)	n-C14	11.094	190415	25.261	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mlm
14)	n-C15	12.124	191741	25.200	ug/mlm
15)	n-C16	13.158	191455	25.081	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mlm
18)	n-C17	14.262	194246	25.259	ug/mlm
19)	Pristane	14.378	193890	25.339	ug/mlm
20)	n-C18	15.439	193021	25.611	ug/mlm
21)	Phytane	15.600	195883	25.521	ug/mlm
22)	n-C19	16.679	191270	25.532	ug/mlm
24)	n-C20	17.959	192137	25.612	ug/mlm
25)	n-C21	19.260	191515	25.381	ug/mlm
26)	n-C22	20.562	192948	25.569	ug/mlm
27)	n-C23	21.850	191155	25.312	ug/mlm
28)	n-C24	23.114	190139	25.198	ug/mlm
29)	n-C25	24.349	190904	25.271	ug/mlm
30)	n-C26	25.550	191773	25.401	ug/mlm
31)	n-C27	26.714	185940	25.218	ug/mlm
32)	n-C28	27.846	188464	25.213	ug/mlm
33)	n-C29	28.938	186938	24.902	ug/mlm
35)	n-C30	30.001	185831	24.978	ug/mlm
36)	n-C31	31.030	183693	25.057	ug/mlm
37)	n-C32	32.028	179457	24.686	ug/mlm
38)	n-C33	32.998	176415	24.827	ug/mlm
39)	n-C34	33.940	179070	24.926	ug/mlm
40)	n-C35	34.952	174544	24.874	ug/mlm

Data Path : P:\2013\J13034\Aliphatics\ENV 3089\FID10084\
 Data File : FID10084G.D
 Signal(s) : FID1A.CH
 Acq On : 27-Aug-2013, 08:07:26
 Operator : Meghan Dailey
 Sample : AL-WKCC-25-024
 Misc :
 ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 28 14:48:53 2013
 Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

	Compound	R.T.	Response	Conc Units
41)	n-C36	36.101	183951	24.303 ug/mlm
42)	n-C37	37.426	168185	24.345 ug/mlm
43)	n-C38	38.967	164924	24.251 ug/mlm
44)	n-C39	40.788	156328	24.002 ug/mlm
45)	n-C40	42.940	143220	23.467 ug/mlm
46)	TPH	0.000	0	N.D. ug/mlm
47)	TRH1	0.000	0	N.D. ug/mlm
48)	TRH2	0.000	0	N.D. ug/mlm
49)	TRH3	0.000	0	N.D. ug/mlm
50)	TRH4	0.000	0	N.D. ug/mlm
51)	TRH5	0.000	0	N.D. ug/mlm
52)	TRH6	0.000	0	N.D. ug/mlm
53)	GRO	0.000	0	N.D. ug/mlm
54)	DRO	0.000	0	N.D. ug/mlm
55)	RRO	0.000	0	N.D. ug/mlm

SemiQuant Compounds - Not Calibrated on this Instrument

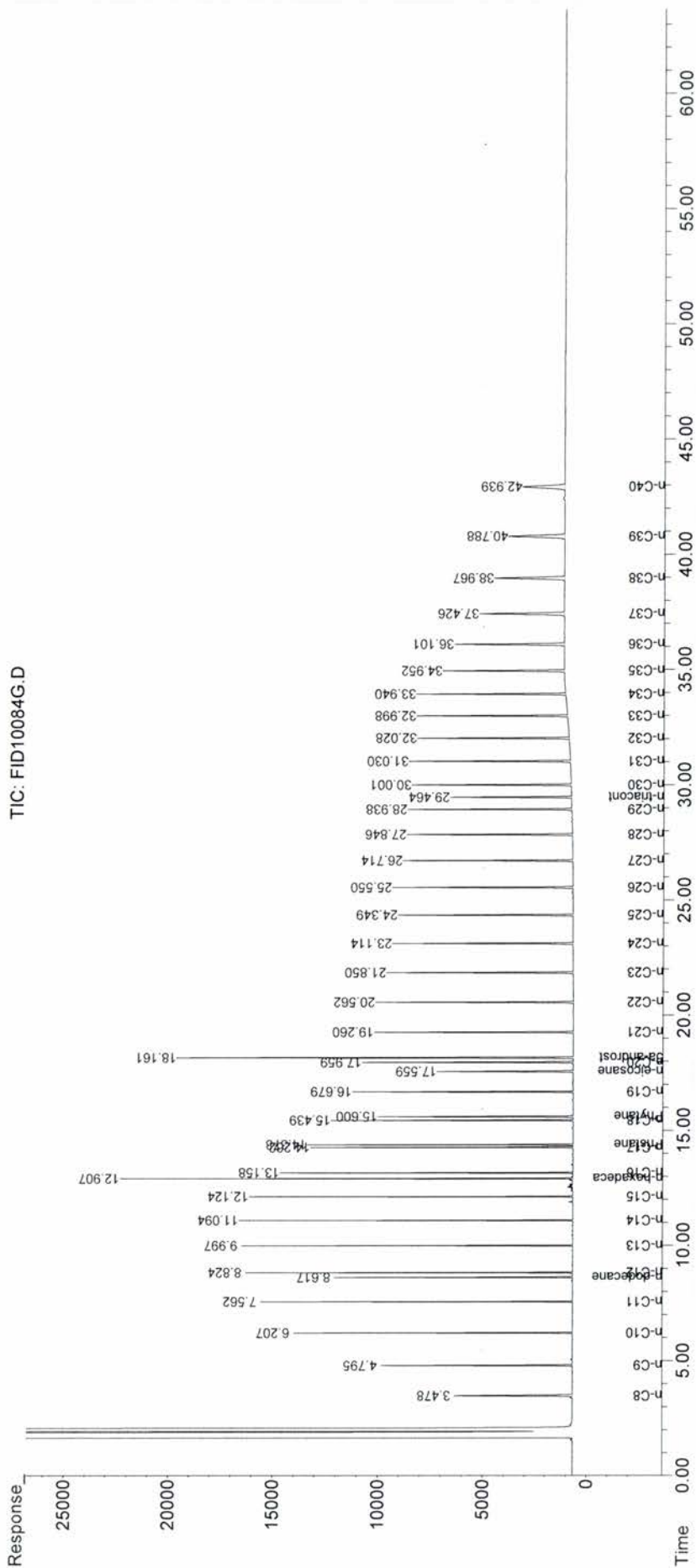
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : P:\2013\J13034\Aliphatics\ENV 3089\FID10084\
Data File : FID10084G.D
Signal(s) : FID1A.CH
Acq On : 27-Aug-2013, 08:07:26
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 28 14:48:53 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Data File Name	FID10084C.D	Concentration	FID10084C.D
Sample Name	AL-SRM2779-20-01		AL-SRM2779-20-01
Misc Info	0		26-Aug-2013, 21:35:08
Data File Path	C:\msdchem\2\data\FID10084\		ALIFRONT.M
Operator	Meghan Dailey		
Date Acquired	26-Aug-2013, 21:35:08		0.05
Instrument Name	HP5890		
Acq. Method File	ALIFRONT.M	Vial #	3
Vial Number	3	IS Area 1	323744
Sample Multiplier	0.05	IS Area 2	449837

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.49	2039410	16.66	16.659
3)	n-C9	4.81	1786400	13.65	13.654
4)	n-C10	6.22	1698760	12.07	12.066
5)	n-C11	7.58	1573370	11.00	10.996
7)	n-C12	8.84	1440770	9.62	9.622
8)	i-13	9.02	342841	2.29	2.294
9)	i-14	9.72	218123	1.42	1.421
10)	n-C13	10.02	1297300	8.68	8.680
11)	i-15	10.88	306012	1.98	1.975
12)	n-C14	11.11	1180870	7.69	7.694
13)	i-16	11.78	428984	2.76	2.760
14)	n-C15	12.14	1126940	7.27	7.274
15)	n-C16	13.18	937974	6.04	6.035
17)	i-18	13.74	265415	1.52	1.521
18)	n-C17	14.28	871010	4.89	4.892
19)	Pristane	14.39	445874	2.52	2.517
20)	n-C18	15.46	686052	3.93	3.932
21)	Phytane	15.62	270783	1.52	1.524
22)	n-C19	16.70	504118	2.91	2.907
24)	n-C20	17.98	517512	2.98	2.980
25)	n-C21	19.28	437316	2.50	2.503
26)	n-C22	20.59	379743	2.17	2.174
27)	n-C23	21.87	325524	1.86	1.862
28)	n-C24	23.13	306668	1.76	1.755
29)	n-C25	24.37	248517	1.42	1.421
30)	n-C26	25.57	196490	1.12	1.124
31)	n-C27	26.74	162082	0.95	0.950
32)	n-C28	27.86	143480	0.83	0.829
33)	n-C29	28.96	134185	0.77	0.772
35)	n-C30	30.02	111503	0.65	0.647
36)	n-C31	31.05	95768.8	0.56	0.564
37)	n-C32	32.05	70340.5	0.42	0.418
38)	n-C33	33.01	81038.4	0.49	0.493
39)	n-C34	33.96	68660	0.41	0.413
40)	n-C35	34.97	53441.7	0.33	0.329
41)	n-C36	36.12	34994.2	0.20	0.200
42)	n-C37	37.45	33296.4	0.21	0.208
43)	n-C38	38.99	25077.7	0.16	0.159
44)	n-C39	40.83	24372.5	0.16	0.162
45)	n-C40	42.97	25295.9	0.18	0.179
46)	TPH	7.58	110509000	659.62	659.615
47)	TRH1	7.58	21557600	128.67	128.675
48)	TRH2	12.14	11785500	70.35	70.346
49)	TRH3	21.87	2222940	13.26	13.262
50)	TRH4	27.86	1340470	8.00	8.001
51)	TRH5	33.01	1074910	6.42	6.416
52)	TRH6	37.45	203813	1.22	1.217
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	8.62	128341	0.96	96.0
23)	n-eicosane-d42	17.57	130696	0.95	93.9
34)	n-triacontane-d62	29.49	126864	0.94	94.2
1)	n-hexadecane-d34	12.92	323744	2.50	323744.000
16)	5a-androstane	18.19	449837	2.50	449837.000

Data Path : C:\msdchem\2\data\FID10084\
 Data File : FID10084C.D
 Signal(s) : FID1A.CH
 Acq On : 26-Aug-2013, 21:35:08
 Operator : Meghan Dailey
 Sample : AL-SRM2779-20-01
 Misc :
 ALS Vial : 3 Sample Multiplier: 0.05

Integration File: autoint1.e
 Quant Time: Aug 28 15:11:00 2013
 Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound	R.T.	Response	Conc Units

Internal Standards			
1) I n-hexadecane-d34	12.917	323744	50.000 ug/mlm
16) I 5a-androstane	18.185	449837	50.072 ug/mlm
System Monitoring Compounds			
6) S n-dodecane-d26	8.623	128341	0.960 ug/mlm
23) S n-eicosane-d42	17.573	130696	0.945 ug/mlm
34) S n-triacontane-d62	29.486	126864	0.943 ug/mlm
Target Compounds			
2) n-C8	3.486	2039413	16.659 ug/mlm
3) n-C9	4.808	1786397	13.654 ug/mlm
4) n-C10	6.222	1698756	12.066 ug/mlm
5) n-C11	7.580	1573371	10.996 ug/mlm
7) n-C12	8.842	1440775	9.622 ug/mlm
8) i-13	9.022	342841	2.294 ug/mlm
9) i-14	9.723	218123	1.421 ug/mlm
10) n-C13	10.015	1297298	8.680 ug/mlm
11) i-15	10.882	306012	1.975 ug/mlm
12) n-C14	11.113	1180868	7.694 ug/mlm
13) i-16	11.777	428984	2.760 ug/mlm
14) n-C15	12.143	1126944	7.274 ug/mlm
15) n-C16	13.178	937974	6.035 ug/mlm
17) i-18	13.736	265415	1.521 ug/mlm
18) n-C17	14.283	871010	4.892 ug/mlm
19) Pristane	14.390	445874	2.517 ug/mlm
20) n-C18	15.461	686052	3.932 ug/mlm
21) Phytane	15.616	270783	1.524 ug/mlm
22) n-C19	16.702	504118	2.907 ug/mlm
24) n-C20	17.983	517512	2.980 ug/mlm
25) n-C21	19.283	437316	2.503 ug/mlm
26) n-C22	20.586	379743	2.174 ug/mlm
27) n-C23	21.873	325524	1.862 ug/mlm
28) n-C24	23.134	306668	1.755 ug/mlm
29) n-C25	24.370	248517	1.421 ug/mlm
30) n-C26	25.570	196490	1.124 ug/mlm
31) n-C27	26.736	162082	0.950 ug/mlm
32) n-C28	27.864	143480	0.829 ug/mlm
33) n-C29	28.957	134185	0.772 ug/mlm
35) n-C30	30.022	111503	0.647 ug/mlm
36) n-C31	31.051	95769	0.564 ug/mlm
37) n-C32	32.047	70340	0.418 ug/mlm
38) n-C33	33.012	81038	0.493 ug/mlm
39) n-C34	33.959	68660	0.413 ug/mlm
40) n-C35	34.972	53442	0.329 ug/mlm

Data Path : C:\msdchem\2\data\FID10084\
 Data File : FID10084C.D
 Signal(s) : FID1A.CH
 Acq On : 26-Aug-2013, 21:35:08
 Operator : Meghan Dailey
 Sample : AL-SRM2779-20-01
 Misc :
 ALS Vial : 3 Sample Multiplier: 0.05

Integration File: autoint1.e
 Quant Time: Aug 28 15:11:00 2013
 Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

	Compound	R.T.	Response	Conc Units
41)	n-C36	36.120	34994	0.200 ug/mlm
42)	n-C37	37.452	33296	0.208 ug/mlm
43)	n-C38	38.995	25078	0.159 ug/mlm
44)	n-C39	40.831	24373	0.162 ug/mlm
45)	n-C40	42.970	25296	0.179 ug/mlm
46)	TPH	7.580f	110509077	659.616 ug/mlm
47)	TRH1	7.580	21557577	128.675 ug/mlm
48)	TRH2	12.143f	11785457	70.346 ug/mlm
49)	TRH3	21.873f	2222941	13.262 ug/mlm
50)	TRH4	27.864	1340467	8.001 ug/mlm
51)	TRH5	33.012	1074908	6.416 ug/mlm
52)	TRH6	37.452f	203813	1.217 ug/mlm
53)	GRO	0.000	0	N.D. ug/mlm
54)	DRO	0.000	0	N.D. ug/mlm
55)	RRO	0.000	0	N.D. ug/mlm

SemiQuant Compounds - Not Calibrated on this Instrument

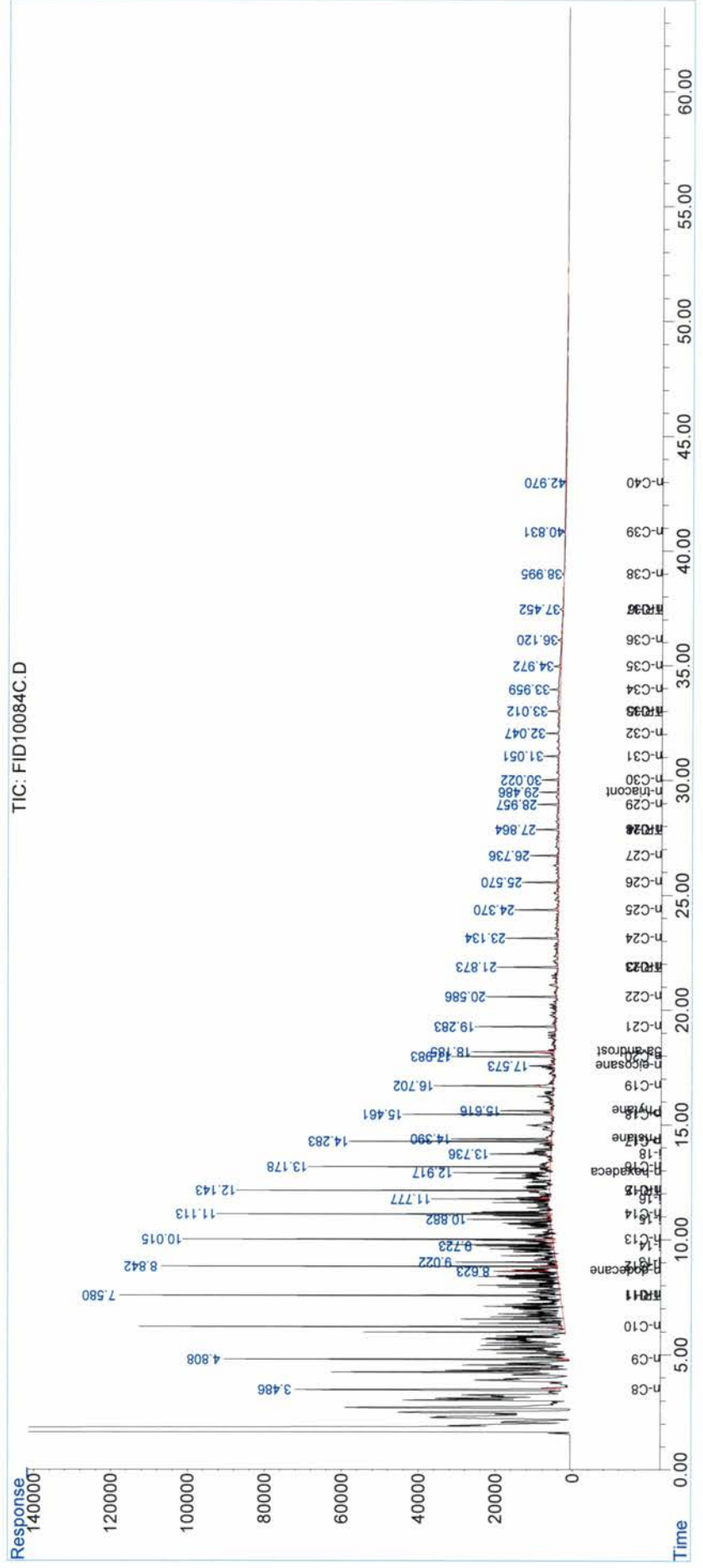
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : C:\msdchem\2\data\FID10084\
Data File : FID10084C.D
Signal(s) : FID1A.CH
Acq On : 26-Aug-2013, 21:35:08
Operator : Meghan Dailey
Sample : AL-SRM2779-20-01
Misc :
ALS Vial : 3 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Aug 28 15:11:00 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Data File Name	FID10084F.D	Concentration	FID10084F.D
Sample Name	AL-WKPem-001		AL-WKPem-001
Misc Info	0		27-Aug-2013, 01:06:00
Data File Path	C:\msdchem\2\data\FID10084\		ALIFRONT.M
Operator	Meghan Dailey		
Date Acquired	27-Aug-2013, 01:06:00		1
Instrument Name	HP5890		
Acq. Method File	ALIFRONT.M	Vial #	5
Vial Number	5	IS Area 1	315323
Sample Multiplier	1	IS Area 2	397076

#	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	12.91	11734400	1586.96	1586.960
47)	TRH1	8.62	142710	19.30	19.300
48)	TRH2	12.91	880619	119.10	119.095
49)	TRH3	26.19	11005.2	1.49	1.488
50)	TRH4	29.47	144292	19.51	19.514
51)	TRH5	36.81	222852	30.14	30.139
52)	TRH6	47.33	119602	16.18	16.175
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	8.62	130192	19.99	100.0
23)	n-eicosane-d42	17.56	120032	19.67	97.7
34)	n-triacontane-d62	29.47	118549	19.96	99.7
1)	n-hexadecane-d34	12.91	315323	50.00	315323.000
16)	5a-androstane	18.17	397076	50.07	397076.000

Data Path : C:\msdchem\2\data\FID10084\
 Data File : FID10084F.D
 Signal(s) : FID1A.CH
 Acq On : 27-Aug-2013, 01:06:00
 Operator : Meghan Dailey
 Sample : AL-WKPem-001
 Misc :
 ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 28 15:36:44 2013
 Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound		R.T.	Response	Conc	Units

Internal Standards					
1) I	n-hexadecane-d34	12.908	315323	50.000	ug/mlm
16) I	5a-androstane	18.167	397076	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.618	130192	19.991	ug/mlm
23) S	n-eicosane-d42	17.562	120032	19.672	ug/mlm
34) S	n-triacontane-d62	29.469	118549	19.960	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/mlm
3)	n-C9	0.000	0	N.D.	ug/mlm
4)	n-C10	0.000	0	N.D.	ug/mlm
5)	n-C11	0.000	0	N.D.	ug/mlm
7)	n-C12	0.000	0	N.D.	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mlm
9)	i-14	0.000	0	N.D.	ug/mlm
10)	n-C13	0.000	0	N.D.	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mlm
12)	n-C14	0.000	0	N.D.	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mlm
14)	n-C15	0.000	0	N.D.	ug/mlm
15)	n-C16	0.000	0	N.D.	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mlm
18)	n-C17	0.000	0	N.D.	ug/mlm
19)	Pristane	0.000	0	N.D.	ug/mlm
20)	n-C18	0.000	0	N.D.	ug/mlm
21)	Phytane	0.000	0	N.D.	ug/mlm
22)	n-C19	0.000	0	N.D.	ug/mlm
24)	n-C20	0.000	0	N.D.	ug/mlm
25)	n-C21	0.000	0	N.D.	ug/mlm
26)	n-C22	0.000	0	N.D.	ug/mlm
27)	n-C23	0.000	0	N.D.	ug/mlm
28)	n-C24	0.000	0	N.D.	ug/mlm
29)	n-C25	0.000	0	N.D.	ug/mlm
30)	n-C26	0.000	0	N.D.	ug/mlm
31)	n-C27	0.000	0	N.D.	ug/mlm
32)	n-C28	0.000	0	N.D.	ug/mlm
33)	n-C29	0.000	0	N.D.	ug/mlm
35)	n-C30	0.000	0	N.D.	ug/mlm
36)	n-C31	0.000	0	N.D.	ug/mlm
37)	n-C32	0.000	0	N.D.	ug/mlm
38)	n-C33	0.000	0	N.D.	ug/mlm
39)	n-C34	0.000	0	N.D.	ug/mlm
40)	n-C35	0.000	0	N.D.	ug/mlm

Data Path : C:\msdchem\2\data\FID10084\
 Data File : FID10084F.D
 Signal(s) : FID1A.CH
 Acq On : 27-Aug-2013, 01:06:00
 Operator : Meghan Dailey
 Sample : AL-WKPem-001
 Misc :
 ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 28 15:36:44 2013
 Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	0.000	0	N.D.	ug/ml
42)	n-C37	0.000	0	N.D.	ug/ml
43)	n-C38	0.000	0	N.D.	ug/ml
44)	n-C39	0.000	0	N.D.	ug/ml
45)	n-C40	0.000	0	N.D.	ug/ml
46)	TPH	12.908f	11734370	1586.955	ug/mlm
47)	TRH1	8.618	142710	19.300	ug/mlm
48)	TRH2	12.908f	880619	119.095	ug/mlm
49)	TRH3	26.194f	11005	1.488	ug/mlm
50)	TRH4	29.469	144292	19.514	ug/mlm
51)	TRH5	36.814f	222852	30.139	ug/mlm
52)	TRH6	47.330	119602	16.175	ug/mlm
53)	GRO	0.000	0	N.D.	ug/ml
54)	DRO	0.000	0	N.D.	ug/ml
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.

Signal Info :



Data File Name	ENV3089A.D	Concentration	ENV3089A.D
Sample Name	Procedural Blank		Procedural Blank
Misc Info	0		27-Aug-2013, 02:16:09
Data File Path	C:\msdchem\2\data\FID10084\		ALIFRONT.M
Operator	Meghan Dailey		
Date Acquired	27-Aug-2013, 02:16:09		1
Instrument Name	HP5890		
Acq. Method File	ALIFRONT.M	Vial #	6
Vial Number	6	IS Area 1	278130
Sample Multiplier	1	IS Area 2	341778

#	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	12.91	10063600	1581.21	1581.210
47)	TRH1	8.62	126266	19.84	19.839
48)	TRH2	12.91	781249	122.75	122.751
49)	TRH3	23.25	25733.2	4.04	4.041
50)	TRH4	29.47	126631	19.90	19.896
51)	TRH5	36.19	201726	31.70	31.695
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	8.62	83732.1	14.58	72.9
23)	n-eicosane-d42	17.56	102471	19.51	96.9
34)	n-triacontane-d62	29.47	99128.6	19.39	96.9
1)	n-hexadecane-d34	12.91	278130	50.00	278130.000
16)	5a-androstane	18.17	341778	50.07	341778.000

Data Path : C:\msdchem\2\data\FID10084\
 Data File : ENV3089A.D
 Signal(s) : FID1A.CH
 Acq On : 27-Aug-2013, 02:16:09
 Operator : Meghan Dailey
 Sample : Procedural Blank
 Misc :
 ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 28 15:37:36 2013
 Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

	Compound	R.T.	Response	Conc	Units

Internal Standards					
1) I	n-hexadecane-d34	12.909	278130	50.000	ug/mlm
16) I	5a-androstane	18.166	341778	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.618	83732	14.576	ug/mlm
23) S	n-eicosane-d42	17.562	102471	19.511	ug/mlm
34) S	n-triacontane-d62	29.469	99129	19.391	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/mlm
3)	n-C9	0.000	0	N.D.	ug/mlm
4)	n-C10	0.000	0	N.D.	ug/mlm
5)	n-C11	0.000	0	N.D.	ug/mlm
7)	n-C12	0.000	0	N.D.	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mlm
9)	i-14	0.000	0	N.D.	ug/mlm
10)	n-C13	0.000	0	N.D.	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mlm
12)	n-C14	0.000	0	N.D.	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mlm
14)	n-C15	0.000	0	N.D.	ug/mlm
15)	n-C16	0.000	0	N.D.	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mlm
18)	n-C17	0.000	0	N.D.	ug/mlm
19)	Pristane	0.000	0	N.D.	ug/mlm
20)	n-C18	0.000	0	N.D.	ug/mlm
21)	Phytane	0.000	0	N.D.	ug/mlm
22)	n-C19	0.000	0	N.D.	ug/mlm
24)	n-C20	0.000	0	N.D.	ug/mlm
25)	n-C21	0.000	0	N.D.	ug/mlm
26)	n-C22	0.000	0	N.D.	ug/mlm
27)	n-C23	0.000	0	N.D.	ug/mlm
28)	n-C24	0.000	0	N.D.	ug/mlm
29)	n-C25	0.000	0	N.D.	ug/mlm
30)	n-C26	0.000	0	N.D.	ug/mlm
31)	n-C27	0.000	0	N.D.	ug/mlm
32)	n-C28	0.000	0	N.D.	ug/mlm
33)	n-C29	0.000	0	N.D.	ug/mlm
35)	n-C30	0.000	0	N.D.	ug/mlm
36)	n-C31	0.000	0	N.D.	ug/mlm
37)	n-C32	0.000	0	N.D.	ug/mlm
38)	n-C33	0.000	0	N.D.	ug/mlm
39)	n-C34	0.000	0	N.D.	ug/mlm
40)	n-C35	0.000	0	N.D.	ug/mlm

Data Path : C:\msdchem\2\data\FID10084\
 Data File : ENV3089A.D
 Signal(s) : FID1A.CH
 Acq On : 27-Aug-2013, 02:16:09
 Operator : Meghan Dailey
 Sample : Procedural Blank
 Misc :
 ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 28 15:37:36 2013
 Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	0.000	0	N.D.	ug/ml
42)	n-C37	0.000	0	N.D.	ug/ml
43)	n-C38	0.000	0	N.D.	ug/ml
44)	n-C39	0.000	0	N.D.	ug/ml
45)	n-C40	0.000	0	N.D.	ug/ml
46)	TPH	12.909f	10063627	1581.207	ug/mlm
47)	TRH1	8.618	126266	19.839	ug/mlm
48)	TRH2	12.909f	781249	122.751	ug/mlm
49)	TRH3	23.247	25733	4.041	ug/mlm
50)	TRH4	29.469	126631	19.896	ug/mlm
51)	TRH5	36.192f	201726	31.695	ug/mlm
52)	TRH6	0.000	0	N.D.	ug/ml
53)	GRO	0.000	0	N.D.	ug/ml
54)	DRO	0.000	0	N.D.	ug/ml
55)	RRO	0.000	0	N.D.	ug/ml

SemiQuant Compounds - Not Calibrated on this Instrument

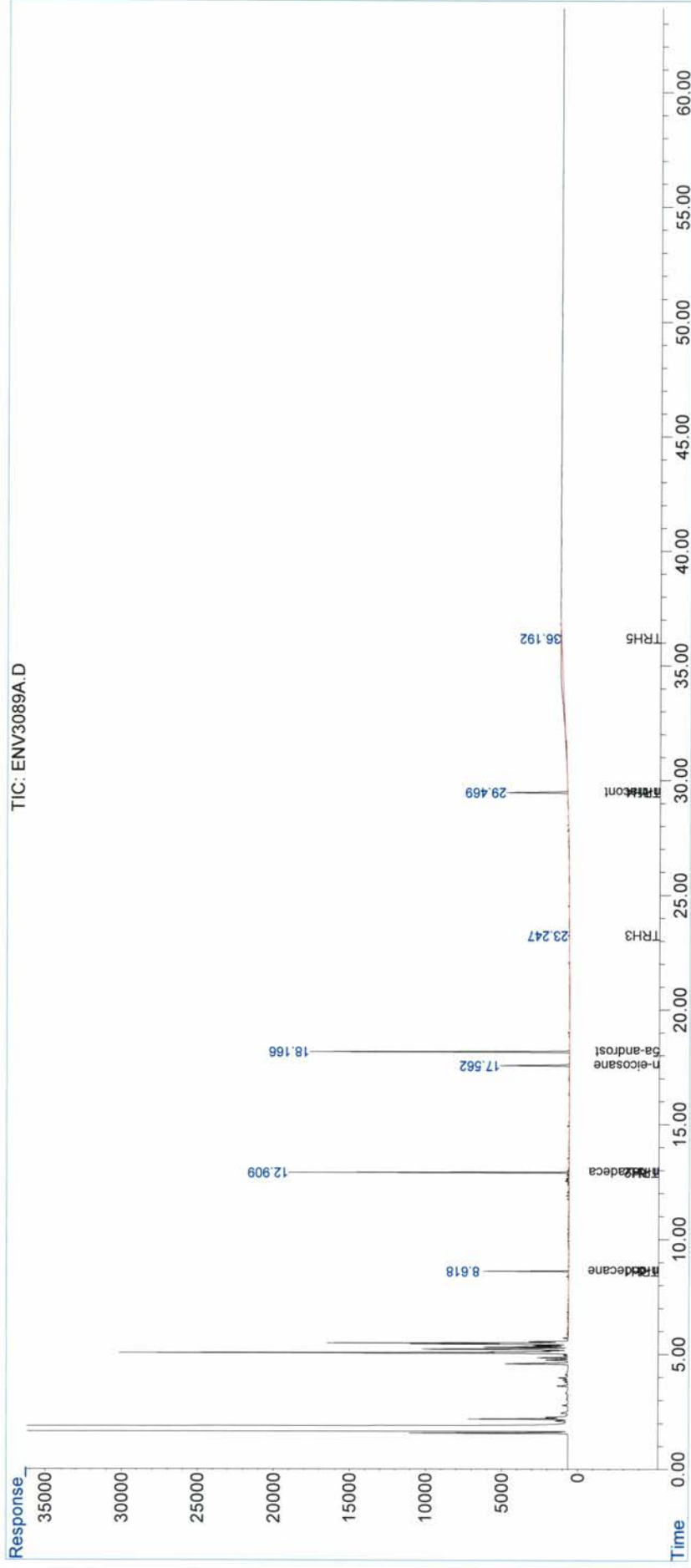
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : C:\msdchem\2\data\FID10084\
Data File : ENV3089A.D
Signal(s) : FID1A.CH
Acq On : 27-Aug-2013, 02:16:09
Operator : Meghan Dailey
Sample : Procedural Blank
Misc :
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 28 15:37:36 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Data File Name	ENV3089B.D	Concentration	ENV3089B.D
Sample Name	Blank Spike		Blank Spike
Misc Info	0		27-Aug-2013, 03:26:24
Data File Path	C:\msdchem\2\data\FID10084\		ALIFRONT.M
Operator	Meghan Dailey		
Date Acquired	27-Aug-2013, 03:26:24		1
Instrument Name	HP5890		
Acq. Method File	ALIFRONT.M	Vial #	7
Vial Number	7	IS Area 1	292709
Sample Multiplier	1	IS Area 2	357126

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.48	16281.2	2.94	2.942
3)	n-C9	4.80	38113.8	6.44	6.444
4)	n-C10	6.21	45510.3	7.15	7.150
5)	n-C11	7.56	49455.3	7.65	7.645
7)	n-C12	8.82	51884.9	7.66	7.665
8)	i-13	0.00	0	0.00	0.000
9)	i-14	0.00	0	0.00	0.000
10)	n-C13	10.00	53269.2	7.88	7.884
11)	i-15	0.00	0	0.00	0.000
12)	n-C14	11.09	56355.1	8.12	8.122
13)	i-16	0.00	0	0.00	0.000
14)	n-C15	12.12	61304.5	8.75	8.753
15)	n-C16	13.16	64941.2	9.24	9.243
17)	i-18	0.00	0	0.00	0.000
18)	n-C17	14.26	68517.8	9.70	9.695
19)	Pristane	14.38	68324.8	9.72	9.716
20)	n-C18	15.44	70069	10.12	10.117
21)	Phytane	15.60	70606	10.01	10.010
22)	n-C19	16.68	70444.7	10.23	10.233
24)	n-C20	17.96	70203.8	10.18	10.183
25)	n-C21	19.26	70238.9	10.13	10.129
26)	n-C22	20.56	71152.9	10.26	10.261
27)	n-C23	21.85	70206.9	10.12	10.116
28)	n-C24	23.11	69949	10.09	10.087
29)	n-C25	24.35	70174.6	10.11	10.108
30)	n-C26	25.55	70707.5	10.19	10.191
31)	n-C27	26.71	68670.2	10.13	10.135
32)	n-C28	27.84	71460.4	10.40	10.403
33)	n-C29	28.94	69290.1	10.04	10.044
35)	n-C30	30.00	68496	10.02	10.018
36)	n-C31	31.03	67759.4	10.06	10.058
37)	n-C32	32.03	65880.7	9.86	9.861
38)	n-C33	33.00	64751.3	9.92	9.916
39)	n-C34	33.94	65844.1	9.97	9.973
40)	n-C35	34.95	64979	10.08	10.077
41)	n-C36	36.11	68106	9.79	9.791
42)	n-C37	37.43	64104.2	10.10	10.097
43)	n-C38	38.97	63806.1	10.21	10.210
44)	n-C39	40.79	61919	10.35	10.345
45)	n-C40	42.94	57837.8	10.31	10.312
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	8.62	75847.1	12.55	62.7
23)	n-eicosane-d42	17.56	105181	19.17	95.2
34)	n-triacontane-d62	29.47	101480	19.00	94.9
1)	n-hexadecane-d34	12.91	292709	50.00	292709.000
16)	5a-androstane	18.16	357126	50.07	357126.000

Data Path : C:\msdchem\2\data\FID10084\
 Data File : ENV3089B.D
 Signal(s) : FID1A.CH
 Acq On : 27-Aug-2013, 03:26:24
 Operator : Meghan Dailey
 Sample : Blank Spike
 Misc :
 ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 28 15:20:08 2013
 Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound		R.T.	Response	Conc Units

Internal Standards				
1) I	n-hexadecane-d34	12.908	292709	50.000 ug/mlm
16) I	5a-androstane	18.163	357126	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.617	75847	12.546 ug/mlm
23) S	n-eicosane-d42	17.561	105181	19.167 ug/mlm
34) S	n-triacontane-d62	29.465	101480	18.998 ug/mlm
Target Compounds				
2)	n-C8	3.481	16281	2.942 ug/mlm
3)	n-C9	4.797	38114	6.444 ug/ml
4)	n-C10	6.207	45510	7.150 ug/mlm
5)	n-C11	7.561	49455	7.645 ug/mlm
7)	n-C12	8.823	51885	7.665 ug/mlm
8)	i-13	0.000	0	N.D. ug/mlm
9)	i-14	0.000	0	N.D. ug/mlm
10)	n-C13	9.996	53269	7.884 ug/mlm
11)	i-15	0.000	0	N.D. ug/mlm
12)	n-C14	11.093	56355	8.122 ug/mlm
13)	i-16	0.000	0	N.D. ug/mlm
14)	n-C15	12.123	61305	8.753 ug/mlm
15)	n-C16	13.157	64941	9.243 ug/mlm
17)	i-18	0.000	0	N.D. ug/mlm
18)	n-C17	14.260	68518	9.695 ug/mlm
19)	Pristane	14.377	68325	9.716 ug/mlm
20)	n-C18	15.436	70069	10.117 ug/mlm
21)	Phytane	15.600	70606	10.010 ug/mlm
22)	n-C19	16.677	70445	10.233 ug/mlm
24)	n-C20	17.957	70204	10.183 ug/mlm
25)	n-C21	19.260	70239	10.129 ug/mlm
26)	n-C22	20.562	71153	10.260 ug/mlm
27)	n-C23	21.850	70207	10.116 ug/mlm
28)	n-C24	23.114	69949	10.087 ug/mlm
29)	n-C25	24.349	70175	10.108 ug/mlm
30)	n-C26	25.547	70708	10.191 ug/mlm
31)	n-C27	26.713	68670	10.135 ug/mlm
32)	n-C28	27.843	71460	10.403 ug/mlm
33)	n-C29	28.938	69290	10.044 ug/mlm
35)	n-C30	30.002	68496	10.018 ug/mlm
36)	n-C31	31.029	67759	10.058 ug/mlm
37)	n-C32	32.030	65881	9.861 ug/mlm
38)	n-C33	32.997	64751	9.916 ug/mlm
39)	n-C34	33.941	65844	9.973 ug/mlm
40)	n-C35	34.953	64979	10.077 ug/mlm

Data Path : C:\msdchem\2\data\FID10084\
 Data File : ENV3089B.D
 Signal(s) : FID1A.CH
 Acq On : 27-Aug-2013, 03:26:24
 Operator : Meghan Dailey
 Sample : Blank Spike
 Misc :
 ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 28 15:20:08 2013
 Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

	Compound	R.T.	Response	Conc Units
41)	n-C36	36.105	68106	9.791 ug/mlm
42)	n-C37	37.429	64104	10.097 ug/mlm
43)	n-C38	38.974	63806	10.209 ug/mlm
44)	n-C39	40.787	61919	10.345 ug/mlm
45)	n-C40	42.940	57838	10.312 ug/mlm
46)	TPH	0.000	0	N.D. ug/mlm
47)	TRH1	0.000	0	N.D. ug/mlm
48)	TRH2	0.000	0	N.D. ug/mlm
49)	TRH3	0.000	0	N.D. ug/mlm
50)	TRH4	0.000	0	N.D. ug/mlm
51)	TRH5	0.000	0	N.D. ug/mlm
52)	TRH6	0.000	0	N.D. ug/mlm
53)	GRO	0.000	0	N.D. ug/mlm
54)	DRO	0.000	0	N.D. ug/mlm
55)	RRO	0.000	0	N.D. ug/mlm

SemiQuant Compounds - Not Calibrated on this Instrument

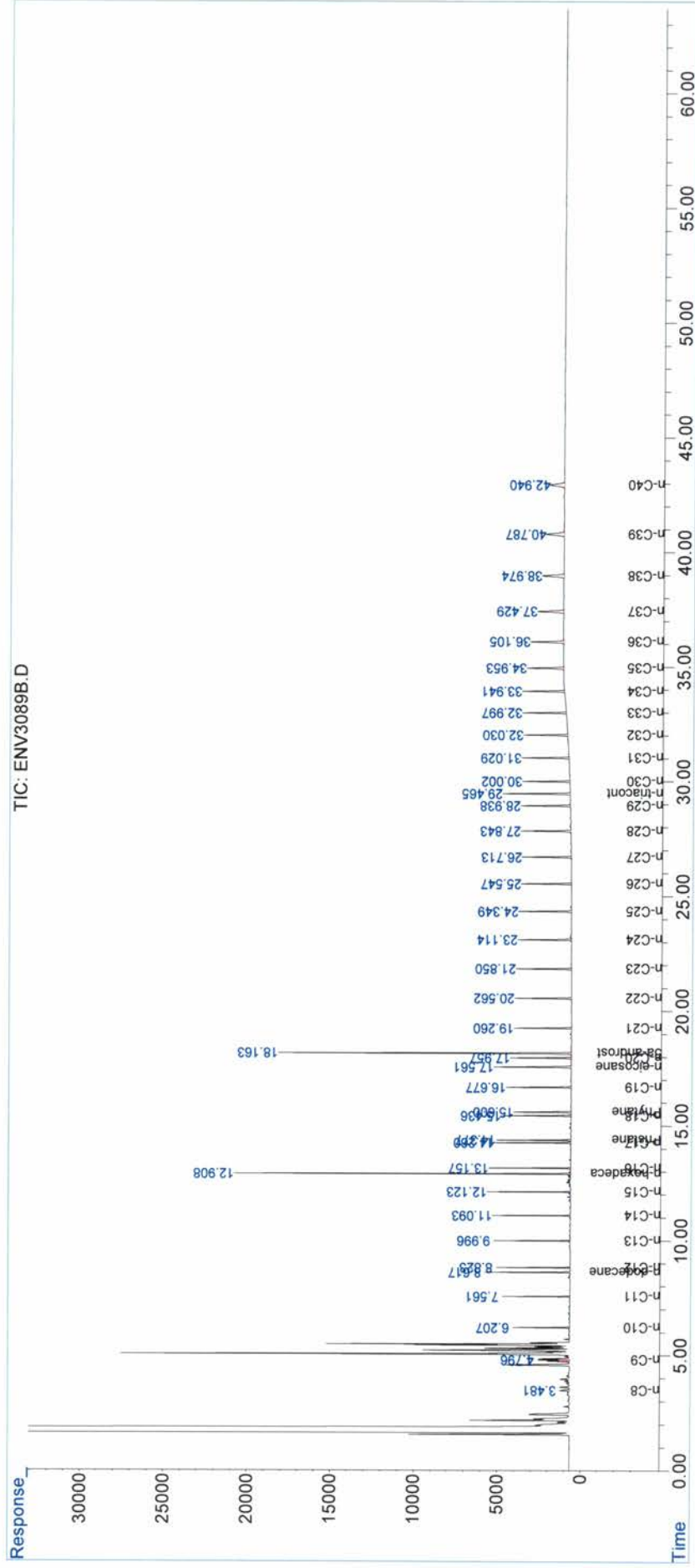
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : C:\msdchem\2\data\FID10084\
Data File : ENV3089B.D
Signal(s) : FID1A.CH
Acq On : 27-Aug-2013, 03:26:24
Operator : Meghan Dailey
Sample : Blank Spike
Misc :
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 28 15:20:08 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Data File Name	ENV3089C.D	Concentration	ENV3089C.D
Sample Name	Blank Spike Duplicate		Blank Spike Duplicate
Misc Info	0		27-Aug-2013, 04:36:35
Data File Path	C:\msdchem\2\data\FID10084\		ALIFRONT.M
Operator	Meghan Dailey		
Date Acquired	27-Aug-2013, 04:36:35		1
Instrument Name	HP5890		
Acq. Method File	ALIFRONT.M	Vial #	8
Vial Number	8	IS Area 1	308917
Sample Multiplier	1	IS Area 2	378822

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.48	19756.4	3.38	3.382
3)	n-C9	4.80	35006.1	5.61	5.608
4)	n-C10	6.21	43620.5	6.49	6.494
5)	n-C11	7.56	46744	6.85	6.847
7)	n-C12	8.82	49239.5	6.89	6.892
8)	i-13	0.00	0	0.00	0.000
9)	i-14	0.00	0	0.00	0.000
10)	n-C13	10.00	51581.8	7.23	7.233
11)	i-15	0.00	0	0.00	0.000
12)	n-C14	11.09	55985.4	7.65	7.646
13)	i-16	0.00	0	0.00	0.000
14)	n-C15	12.12	62005.2	8.39	8.389
15)	n-C16	13.16	66670.3	8.99	8.991
17)	i-18	0.00	0	0.00	0.000
18)	n-C17	14.26	69871.8	9.32	9.320
19)	Pristane	14.38	69731.6	9.35	9.348
20)	n-C18	15.44	71495.9	9.73	9.731
21)	Phytane	15.60	71807.9	9.60	9.597
22)	n-C19	16.68	71200.1	9.75	9.750
24)	n-C20	17.96	71212.4	9.74	9.738
25)	n-C21	19.26	71369.6	9.70	9.703
26)	n-C22	20.56	72107	9.80	9.803
27)	n-C23	21.85	71310.4	9.69	9.686
28)	n-C24	23.11	70919.6	9.64	9.641
29)	n-C25	24.35	71444.3	9.70	9.702
30)	n-C26	25.55	71566.9	9.72	9.724
31)	n-C27	26.71	69632.8	9.69	9.688
32)	n-C28	27.84	72058.3	9.89	9.889
33)	n-C29	28.94	69790.2	9.54	9.537
35)	n-C30	30.00	69362.9	9.56	9.564
36)	n-C31	31.03	67991.4	9.51	9.514
37)	n-C32	32.03	66723.6	9.42	9.415
38)	n-C33	33.00	65647.7	9.48	9.477
39)	n-C34	33.94	66406.7	9.48	9.482
40)	n-C35	34.95	65912.1	9.64	9.636
41)	n-C36	36.10	69747.7	9.45	9.453
42)	n-C37	37.43	64737.8	9.61	9.613
43)	n-C38	38.97	64872.3	9.79	9.786
44)	n-C39	40.78	62884.8	9.90	9.905
45)	n-C40	42.94	58737.9	9.87	9.873
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	8.62	83563.6	13.10	65.5
23)	n-eicosane-d42	17.56	106593	18.31	91.0
34)	n-triacontane-d62	29.47	102547	18.10	90.4
1)	n-hexadecane-d34	12.91	308917	50.00	308917.000
16)	5a-androstane	18.16	378822	50.07	378822.000

Data Path : C:\msdchem\2\data\FID10084\
 Data File : ENV3089C.D
 Signal(s) : FID1A.CH
 Acq On : 27-Aug-2013, 04:36:35
 Operator : Meghan Dailey
 Sample : Blank Spike Duplicate
 Misc :
 ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 28 15:25:42 2013
 Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

	Compound	R.T.	Response	Conc	Units

Internal Standards					
1) I	n-hexadecane-d34	12.907	308917	50.000	ug/mlm
16) I	5a-androstane	18.164	378822	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.617	83564	13.097	ug/mlm
23) S	n-eicosane-d42	17.560	106593	18.311	ug/mlm
34) S	n-triacontane-d62	29.467	102547	18.098	ug/mlm
Target Compounds					
2)	n-C8	3.480	19756	3.382	ug/mlm
3)	n-C9	4.795	35006	5.608	ug/mlm
4)	n-C10	6.207	43621	6.494	ug/mlm
5)	n-C11	7.561	46744	6.847	ug/mlm
7)	n-C12	8.823	49240	6.892	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mlm
9)	i-14	0.000	0	N.D.	ug/mlm
10)	n-C13	9.996	51582	7.233	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mlm
12)	n-C14	11.093	55985	7.646	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mlm
14)	n-C15	12.123	62005	8.389	ug/mlm
15)	n-C16	13.157	66670	8.991	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mlm
18)	n-C17	14.260	69872	9.320	ug/mlm
19)	Pristane	14.377	69732	9.348	ug/mlm
20)	n-C18	15.437	71496	9.731	ug/mlm
21)	Phytane	15.600	71808	9.597	ug/mlm
22)	n-C19	16.677	71200	9.750	ug/mlm
24)	n-C20	17.956	71212	9.738	ug/mlm
25)	n-C21	19.257	71370	9.703	ug/mlm
26)	n-C22	20.560	72107	9.803	ug/mlm
27)	n-C23	21.849	71310	9.686	ug/mlm
28)	n-C24	23.112	70920	9.641	ug/mlm
29)	n-C25	24.346	71444	9.702	ug/mlm
30)	n-C26	25.548	71567	9.724	ug/mlm
31)	n-C27	26.713	69633	9.688	ug/mlm
32)	n-C28	27.840	72058	9.889	ug/mlm
33)	n-C29	28.938	69790	9.537	ug/mlm
35)	n-C30	29.999	69363	9.564	ug/mlm
36)	n-C31	31.028	67991	9.514	ug/mlm
37)	n-C32	32.029	66724	9.415	ug/mlm
38)	n-C33	32.996	65648	9.477	ug/mlm
39)	n-C34	33.941	66407	9.482	ug/mlm
40)	n-C35	34.949	65912	9.636	ug/mlm

Data Path : C:\msdchem\2\data\FID10084\
Data File : ENV3089C.D
Signal(s) : FID1A.CH
Acq On : 27-Aug-2013, 04:36:35
Operator : Meghan Dailey
Sample : Blank Spike Duplicate
Misc :
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 28 15:25:42 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.101	69748	9.453	ug/mlm
42)	n-C37	37.427	64738	9.613	ug/mlm
43)	n-C38	38.967	64872	9.786	ug/mlm
44)	n-C39	40.783	62885	9.905	ug/mlm
45)	n-C40	42.939	58738	9.873	ug/mlm
46)	TPH	0.000	0	N.D.	ug/ml
47)	TRH1	0.000	0	N.D.	ug/ml
48)	TRH2	0.000	0	N.D.	ug/ml
49)	TRH3	0.000	0	N.D.	ug/ml
50)	TRH4	0.000	0	N.D.	ug/ml
51)	TRH5	0.000	0	N.D.	ug/ml
52)	TRH6	0.000	0	N.D.	ug/ml
53)	GRO	0.000	0	N.D.	ug/ml
54)	DRO	0.000	0	N.D.	ug/ml
55)	RRO	0.000	0	N.D.	ug/ml

SemiQuant Compounds - Not Calibrated on this Instrument

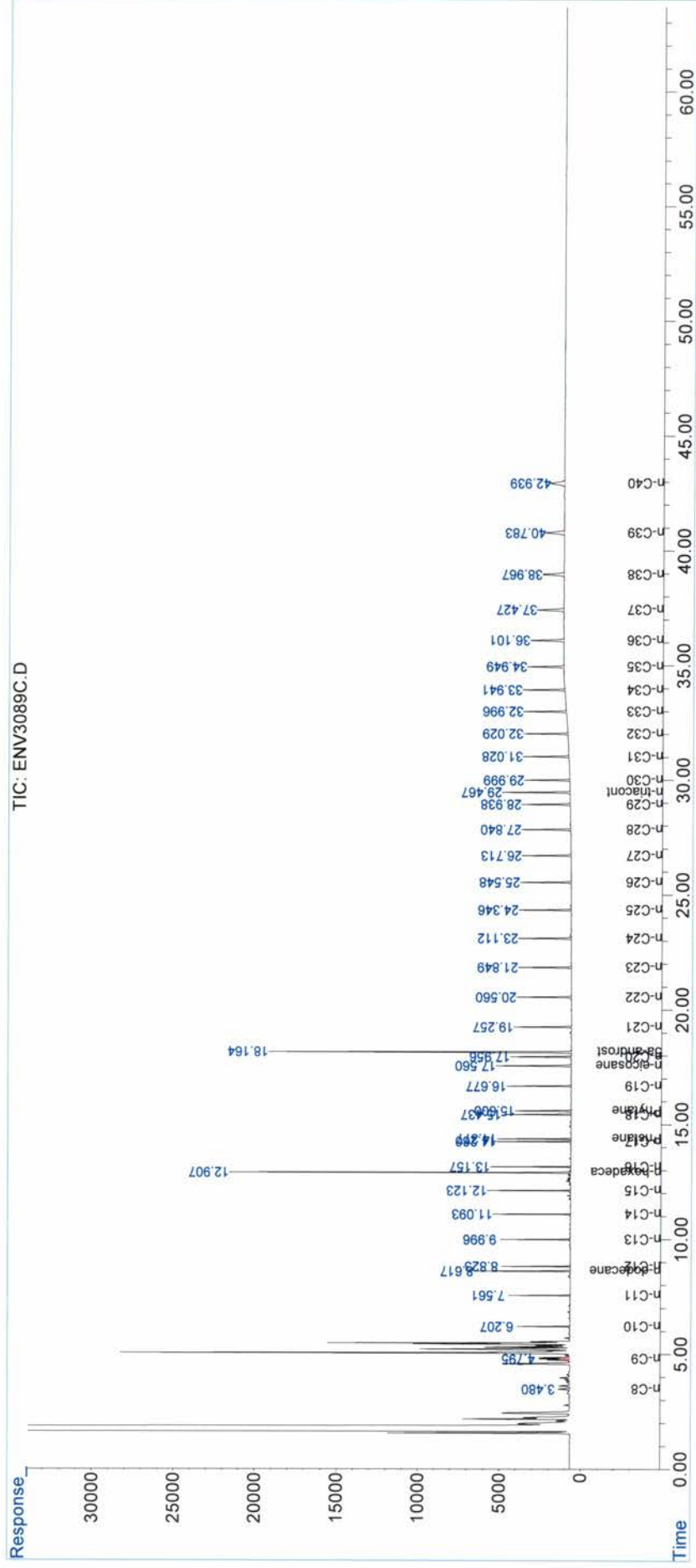
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : C:\msdchem\2\data\FID10084\
Data File : ENV3089C.D
Signal(s) : FID1A.CH
Acq On : 27-Aug-2013, 04:36:35
Operator : Meghan Dailey
Sample : Blank Spike Duplicate
Misc :
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 28 15:25:42 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Data File Name	ARC1878.D	Concentration	ARC1878.D
Sample Name	SED-DA-EB-09-081513		SED-DA-EB-09-081513
Misc Info	0		27-Aug-2013, 05:46:52
Data File Path	C:\msdchem\2\data\FID10084\		ALIFRONT.M
Operator	Meghan Dailey		
Date Acquired	27-Aug-2013, 05:46:52		0.952381
Instrument Name	HP5890		
Acq. Method File	ALIFRONT.M	Vial #	9
Vial Number	9	IS Area 1	296454
Sample Multiplier	0.952381	IS Area 2	363046

#	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	20.19	11768300	1657.83	1657.829
47)	TRH1	8.62	115366	16.25	16.252
48)	TRH2	20.19	1491700	210.14	210.140
49)	TRH3	22.77	571007	80.40	80.401
50)	TRH4	29.46	124121	17.49	17.485
51)	TRH5	34.65	13063.8	1.84	1.840
52)	TRH6	52.56	28634.1	4.03	4.034
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	8.62	80936.3	12.59	66.1
23)	n-eicosane-d42	17.56	109327	18.66	97.4
34)	n-triacontane-d62	29.46	103383	18.13	95.1
1)	n-hexadecane-d34	12.91	296454	47.62	296454.000
16)	5a-androstane	18.16	363046	47.69	363046.000

Data Path : P:\2013\J13034\Aliphatics\ENV 3089\FID10084\
 Data File : ARC1878.D
 Signal(s) : FID1A.CH
 Acq On : 27-Aug-2013, 05:46:52
 Operator : Meghan Dailey
 Sample : SED-DA-EB-09-081513
 Misc :
 ALS Vial : 9 Sample Multiplier: 0.952381

Integration File: autoint1.e
 Quant Time: Aug 31 18:22:52 2013
 Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound		R.T.	Response	Conc Units	

Internal Standards					
1) I	n-hexadecane-d34	12.908	296454	50.000	ug/mlm
16) I	5a-androstane	18.163	363046	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.617	80936	12.589	ug/mlm
23) S	n-eicosane-d42	17.561	109327	18.664	ug/mlm
34) S	n-triacontane-d62	29.465	103383	18.132	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/ml
3)	n-C9	0.000	0	N.D.	ug/ml
4)	n-C10	0.000	0	N.D.	ug/ml
5)	n-C11	0.000	0	N.D.	ug/ml
7)	n-C12	0.000	0	N.D.	ug/ml
8)	i-13	0.000	0	N.D.	ug/ml
9)	i-14	0.000	0	N.D.	ug/ml
10)	n-C13	0.000	0	N.D.	ug/ml
11)	i-15	0.000	0	N.D.	ug/ml
12)	n-C14	0.000	0	N.D.	ug/ml
13)	i-16	0.000	0	N.D.	ug/ml
14)	n-C15	0.000	0	N.D.	ug/ml
15)	n-C16	0.000	0	N.D.	ug/ml
17)	i-18	0.000	0	N.D.	ug/ml
18)	n-C17	0.000	0	N.D.	ug/ml
19)	Pristane	0.000	0	N.D.	ug/ml
20)	n-C18	0.000	0	N.D.	ug/ml
21)	Phytane	0.000	0	N.D.	ug/ml
22)	n-C19	0.000	0	N.D.	ug/ml
24)	n-C20	0.000	0	N.D.	ug/ml
25)	n-C21	0.000	0	N.D.	ug/ml
26)	n-C22	0.000	0	N.D.	ug/ml
27)	n-C23	0.000	0	N.D.	ug/ml
28)	n-C24	0.000	0	N.D.	ug/ml
29)	n-C25	0.000	0	N.D.	ug/ml
30)	n-C26	0.000	0	N.D.	ug/ml
31)	n-C27	0.000	0	N.D.	ug/ml
32)	n-C28	0.000	0	N.D.	ug/ml
33)	n-C29	0.000	0	N.D.	ug/ml
35)	n-C30	0.000	0	N.D.	ug/ml
36)	n-C31	0.000	0	N.D.	ug/ml
37)	n-C32	0.000	0	N.D.	ug/ml
38)	n-C33	0.000	0	N.D.	ug/ml
39)	n-C34	0.000	0	N.D.	ug/ml
40)	n-C35	0.000	0	N.D.	ug/ml

Data Path : P:\2013\J13034\Aliphatics\ENV 3089\FID10084\
 Data File : ARC1878.D
 Signal(s) : FID1A.CH
 Acq On : 27-Aug-2013, 05:46:52
 Operator : Meghan Dailey
 Sample : SED-DA-EB-09-081513
 Misc :
 ALS Vial : 9 Sample Multiplier: 0.952381

Integration File: autoint1.e
 Quant Time: Aug 31 18:22:52 2013
 Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	0.000	0	N.D.	ug/ml
42)	n-C37	0.000	0	N.D.	ug/ml
43)	n-C38	0.000	0	N.D.	ug/ml
44)	n-C39	0.000	0	N.D.	ug/ml
45)	n-C40	0.000	0	N.D.	ug/ml
46)	TPH	20.193	11768277	1657.830	ug/ml
47)	TRH1	8.617	115366	16.252	ug/ml
48)	TRH2	20.193f	1491701	210.140	ug/ml
49)	TRH3	22.767	571007	80.401	ug/ml
50)	TRH4	29.465	124121	17.485	ug/ml
51)	TRH5	34.650	13064	1.840	ug/ml
52)	TRH6	52.563f	28634	4.034	ug/ml
53)	GRO	0.000	0	N.D.	ug/ml
54)	DRO	0.000	0	N.D.	ug/ml
55)	RRO	0.000	0	N.D.	ug/ml

SemiQuant Compounds - Not Calibrated on this Instrument

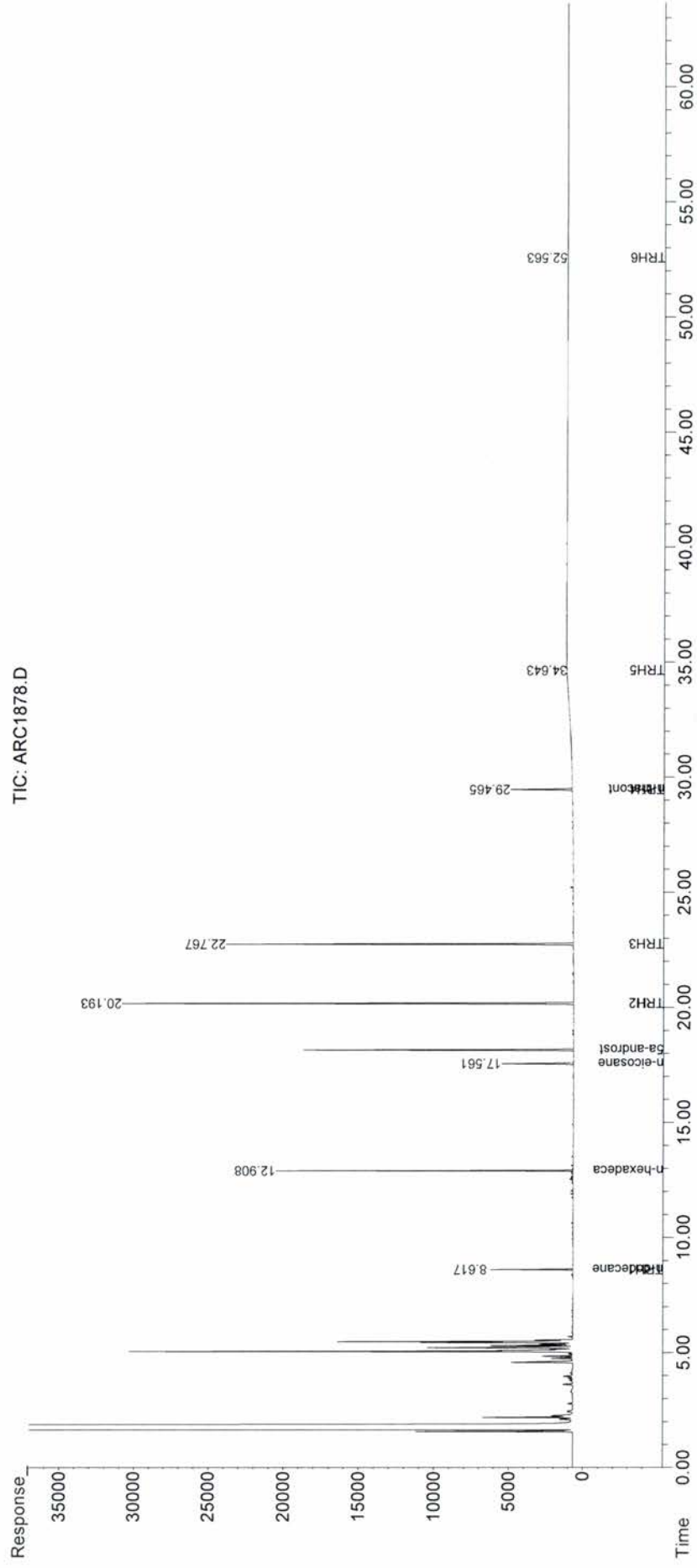
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : P:\2013\J13034\Aliphatics\ENV 3089\FID10084\
 Data File : ARC1878.D
 Signal(s) : FID1A.CH
 Acq On : 27-Aug-2013, 05:46:52
 Operator : Meghan Dailey
 Sample : SED-DA-EB-09-081513
 Misc :
 ALS Vial : 9 Sample Multiplier: 0.952381

Integration File: autoint1.e
 Quant Time: Aug 31 18:22:52 2013
 Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :



Data File Name	ARC1922.D	Concentration	ARC1922.D
Sample Name	SED-DA-EB-10-081613		SED-DA-EB-10-081613
Misc Info	0		27-Aug-2013, 06:57:00
Data File Path	C:\msdchem\2\data\FID10084\		ALIFRONT.M
Operator	Meghan Dailey		
Date Acquired	27-Aug-2013, 06:57:00		0.970874
Instrument Name	HP5890		
Acq. Method File	ALIFRONT.M	Vial #	10
Vial Number	10	IS Area 1	284530
Sample Multiplier	0.970874	IS Area 2	350418

#	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	12.91	11288500	1679.54	1679.544
47)	TRH1	8.62	190302	28.31	28.314
48)	TRH2	12.91	805547	119.85	119.852
49)	TRH3	23.24	23747	3.53	3.531
50)	TRH4	29.46	176985	26.33	26.332
51)	TRH5	35.29	64054	9.53	9.530
52)	TRH6	36.85	148018	22.02	22.023
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	8.62	85639.8	14.15	72.9
23)	n-eicosane-d42	17.56	102406	18.46	94.5
34)	n-triacontane-d62	29.46	100248	18.57	95.5
1)	n-hexadecane-d34	12.91	284530	48.54	284530.000
16)	5a-androstane	18.16	350418	48.61	350418.000

Data Path : C:\msdchem\2\data\FID10084\
 Data File : ARC1922.D
 Signal(s) : FID1A.CH
 Acq On : 27-Aug-2013, 06:57:00
 Operator : Meghan Dailey
 Sample : SED-DA-EB-10-081613
 Misc :
 ALS Vial : 10 Sample Multiplier: 0.970874

Integration File: autoint1.e
 Quant Time: Aug 31 18:28:16 2013
 Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound		R.T.	Response	Conc	Units

Internal Standards					
1) I	n-hexadecane-d34	12.906	284530	50.000	ug/mlm
16) I	5a-androstane	18.160	350418	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.615	85640	14.149	ug/mlm
23) S	n-eicosane-d42	17.558	102406	18.464	ug/mlm
34) S	n-triacontane-d62	29.461	100248	18.569	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/ml
3)	n-C9	0.000	0	N.D.	ug/ml
4)	n-C10	0.000	0	N.D.	ug/ml
5)	n-C11	0.000	0	N.D.	ug/ml
7)	n-C12	0.000	0	N.D.	ug/ml
8)	i-13	0.000	0	N.D.	ug/ml
9)	i-14	0.000	0	N.D.	ug/ml
10)	n-C13	0.000	0	N.D.	ug/ml
11)	i-15	0.000	0	N.D.	ug/ml
12)	n-C14	0.000	0	N.D.	ug/ml
13)	i-16	0.000	0	N.D.	ug/ml
14)	n-C15	0.000	0	N.D.	ug/ml
15)	n-C16	0.000	0	N.D.	ug/ml
17)	i-18	0.000	0	N.D.	ug/ml
18)	n-C17	0.000	0	N.D.	ug/ml
19)	Pristane	0.000	0	N.D.	ug/ml
20)	n-C18	0.000	0	N.D.	ug/ml
21)	Phytane	0.000	0	N.D.	ug/ml
22)	n-C19	0.000	0	N.D.	ug/ml
24)	n-C20	0.000	0	N.D.	ug/ml
25)	n-C21	0.000	0	N.D.	ug/ml
26)	n-C22	0.000	0	N.D.	ug/ml
27)	n-C23	0.000	0	N.D.	ug/ml
28)	n-C24	0.000	0	N.D.	ug/ml
29)	n-C25	0.000	0	N.D.	ug/ml
30)	n-C26	0.000	0	N.D.	ug/ml
31)	n-C27	0.000	0	N.D.	ug/ml
32)	n-C28	0.000	0	N.D.	ug/ml
33)	n-C29	0.000	0	N.D.	ug/ml
35)	n-C30	0.000	0	N.D.	ug/ml
36)	n-C31	0.000	0	N.D.	ug/ml
37)	n-C32	0.000	0	N.D.	ug/ml
38)	n-C33	0.000	0	N.D.	ug/ml
39)	n-C34	0.000	0	N.D.	ug/ml
40)	n-C35	0.000	0	N.D.	ug/ml

Data Path : C:\msdchem\2\data\FID10084\
 Data File : ARC1922.D
 Signal(s) : FID1A.CH
 Acq On : 27-Aug-2013, 06:57:00
 Operator : Meghan Dailey
 Sample : SED-DA-EB-10-081613
 Misc :
 ALS Vial : 10 Sample Multiplier: 0.970874

Integration File: autoint1.e
 Quant Time: Aug 31 18:28:16 2013
 Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	0.000	0	N.D.	ug/ml
42)	n-C37	0.000	0	N.D.	ug/ml
43)	n-C38	0.000	0	N.D.	ug/ml
44)	n-C39	0.000	0	N.D.	ug/ml
45)	n-C40	0.000	0	N.D.	ug/ml
46)	TPH	12.906f	11288487	1679.540	ug/ml
47)	TRH1	8.615	190302	28.314	ug/ml
48)	TRH2	12.906f	805547	119.852	ug/ml
49)	TRH3	23.242	23747	3.531	ug/ml
50)	TRH4	29.461	176985	26.332	ug/ml
51)	TRH5	35.290f	64054	9.530	ug/ml
52)	TRH6	36.851f	148018	22.023	ug/ml
53)	GRO	0.000	0	N.D.	ug/ml
54)	DRO	0.000	0	N.D.	ug/ml
55)	RRO	0.000	0	N.D.	ug/ml

SemiQuant Compounds - Not Calibrated on this Instrument

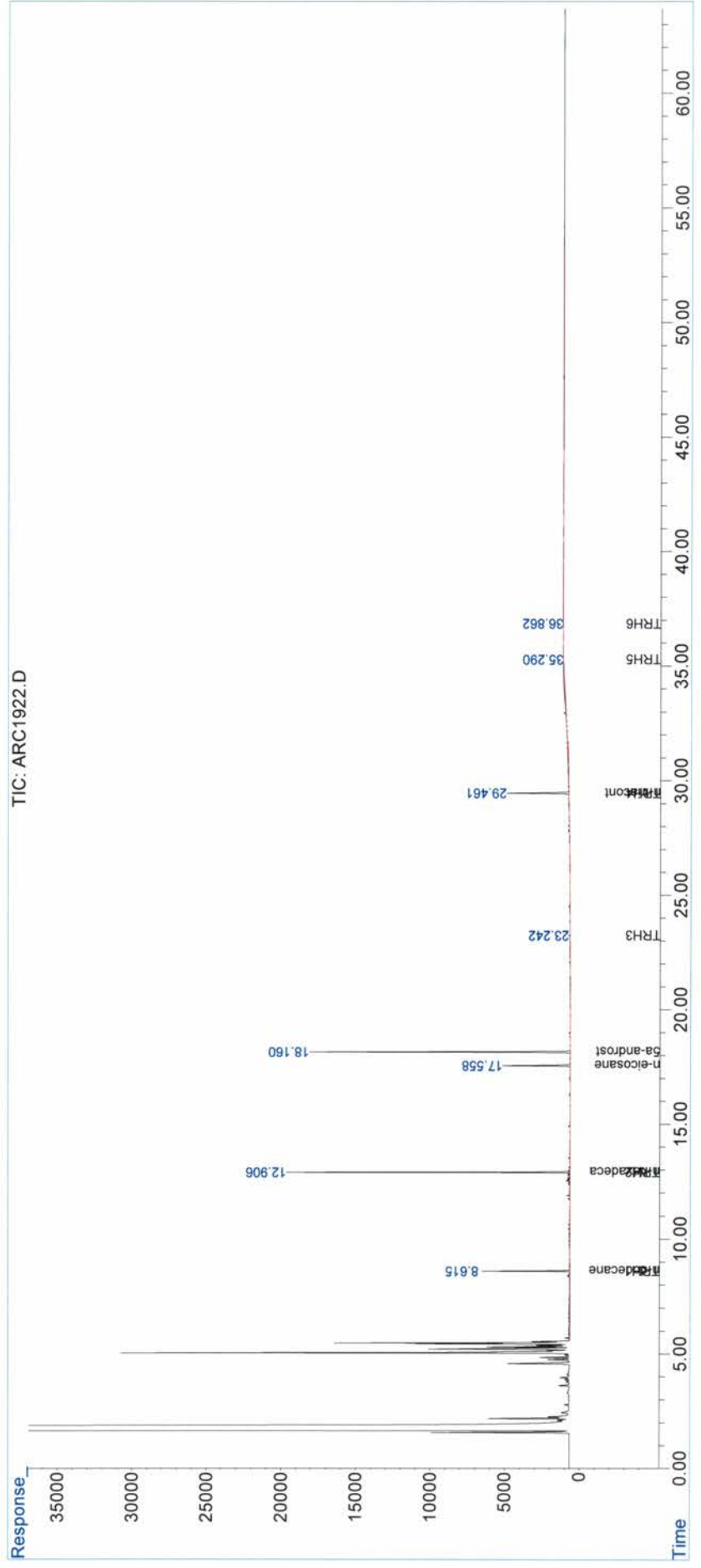
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : C:\msdchem\2\data\FID10084\
Data File : ARC1922.D
Signal(s) : FID1A.CH
Acq On : 27-Aug-2013, 06:57:00
Operator : Meghan Dailey
Sample : SED-DA-EB-10-081613
Misc :
ALS Vial : 10 Sample Multiplier: 0.970874

Integration File: autoint1.e
Quant Time: Aug 31 18:28:16 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3089\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:56:00 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Polycyclic Aromatic Hydrocarbon Raw Data

B&B LABORATORIES PAHs QA FORM

Extraction Page: <u>ENV 3085</u>	Analyst: <u>Y. Miao</u>
Client: <u>Arcadis Mayflower Project</u>	Date: <u>September 19, 2013</u>
Job #: <u>J13034</u>	Project Quality Manager: <u>[Signature]</u>
SDG #: <u>13081601 and 13082001</u>	Date: <u>09/20/13</u>

Initial Calibration: No failures	ICV No failures
Surrogate Recoveries: No failures	
Procedural Blank: No failures	
Blank Spike: No failures	
Blank Spike Duplicate: No failures	
Laboratory Duplicate: No failures	
Matrix Spike: No failures	
Matirx Spike Duplicate: No failures	
SRM/LCS (Solution, Tissue, Sediment): Solution no failures	
CCC (from a second source): No failures	
SRM-2279 Reference Oil 2-MP was outside of the laboratory limits	
Mass Discrimination Check (benzo(ghi)perylene/phenanthrene >0.7) No failures	

Sequence Name: C:\msdchem\1\sequence\MS60149.S
Comment: Arcadis-Mayflower AR-Water-PAH (09/13/13)
Operator: MAG
Data Path: C:\MSDCHEM\1\DATA\MS60149\
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

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

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

```
-----  
Line                      Sample Name/Misc Info  
1) Sample                1 MS60149A PAH-2012 Solvent rinse  
2) Sample                2 MS60149B PAH-2012 AR-WKC1-020-030  
3) Sample                3 MS60149C PAH-2012 AR-WKC2-100-030  
4) Sample                4 MS60149D PAH-2012 AR-WKC3-250-030  
5) Sample                5 MS60149E PAH-2012 AR-WKC4-500-030  
6) Sample                6 MS60149F PAH-2012 AR-WKC5-1000-030  
7) Sample                7 MS60149G PAH-2012 AR-WKC6-5000-030  
8) Sample                8 MS60149H PAH-2012 AR-WKISSU-250-002  
9) Sample                9 MS60149I PAH-2012 AR-WKICV-250-004  
10) Sample               10 MS60149J PAH-2012 AR-WKCC-250-038  
11) Sample               11 MS60149K PAH-2012 AR-SRM2779-WK-4.0-002  
12) Sample               12 ENV3089A PAH-2012  
13) Sample               13 ENV3089B PAH-2012  
14) Sample               14 ENV3089C PAH-2012  
15) Sample               15 ENV3089D PAH-2012  
16) Sample               16 ENV3089E PAH-2012  
17) Sample               17 ARC1878 PAH-2012  
18) Sample               18 ARC1880 PAH-2012  
19) Sample               19 ARC1905 PAH-2012  
20) Sample               20 MS60149L PAH-2012 AR-WKCC-250-038  
21) Sample               21 ARC1906 PAH-2012  
22) Sample               22 ARC1908 PAH-2012  
23) Sample               23 ARC1910 PAH-2012  
24) Sample               24 ARC1916 PAH-2012  
25) Sample               25 ARC1918 PAH-2012  
26) Sample               26 ARC1920 PAH-2012  
27) Sample               27 ARC1922 PAH-2012  
28) Sample               28 MS60149M PAH-2012 AR-WKCC-250-038
```


Evaluate Continuing Calibration Report

Data Path : F:\MS60149\
 Data File : MS60149J.D
 Acq On : 14 Sep 2013 4:39 am
 Operator : MAG
 Sample : AR-WKCC-250-038
 Misc :
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 16 22:32:58 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Fluorene-d10	1.000	1.000	0.0	90	0.00
2 S	Naphthalene-d8	1.567	1.429	8.8	85	0.00
3 T	cis/trans Decalin	0.264	0.253	4.2	83	0.02
4 un	C1-Decalins	0.264	0.000	100.0#	0#	-12.23#
5 un	C2-Decalins	0.264	0.000	100.0#	0#	-14.74#
6 un	C3-Decalins	0.264	0.000	100.0#	0#	-16.16#
7 un	C4-Decalins	0.264	0.000	100.0#	0#	-18.61#
8 T	Naphthalene	1.703	1.557	8.6	88	0.00
9 T	2-Methylnaphthalene	1.146	1.019	11.1	85	0.00
10 T	1-Methylnaphthalene	1.090	0.992	9.0	86	0.00
11 T	2,6-Dimethylnaphthalene	1.060	0.947	10.7	87	0.00
12 T	1,6,7-Trimethylnaphthalene	1.082	0.989	8.6	89	0.00
13 un	C2-Naphthalenes	1.703	0.000	100.0#	0#	-18.14#
14 un	C3-Naphthalenes	1.703	0.000	100.0#	0#	-20.31#
15 un	C4-Naphthalenes	1.703	0.000	100.0#	0#	-21.68#
16 T	Benzothiophene	1.359	1.272	6.4	89	0.00
17 un	C1-Benzothiophenes	1.359	0.000	100.0#	0#	-15.46#
18 un	C2-Benzothiophenes	1.359	0.000	100.0#	0#	-18.61#
19 un	C3-Benzothiophenes	1.359	0.000	100.0#	0#	-20.23#
20 un	C4-Benzothiophenes	1.359	0.000	100.0#	0#	-22.18#
21 S	Acenaphthene-d10	1.001	0.912	8.9	88	0.00
22 T	Biphenyl	1.520	1.379	9.3	88	0.00
23 T	Acenaphthylene	1.835	1.627	11.3	85	0.02
24 T	Acenaphthene	1.109	1.007	9.2	87	0.00
25 T	Dibenzofuran	1.608	1.457	9.4	88	0.00
26 T	Fluorene	1.367	1.179	13.8	83	0.00
27 T	1-Methylfluorene	0.863	0.810	6.1	88	0.00
28 un	C1-Fluorenes	1.367	0.000	100.0#	0#	-23.47#
29 un	C2-Fluorenes	1.367	0.000	100.0#	0#	-25.90#
30 un	C3-Fluorenes	1.367	0.000	100.0#	0#	-26.42#
31 I	Pyrene-d10	1.000	1.000	0.0	82	0.00
32 S	Phenanthrene-d10	0.956	0.989	-3.5	88	0.00
33 T	Carbazole	0.766	0.749	2.2	91	0.00
34 T	Dibenzothiophene	1.076	1.051	2.3	85	0.00
35 T	4-Methyldibenzothiophene	0.643	0.578	10.1	85	0.00
36 un	2/3-Methyldibenzothiophene	0.643	0.000	100.0#	0#	-26.18#
37 un	1-Methyldibenzothiophene	0.643	0.000	100.0#	0#	-26.52#
38 un	C2-Dibenzothiophenes	1.076	0.000	100.0#	0#	-27.29#
39 un	C3-Dibenzothiophenes	1.076	0.000	100.0#	0#	-28.81#
40 un	C4-Dibenzothiophenes	1.076	0.000	100.0#	0#	-30.30#
41 T	Phenanthrene	0.929	0.974	-4.8	91	0.00
42 T	Anthracene	0.865	0.895	-3.5	90	0.00
43 un	3-Methylphenanthrene	0.878	0.000	100.0#	0#	-26.73#
44 un	2-Methylphenanthrene	0.878	0.000	100.0#	0#	-26.73#
45 un	2-Methylanthracene	0.878	0.000	100.0#	0#	-26.94#
46 un	4/9-Methylphenanthrene	0.878	0.000	100.0#	0#	-26.73#
47 T	1-Methylphenanthrene	0.878	0.804	8.4	81	0.00

Evaluate Continuing Calibration Report

Data Path : F:\MS60149\
 Data File : MS60149J.D
 Acq On : 14 Sep 2013 4:39 am
 Operator : MAG
 Sample : AR-WKCC-250-038
 Misc :
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 16 22:32:58 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
48 T	3,6-Dimethylphenanthrene	0.683	0.717	-5.0	91	0.00
49 T	Retene	0.438	0.403	8.0	81	0.00
50 un	C2-Phenanthrenes/Anthracene	0.929	0.000	100.0#	0#	-28.57#
51 un	C3-Phenanthrenes/Anthracene	0.929	0.000	100.0#	0#	-28.84#
52 un	C4-Phenanthrenes/Anthracene	0.929	0.000	100.0#	0#	-31.79#
53 T	Naphthobenzothiophene	1.502	1.430	4.8	83	0.00
54 un	C1-Naphthobenzothiophenes	1.502	0.000	100.0#	0#	-34.31#
55 un	C2-Naphthobenzothiophenes	1.502	0.000	100.0#	0#	-35.86#
56 un	C3-Naphthobenzothiophenes	1.502	0.000	100.0#	0#	-37.49#
57 un	C4-Naphthobenzothiophenes	1.502	0.000	100.0#	0#	-38.89#
58 T	Fluoranthene	1.108	1.162	-4.9	91	0.00
59 T	Pyrene	1.475	1.358	7.9	82	0.00
60 T	2-Methylfluoranthene	0.966	0.847	12.3	78	0.00
61 T	Benzo(b) fluorene	0.730	0.624	14.5	78	0.00
62 un	C1-Fluoranthenes/Pyrenes	1.108	0.000	100.0#	0#	-30.47#
63 un	C2-Fluoranthenes/Pyrenes	1.108	0.000	100.0#	0#	-32.52#
64 un	C3-Fluoranthenes/Pyrenes	1.108	0.000	100.0#	0#	-34.27#
65 un	C4-Fluoranthenes/Pyrenes	1.108	0.000	100.0#	0#	-34.03#
66 S	Chrysene-d12	1.246	1.435	-15.2	93	0.00
67 T	Benz(a)anthracene	1.416	1.394	1.6	85	0.00
68 T	Chrysene/Triphenylene	1.215	1.395	-14.8	94	0.00
69 un	C1-Chrysenes	1.215	0.000	100.0#	0#	-35.63#
70 un	C2-Chrysenes	1.215	0.000	100.0#	0#	-36.44#
71 un	C3-Chrysenes	1.215	0.000	100.0#	0#	-38.15#
72 un	C4-Chrysenes	1.215	0.000	100.0#	0#	-39.55#
73 I	Benzo(a)pyrene-d12	1.000	1.000	0.0	80	0.00
74 un	C29-Hopane	0.422	0.000	100.0#	0#	-41.26#
75 un	18a-Oleanane	0.422	0.000	100.0#	0#	-42.15#
76 T	C30-Hopane	0.422	0.436	-3.3	84	0.00
77 T	Benzo(b) fluoranthene	1.292	1.165	9.8	81	0.00
78 T	Benzo(k,j) fluoranthene	1.409	1.322	6.2	78	0.00
79 un	Benzo(a) fluoranthene	1.409	0.000	100.0#	0#	-37.37#
80 T	Benzo(e)pyrene	1.401	1.427	-1.9	84	0.00
81 T	Benzo(a)pyrene	1.338	1.252	6.4	80	0.00
82 T	Indeno(1,2,3-c,d)pyrene	1.611	1.567	2.7	83	0.00
83 T	Dibenzo(a,h)anthracene	1.275	1.258	1.3	85	0.00
84 un	C1-Dibenzo(a,h)anthracenes	1.275	0.000	100.0#	0#	-49.37#
85 un	C2-Dibenzo(a,h)anthracenes	1.275	0.000	100.0#	0#	-51.44#
86 un	C3-Dibenzo(a,h)anthracenes	1.275	0.000	100.0#	0#	-50.78#
87 T	Benzo(g,h,i)perylene	1.429	1.408	1.5	84	-0.04
88 S	Perylene-d12	1.161	1.127	2.9	86	-0.04
89 T	Perylene	1.402	1.361	2.9	83	0.00
90 S	5(b)H-Cholane	0.317	0.318	-0.3	84	0.00
91 un	C20-TAS	1.658	0.000	100.0#	0#	-33.30#
92 un	C21-TAS	1.658	0.000	100.0#	0#	-34.27#
93 un	C26(20S)-TAS	1.658	0.000	100.0#	0#	-38.77#
94 T	C26(20R)/C27(20S)-TAS	1.658	1.519	8.4	79	0.00

Evaluate Continuing Calibration Report

Data Path : F:\MS60149\
 Data File : MS60149J.D
 Acq On : 14 Sep 2013 4:39 am
 Operator : MAG
 Sample : AR-WKCC-250-038
 Misc :
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 16 22:32:58 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

	Compound	AvgRF	CCRF	%Dev Area	% Dev(min)
95 un	C28(20S)-TAS	1.658	0.000	100.0#	0# -40.08#
96 un	C27(20R)-TAS	1.658	0.000	100.0#	0# -40.74#
97 un	C28(20R)-TAS	1.658	0.000	100.0#	0# -41.67#

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data Path : F:\MS60149\
 Data File : MS60149J.D
 Acq On : 14 Sep 2013 4:39 am
 Operator : MAG
 Sample : AR-WKCC-250-038
 Misc :
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 16 22:32:58 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Fluorene-d10	21.369	176	170634m	251.05		0.00
31) Pyrene-d10	29.640	212	335655m	250.63		0.00
73) Benzo(a)pyrene-d12	38.458	264	363129m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.734	136	242950m	228.18		0.00
21) Acenaphthene-d10	19.585	164	155074m	228.03		0.00
32) Phenanthrene-d10	24.721	188	331300m	258.74		0.00
66) Chrysene-d12	33.841	240	480540m	287.93		0.00
88) Perylene-d12	38.730	264	408605m	242.66		-0.04
90) 5(b)H-Cholane	34.267	217	115263m	250.43		0.00
Target Compounds						
						Qvalue
3) cis/trans Decalin	11.114	138	42530m	237.18		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.789	128	264495m	228.52		
9) 2-Methylnaphthalene	16.046	142	173398m	222.59		
10) 1-Methylnaphthalene	16.381	142	168400m	227.35		
11) 2,6-Dimethylnaphthalene	18.136	156	160913m	223.36		
12) 1,6,7-Trimethylnaphtha...	21.007	170	167969m	228.48		
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.		
16) Benzothiophene	13.956	134	214787m	232.52		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.607	154	232239m	224.78		
23) Acenaphthylene	19.112	152	274180m	219.84		
24) Acenaphthene	19.697	154	171494m	227.57		
25) Dibenzofuran	20.282	168	246321m	225.31		
26) Fluorene	21.480	166	200742m	216.03		
27) 1-Methylfluorene	23.474	180	138602m	236.33		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.552	167	248412m	242.07		
34) Dibenzothiophene	24.375	184	346808m	240.74		
35) 4-Methyldibenzothiophene	25.899	198	195298m	226.87		
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	24.790	178	323181m	259.67		
42) Anthracene	24.964	178	300697m	259.58		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : F:\MS60149\
 Data File : MS60149J.D
 Acq On : 14 Sep 2013 4:39 am
 Operator : MAG
 Sample : AR-WKCC-250-038
 Misc :
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 16 22:32:58 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 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	26.938	192	266299m	226.46		
48) 3,6-Dimethylphenanthrene	28.012	206	240371m	262.93		
49) Retene	30.714	234	120588m	205.58		
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	32.987	234	481592m	239.39		
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.912	202	389448m	262.45		
59) Pyrene	29.709	202	454835m	230.24		
60) 2-Methylfluoranthene	30.471	216	285586m	220.76		
61) Benzo(b)fluorene	31.095	216	210882m	215.60		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.802	228	465882m	245.69		
68) Chrysene/Triphenylene	33.918	228	464305m	285.32		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.883	191	158136m	258.22		
77) Benzo(b)fluoranthene	37.372	252	423454m	226.00		
78) Benzo(k,j)fluoranthene	37.450	252	477625m	233.64		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.342	252	515386m	253.61		
81) Benzo(a)pyrene	38.536	252	453282m	233.46		
82) Indeno(1,2,3-c,d)pyrene	43.251	276	558604m	238.96		
83) Dibenzo(a,h)anthracene	43.325	278	452277m	244.50		
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	44.616	276	505999m	244.15		
89) Perylene	38.847	252	493928m	242.80		
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	39.506	231	550717m	229.01		
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 : F:\MS60149\
Data File : MS60149J.D
Acq On : 14 Sep 2013 4:39 am
Operator : MAG
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

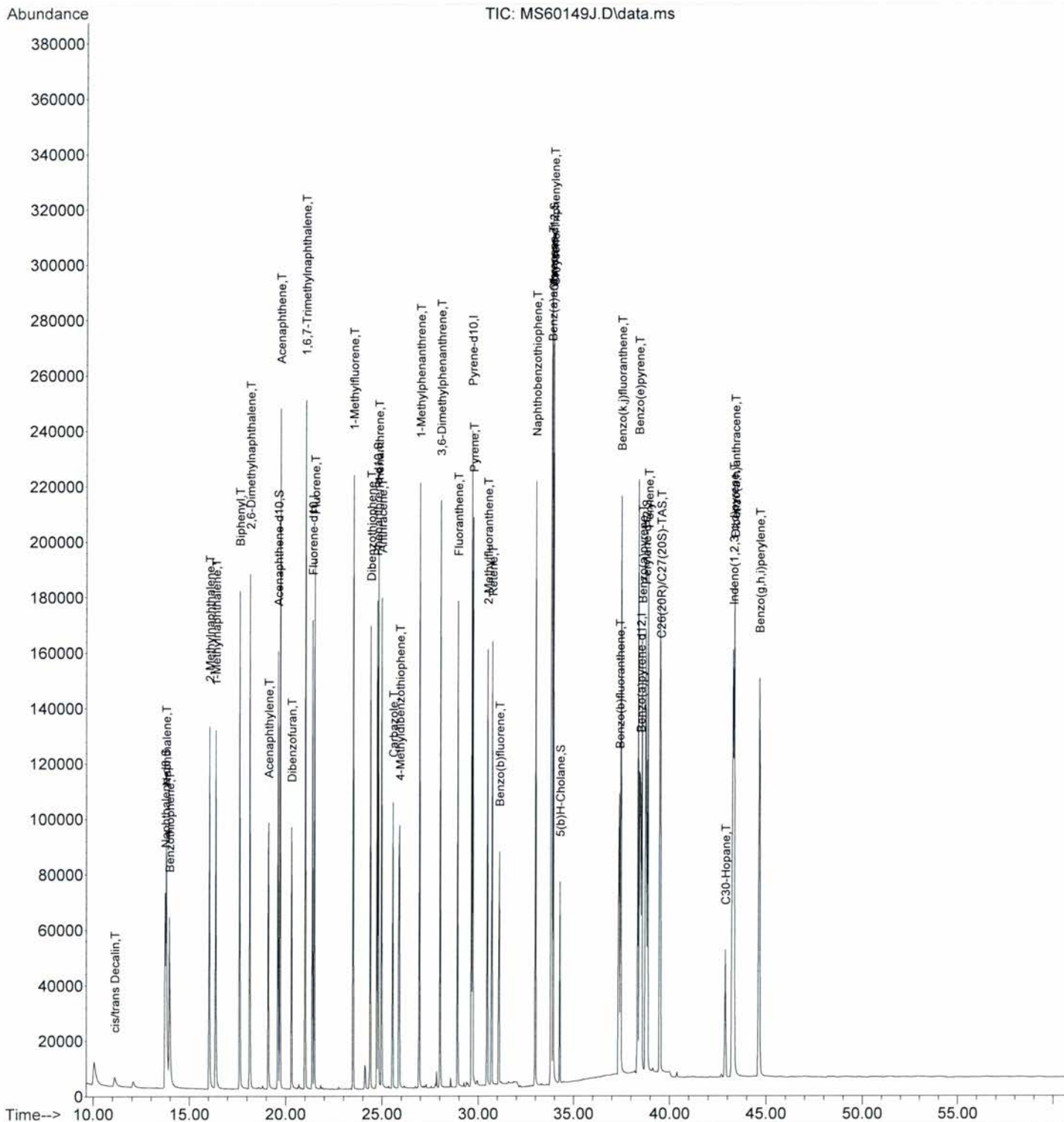
Quant Time: Sep 16 22:32:58 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration

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

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

Data Path : F:\MS60149\
Data File : MS60149J.D
Acq On : 14 Sep 2013 4:39 am
Operator : MAG
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 16 22:32:58 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : F:\MS60149\
 Data File : MS60149L.D
 Acq On : 14 Sep 2013 4:19 pm
 Operator : MAG
 Sample : AR-WKCC-250-038
 Misc :
 ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 16 22:24:32 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Fluorene-d10	1.000	1.000	0.0	98	0.00
2 S	Naphthalene-d8	1.567	1.407	10.2	91	0.00
3 T	cis/trans Decalin	0.264	0.263	0.4	94	0.00
4 un	C1-Decalins	0.264	0.000	100.0#	0#	-12.23#
5 un	C2-Decalins	0.264	0.000	100.0#	0#	-14.74#
6 un	C3-Decalins	0.264	0.000	100.0#	0#	-16.16#
7 un	C4-Decalins	0.264	0.000	100.0#	0#	-18.61#
8 T	Naphthalene	1.703	1.525	10.5	93	0.00
9 T	2-Methylnaphthalene	1.146	0.988	13.8	89	0.00
10 T	1-Methylnaphthalene	1.090	0.946	13.2	89	0.00
11 T	2,6-Dimethylnaphthalene	1.060	0.969	8.6	97	0.00
12 T	1,6,7-Trimethylnaphthalene	1.082	0.979	9.5	96	0.00
13 un	C2-Naphthalenes	1.703	0.000	100.0#	0#	-18.14#
14 un	C3-Naphthalenes	1.703	0.000	100.0#	0#	-20.31#
15 un	C4-Naphthalenes	1.703	0.000	100.0#	0#	-21.68#
16 T	Benzothiophene	1.359	1.212	10.8	92	0.00
17 un	C1-Benzothiophenes	1.359	0.000	100.0#	0#	-15.46#
18 un	C2-Benzothiophenes	1.359	0.000	100.0#	0#	-18.61#
19 un	C3-Benzothiophenes	1.359	0.000	100.0#	0#	-20.23#
20 un	C4-Benzothiophenes	1.359	0.000	100.0#	0#	-22.18#
21 S	Acenaphthene-d10	1.001	0.910	9.1	96	0.00
22 T	Biphenyl	1.520	1.395	8.2	97	0.00
23 T	Acenaphthylene	1.835	1.630	11.2	93	0.00
24 T	Acenaphthene	1.109	0.955	13.9	90	0.00
25 T	Dibenzofuran	1.608	1.491	7.3	98	0.00
26 T	Fluorene	1.367	1.107	19.0	85	0.00
27 T	1-Methylfluorene	0.863	0.864	-0.1	102	0.00
28 un	C1-Fluorenes	1.367	0.000	100.0#	0#	-23.47#
29 un	C2-Fluorenes	1.367	0.000	100.0#	0#	-25.90#
30 un	C3-Fluorenes	1.367	0.000	100.0#	0#	-26.42#
31 I	Pyrene-d10	1.000	1.000	0.0	93	0.00
32 S	Phenanthrene-d10	0.956	0.928	2.9	93	0.00
33 T	Carbazole	0.766	0.618	19.3	85	0.00
34 T	Dibenzothiophene	1.076	0.904	16.0	83	0.00
35 T	4-Methyldibenzothiophene	0.643	0.518	19.4	86	-0.03
36 un	2/3-Methyldibenzothiophene	0.643	0.000	100.0#	0#	-26.18#
37 un	1-Methyldibenzothiophene	0.643	0.000	100.0#	0#	-26.52#
38 un	C2-Dibenzothiophenes	1.076	0.000	100.0#	0#	-27.29#
39 un	C3-Dibenzothiophenes	1.076	0.000	100.0#	0#	-28.81#
40 un	C4-Dibenzothiophenes	1.076	0.000	100.0#	0#	-30.30#
41 T	Phenanthrene	0.929	1.015	-9.3	107	0.00
42 T	Anthracene	0.865	0.926	-7.1	106	0.00
43 un	3-Methylphenanthrene	0.878	0.000	100.0#	0#	-26.73#
44 un	2-Methylphenanthrene	0.878	0.000	100.0#	0#	-26.73#
45 un	2-Methylanthracene	0.878	0.000	100.0#	0#	-26.94#
46 un	4/9-Methylphenanthrene	0.878	0.000	100.0#	0#	-26.73#
47 T	1-Methylphenanthrene	0.878	0.667	24.0	76	0.00

Evaluate Continuing Calibration Report

Data Path : F:\MS60149\
 Data File : MS60149L.D
 Acq On : 14 Sep 2013 4:19 pm
 Operator : MAG
 Sample : AR-WKCC-250-038
 Misc :
 ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 16 22:24:32 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
48 T	3,6-Dimethylphenanthrene	0.683	0.734	-7.5	106	0.00
49 T	Retene	0.438	0.325	25.8#	74	0.00
50 un	C2-Phenanthrenes/Anthracene	0.929	0.000	100.0#	0#	-28.57#
51 un	C3-Phenanthrenes/Anthracene	0.929	0.000	100.0#	0#	-28.84#
52 un	C4-Phenanthrenes/Anthracene	0.929	0.000	100.0#	0#	-31.79#
53 T	Naphthobenzothiophene	1.502	1.138	24.2	75	0.00
54 un	C1-Naphthobenzothiophenes	1.502	0.000	100.0#	0#	-34.31#
55 un	C2-Naphthobenzothiophenes	1.502	0.000	100.0#	0#	-35.86#
56 un	C3-Naphthobenzothiophenes	1.502	0.000	100.0#	0#	-37.49#
57 un	C4-Naphthobenzothiophenes	1.502	0.000	100.0#	0#	-38.89#
58 T	Fluoranthene	1.108	1.155	-4.2	103	0.00
59 T	Pyrene	1.475	1.130	23.4	77	0.00
60 T	2-Methylfluoranthene	0.966	0.684	29.2#	71	0.00
61 T	Benzo(b) fluorene	0.730	0.534	26.8#	75	-0.03
62 un	C1-Fluoranthenes/Pyrenes	1.108	0.000	100.0#	0#	-30.47#
63 un	C2-Fluoranthenes/Pyrenes	1.108	0.000	100.0#	0#	-32.52#
64 un	C3-Fluoranthenes/Pyrenes	1.108	0.000	100.0#	0#	-34.27#
65 un	C4-Fluoranthenes/Pyrenes	1.108	0.000	100.0#	0#	-34.03#
66 S	Chrysene-d12	1.246	1.267	-1.7	93	0.00
67 T	Benz(a)anthracene	1.416	1.114	21.3	77	0.00
68 T	Chrysene/Triphenylene	1.215	1.352	-11.3	103	0.00
69 un	C1-Chrysenes	1.215	0.000	100.0#	0#	-35.63#
70 un	C2-Chrysenes	1.215	0.000	100.0#	0#	-36.44#
71 un	C3-Chrysenes	1.215	0.000	100.0#	0#	-38.15#
72 un	C4-Chrysenes	1.215	0.000	100.0#	0#	-39.55#
73 I	Benzo(a)pyrene-d12	1.000	1.000	0.0	76	-0.04
74 un	C29-Hopane	0.422	0.000	100.0#	0#	-41.26#
75 un	18a-Oleanane	0.422	0.000	100.0#	0#	-42.15#
76 T	C30-Hopane	0.422	0.441	-4.5	80	0.00
77 T	Benzo(b)fluoranthene	1.292	1.267	1.9	84	-0.04
78 T	Benzo(k,j)fluoranthene	1.409	1.148	18.5	64	0.00
79 un	Benzo(a)fluoranthene	1.409	0.000	100.0#	0#	-37.37#
80 T	Benzo(e)pyrene	1.401	1.434	-2.4	80	0.00
81 T	Benzo(a)pyrene	1.338	1.213	9.3	73	0.00
82 T	Indeno(1,2,3-c,d)pyrene	1.611	1.531	5.0	77	0.00
83 T	Dibenzo(a,h)anthracene	1.275	1.225	3.9	78	0.00
84 un	C1-Dibenzo(a,h)anthracenes	1.275	0.000	100.0#	0#	-49.37#
85 un	C2-Dibenzo(a,h)anthracenes	1.275	0.000	100.0#	0#	-51.44#
86 un	C3-Dibenzo(a,h)anthracenes	1.275	0.000	100.0#	0#	-50.78#
87 T	Benzo(g,h,i)perylene	1.429	1.359	4.9	77	-0.04
88 S	Perylene-d12	1.161	1.159	0.2	84	-0.04
89 T	Perylene	1.402	1.289	8.1	74	0.00
90 S	5(b)H-Cholane	0.317	0.307	3.2	77	0.00
91 un	C20-TAS	1.658	0.000	100.0#	0#	-33.30#
92 un	C21-TAS	1.658	0.000	100.0#	0#	-34.27#
93 un	C26(20S)-TAS	1.658	0.000	100.0#	0#	-38.77#
94 T	C26(20R)/C27(20S)-TAS	1.658	1.513	8.7	75	-0.04

Evaluate Continuing Calibration Report

Data Path : F:\MS60149\
 Data File : MS60149L.D
 Acq On : 14 Sep 2013 4:19 pm
 Operator : MAG
 Sample : AR-WKCC-250-038
 Misc :
 ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 16 22:24:32 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

	Compound	AvgRF	CCRF	%Dev Area	% Dev(min)
95 un	C28(20S)-TAS	1.658	0.000	100.0#	0# -40.08#
96 un	C27(20R)-TAS	1.658	0.000	100.0#	0# -40.74#
97 un	C28(20R)-TAS	1.658	0.000	100.0#	0# -41.67#

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data Path : F:\MS60149\
 Data File : MS60149L.D
 Acq On : 14 Sep 2013 4:19 pm
 Operator : MAG
 Sample : AR-WKCC-250-038
 Misc :
 ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 16 22:24:32 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Fluorene-d10	21.372	176	185212m	251.05		0.00
31) Pyrene-d10	29.641	212	380230m	250.63		0.00
73) Benzo(a)pyrene-d12	38.420	264	343594m	250.32		-0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.737	136	259557m	224.59		0.00
21) Acenaphthene-d10	19.589	164	167972m	227.56		0.00
32) Phenanthrene-d10	24.722	188	352201m	242.82		0.00
66) Chrysene-d12	33.841	240	480684m	254.25		0.00
88) Perylene-d12	38.731	264	397728m	249.63		-0.04
90) 5(b)H-Cholane	34.268	217	105467m	242.17		0.00
Target Compounds						
						Qvalue
3) cis/trans Decalin	11.090	138	47965m	246.44		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.793	128	281219m	223.84		
9) 2-Methylnaphthalene	16.050	142	182380m	215.70		
10) 1-Methylnaphthalene	16.384	142	174236m	216.72		
11) 2,6-Dimethylnaphthalene	18.140	156	178794m	228.65		
12) 1,6,7-Trimethylnaphtha...	21.010	170	180650m	226.38		
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	13.960	134	222117m	221.53		
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	254950m	227.34		
23) Acenaphthylene	19.087	152	298156m	220.24		
24) Acenaphthene	19.700	154	176409m	215.67		
25) Dibenzofuran	20.285	168	273584m	230.55		
26) Fluorene	21.484	166	204531m	202.79		
27) 1-Methylfluorene	23.475	180	160493m	252.12		
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	25.553	167	232116m	199.67		
34) Dibenzothiophene	24.376	184	337903m	207.06		
35) 4-Methyldibenzothiophene	25.865	198	198211m	203.26		
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	24.791	178	381476m	270.58		
42) Anthracene	24.965	178	352338m	268.50		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : F:\MS60149\
 Data File : MS60149L.D
 Acq On : 14 Sep 2013 4:19 pm
 Operator : MAG
 Sample : AR-WKCC-250-038
 Misc :
 ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 16 22:24:32 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 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	26.939	192	250304m	187.90		
48) 3,6-Dimethylphenanthrene	28.013	206	278606m	269.03		
49) Retene	30.715	234	110166m	165.79		
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	32.988	234	434116m	190.49		
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.913	202	438559m	260.90		
59) Pyrene	29.710	202	428404m	191.44		
60) 2-Methylfluoranthene	30.472	216	261190m	178.23		
61) Benzo(b)fluorene	31.061	216	204340m	184.42		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.803	228	421776m	196.35		
68) Chrysene/Triphenylene	33.919	228	509671m	276.48		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.884	191	151364m	261.21		
77) Benzo(b)fluoranthene	37.334	252	435794m	245.81		
78) Benzo(k,j)fluoranthene	37.450	252	392280m	202.80		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.343	252	490096m	254.88		
81) Benzo(a)pyrene	38.537	252	415332m	226.08		
82) Indeno(1,2,3-c,d)pyrene	43.253	276	516315m	233.42		
83) Dibenzo(a,h)anthracene	43.326	278	416738m	238.09		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.617	276	462161m	235.68		
89) Perylene	38.847	252	442685m	229.99		
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	39.468	231	519030m	228.11		
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	

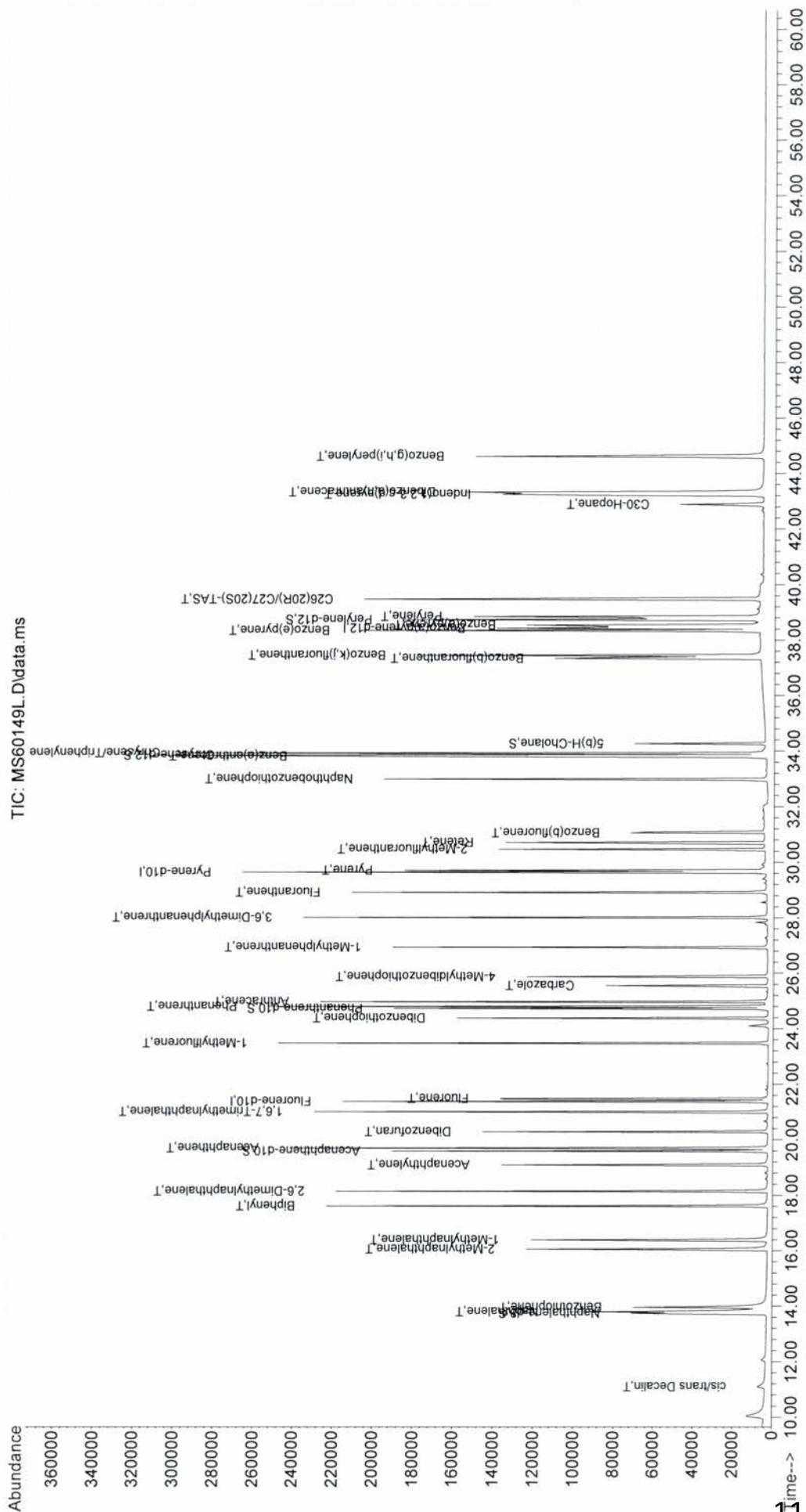
Data Path : F:\MS60149\
Data File : MS60149L.D
Acq On : 14 Sep 2013 4:19 pm
Operator : MAG
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 16 22:24:32 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration

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

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

Data Path : F:\MS60149\
 Data File : MS60149L.D
 Acq On : 14 Sep 2013 4:19 pm
 Operator : MAG
 Sample : AR-WKCC-250-038
 Misc :
 ALS Vial : 20 Sample Multiplier: 1
 Quant Time: Sep 16 22:24:32 2013
 Quant Method : C:\GCM56\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : F:\MS60149\
 Data File : MS60149M.D
 Acq On : 15 Sep 2013 1:37 am
 Operator : MAG
 Sample : AR-WKCC-250-038
 Misc :
 ALS Vial : 28 Sample Multiplier: 1

Quant Time: Sep 16 22:31:00 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Fluorene-d10	1.000	1.000	0.0	101	0.00
2 S	Naphthalene-d8	1.567	1.397	10.8	93	0.00
3 T	cis/trans Decalin	0.264	0.258	2.3	95	0.00
4 un	C1-Decalins	0.264	0.000	100.0#	0#	-12.23#
5 un	C2-Decalins	0.264	0.000	100.0#	0#	-14.74#
6 un	C3-Decalins	0.264	0.000	100.0#	0#	-16.16#
7 un	C4-Decalins	0.264	0.000	100.0#	0#	-18.61#
8 T	Naphthalene	1.703	1.501	11.9	95	0.00
9 T	2-Methylnaphthalene	1.146	0.992	13.4	93	0.00
10 T	1-Methylnaphthalene	1.090	0.946	13.2	92	0.00
11 T	2,6-Dimethylnaphthalene	1.060	0.945	10.8	98	0.00
12 T	1,6,7-Trimethylnaphthalene	1.082	0.982	9.2	99	0.00
13 un	C2-Naphthalenes	1.703	0.000	100.0#	0#	-18.14#
14 un	C3-Naphthalenes	1.703	0.000	100.0#	0#	-20.31#
15 un	C4-Naphthalenes	1.703	0.000	100.0#	0#	-21.68#
16 T	Benzothiophene	1.359	1.211	10.9	95	0.00
17 un	C1-Benzothiophenes	1.359	0.000	100.0#	0#	-15.46#
18 un	C2-Benzothiophenes	1.359	0.000	100.0#	0#	-18.61#
19 un	C3-Benzothiophenes	1.359	0.000	100.0#	0#	-20.23#
20 un	C4-Benzothiophenes	1.359	0.000	100.0#	0#	-22.18#
21 S	Acenaphthene-d10	1.001	0.905	9.6	98	0.00
22 T	Biphenyl	1.520	1.373	9.7	99	0.00
23 T	Acenaphthylene	1.835	1.600	12.8	94	0.00
24 T	Acenaphthene	1.109	0.967	12.8	94	0.00
25 T	Dibenzofuran	1.608	1.453	9.6	99	0.00
26 T	Fluorene	1.367	1.125	17.7	89	0.00
27 T	1-Methylfluorene	0.863	0.860	0.3	105	0.00
28 un	C1-Fluorenes	1.367	0.000	100.0#	0#	-23.47#
29 un	C2-Fluorenes	1.367	0.000	100.0#	0#	-25.90#
30 un	C3-Fluorenes	1.367	0.000	100.0#	0#	-26.42#
31 I	Pyrene-d10	1.000	1.000	0.0	96	0.00
32 S	Phenanthrene-d10	0.956	0.943	1.4	97	0.00
33 T	Carbazole	0.766	0.627	18.1	89	0.00
34 T	Dibenzothiophene	1.076	0.921	14.4	87	0.00
35 T	4-Methyldibenzothiophene	0.643	0.522	18.8	89	-0.04
36 un	2/3-Methyldibenzothiophene	0.643	0.000	100.0#	0#	-26.18#
37 un	1-Methyldibenzothiophene	0.643	0.000	100.0#	0#	-26.52#
38 un	C2-Dibenzothiophenes	1.076	0.000	100.0#	0#	-27.29#
39 un	C3-Dibenzothiophenes	1.076	0.000	100.0#	0#	-28.81#
40 un	C4-Dibenzothiophenes	1.076	0.000	100.0#	0#	-30.30#
41 T	Phenanthrene	0.929	1.008	-8.5	109	0.00
42 T	Anthracene	0.865	0.935	-8.1	109	0.00
43 un	3-Methylphenanthrene	0.878	0.000	100.0#	0#	-26.73#
44 un	2-Methylphenanthrene	0.878	0.000	100.0#	0#	-26.73#
45 un	2-Methylanthracene	0.878	0.000	100.0#	0#	-26.94#
46 un	4/9-Methylphenanthrene	0.878	0.000	100.0#	0#	-26.73#
47 T	1-Methylphenanthrene	0.878	0.695	20.8	81	0.00

Evaluate Continuing Calibration Report

Data Path : F:\MS60149\
 Data File : MS60149M.D
 Acq On : 15 Sep 2013 1:37 am
 Operator : MAG
 Sample : AR-WKCC-250-038
 Misc :
 ALS Vial : 28 Sample Multiplier: 1

Quant Time: Sep 16 22:31:00 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
48 T	3,6-Dimethylphenanthrene	0.683	0.744	-8.9	110	0.00
49 T	Retene	0.438	0.334	23.7	78	0.00
50 un	C2-Phenanthrenes/Anthracene	0.929	0.000	100.0#	0#	-28.57#
51 un	C3-Phenanthrenes/Anthracene	0.929	0.000	100.0#	0#	-28.84#
52 un	C4-Phenanthrenes/Anthracene	0.929	0.000	100.0#	0#	-31.79#
53 T	Naphthobenzothiophene	1.502	1.170	22.1	79	0.00
54 un	C1-Naphthobenzothiophenes	1.502	0.000	100.0#	0#	-34.31#
55 un	C2-Naphthobenzothiophenes	1.502	0.000	100.0#	0#	-35.86#
56 un	C3-Naphthobenzothiophenes	1.502	0.000	100.0#	0#	-37.49#
57 un	C4-Naphthobenzothiophenes	1.502	0.000	100.0#	0#	-38.89#
58 T	Fluoranthene	1.108	1.189	-7.3	108	0.00
59 T	Pyrene	1.475	1.184	19.7	83	0.00
60 T	2-Methylfluoranthene	0.966	0.725	24.9	77	0.00
61 T	Benzo(b) fluorene	0.730	0.554	24.1	80	-0.04
62 un	C1-Fluoranthenes/Pyrenes	1.108	0.000	100.0#	0#	-30.47#
63 un	C2-Fluoranthenes/Pyrenes	1.108	0.000	100.0#	0#	-32.52#
64 un	C3-Fluoranthenes/Pyrenes	1.108	0.000	100.0#	0#	-34.27#
65 un	C4-Fluoranthenes/Pyrenes	1.108	0.000	100.0#	0#	-34.03#
66 S	Chrysene-d12	1.246	1.292	-3.7	97	0.00
67 T	Benz(a)anthracene	1.416	1.135	19.8	80	0.00
68 T	Chrysene/Triphenylene	1.215	1.378	-13.4	108	0.00
69 un	C1-Chrysenes	1.215	0.000	100.0#	0#	-35.63#
70 un	C2-Chrysenes	1.215	0.000	100.0#	0#	-36.44#
71 un	C3-Chrysenes	1.215	0.000	100.0#	0#	-38.15#
72 un	C4-Chrysenes	1.215	0.000	100.0#	0#	-39.55#
73 I	Benzo(a)pyrene-d12	1.000	1.000	0.0	81	-0.04
74 un	C29-Hopane	0.422	0.000	100.0#	0#	-41.26#
75 un	18a-Oleanane	0.422	0.000	100.0#	0#	-42.15#
76 T	C30-Hopane	0.422	0.440	-4.3	85	0.00
77 T	Benzo(b)fluoranthene	1.292	1.282	0.8	90	-0.04
78 T	Benzo(k,j)fluoranthene	1.409	1.122	20.4	67	0.00
79 un	Benzo(a)fluoranthene	1.409	0.000	100.0#	0#	-37.37#
80 T	Benzo(e)pyrene	1.401	1.443	-3.0	86	0.00
81 T	Benzo(a)pyrene	1.338	1.202	10.2	77	0.00
82 T	Indeno(1,2,3-c,d)pyrene	1.611	1.516	5.9	81	0.00
83 T	Dibenzo(a,h)anthracene	1.275	1.200	5.9	82	0.00
84 un	C1-Dibenzo(a,h)anthracenes	1.275	0.000	100.0#	0#	-49.37#
85 un	C2-Dibenzo(a,h)anthracenes	1.275	0.000	100.0#	0#	-51.44#
86 un	C3-Dibenzo(a,h)anthracenes	1.275	0.000	100.0#	0#	-50.78#
87 T	Benzo(g,h,i)perylene	1.429	1.356	5.1	81	-0.04
88 S	Perylene-d12	1.161	1.149	1.0	88	-0.04
89 T	Perylene	1.402	1.274	9.1	78	0.00
90 S	5(b)H-Cholane	0.317	0.294	7.3	79	0.00
91 un	C20-TAS	1.658	0.000	100.0#	0#	-33.30#
92 un	C21-TAS	1.658	0.000	100.0#	0#	-34.27#
93 un	C26(20S)-TAS	1.658	0.000	100.0#	0#	-38.77#
94 T	C26(20R)/C27(20S)-TAS	1.658	1.540	7.1	81	-0.04

Evaluate Continuing Calibration Report

Data Path : F:\MS60149\
 Data File : MS60149M.D
 Acq On : 15 Sep 2013 1:37 am
 Operator : MAG
 Sample : AR-WKCC-250-038
 Misc :
 ALS Vial : 28 Sample Multiplier: 1

Quant Time: Sep 16 22:31:00 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
95 un	C28(20S)-TAS	1.658	0.000	100.0#	0#	-40.08#
96 un	C27(20R)-TAS	1.658	0.000	100.0#	0#	-40.74#
97 un	C28(20R)-TAS	1.658	0.000	100.0#	0#	-41.67#

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data Path : F:\MS60149\
 Data File : MS60149M.D
 Acq On : 15 Sep 2013 1:37 am
 Operator : MAG
 Sample : AR-WKCC-250-038
 Misc :
 ALS Vial : 28 Sample Multiplier: 1

Quant Time: Sep 16 22:31:00 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Fluorene-d10	21.369	176	191477m	251.05		0.00
31) Pyrene-d10	29.640	212	390253m	250.63		0.00
73) Benzo(a)pyrene-d12	38.420	264	365406m	250.32		-0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.734	136	266522m	223.07		0.00
21) Acenaphthene-d10	19.586	164	172650m	226.24		0.00
32) Phenanthrene-d10	24.721	188	367281m	246.71		0.00
66) Chrysene-d12	33.841	240	503002m	259.22		0.00
88) Perylene-d12	38.730	264	419300m	247.46		-0.04
90) 5(b)H-Cholane	34.268	217	107420m	231.93		0.00
Target Compounds						
						Qvalue
3) cis/trans Decalin	11.087	138	48599m	241.52		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.790	128	286300m	220.43		
9) 2-Methylnaphthalene	16.047	142	189345m	216.61		
10) 1-Methylnaphthalene	16.381	142	180166m	216.76		
11) 2,6-Dimethylnaphthalene	18.137	156	180170m	222.87		
12) 1,6,7-Trimethylnaphtha...	21.007	170	187217m	226.94		
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.	d	
16) Benzothiophene	13.957	134	229444m	221.35		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.607	154	259444m	223.77		
23) Acenaphthylene	19.084	152	302632m	216.24		
24) Acenaphthene	19.697	154	184702m	218.42		
25) Dibenzofuran	20.282	168	275699m	224.73		
26) Fluorene	21.481	166	214956m	206.15		
27) 1-Methylfluorene	23.474	180	165138m	250.92		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.553	167	241742m	202.61		
34) Dibenzothiophene	24.375	184	353616m	211.13		
35) 4-Methyldibenzothiophene	25.865	198	204905m	204.73		
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.791	178	389051m	268.86		
42) Anthracene	24.964	178	365006m	271.01		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : F:\MS60149\
 Data File : MS60149M.D
 Acq On : 15 Sep 2013 1:37 am
 Operator : MAG
 Sample : AR-WKCC-250-038
 Misc :
 ALS Vial : 28 Sample Multiplier: 1

Quant Time: Sep 16 22:31:00 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 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	26.938	192	267423m	195.60		
48) 3,6-Dimethylphenanthrene	28.012	206	289915m	272.76		
49) Retene	30.714	234	116218m	170.41		
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	32.987	234	458432m	196.00		
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.913	202	463410m	268.60		
59) Pyrene	29.710	202	461091m	200.75		
60) 2-Methylfluoranthene	30.472	216	284228m	188.97		
61) Benzo(b) fluorene	31.060	216	217551m	191.30		
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	33.802	228	440853m	199.96		
68) Chrysene/Triphenylene	33.918	228	533276m	281.85		
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	42.883	191	160460m	260.38		
77) Benzo(b)fluoranthene	37.333	252	468672m	248.58		
78) Benzo(k,j)fluoranthene	37.450	252	407697m	198.19		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.342	252	524641m	256.55		
81) Benzo(a)pyrene	38.536	252	437667m	224.02		
82) Indeno(1,2,3-c,d)pyrene	43.252	276	543885m	231.21		
83) Dibenzo(a,h)anthracene	43.326	278	434146m	233.23		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.616	276	490479m	235.19		
89) Perylene	38.847	252	465209m	227.26		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.468	231	562126m	232.30		
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

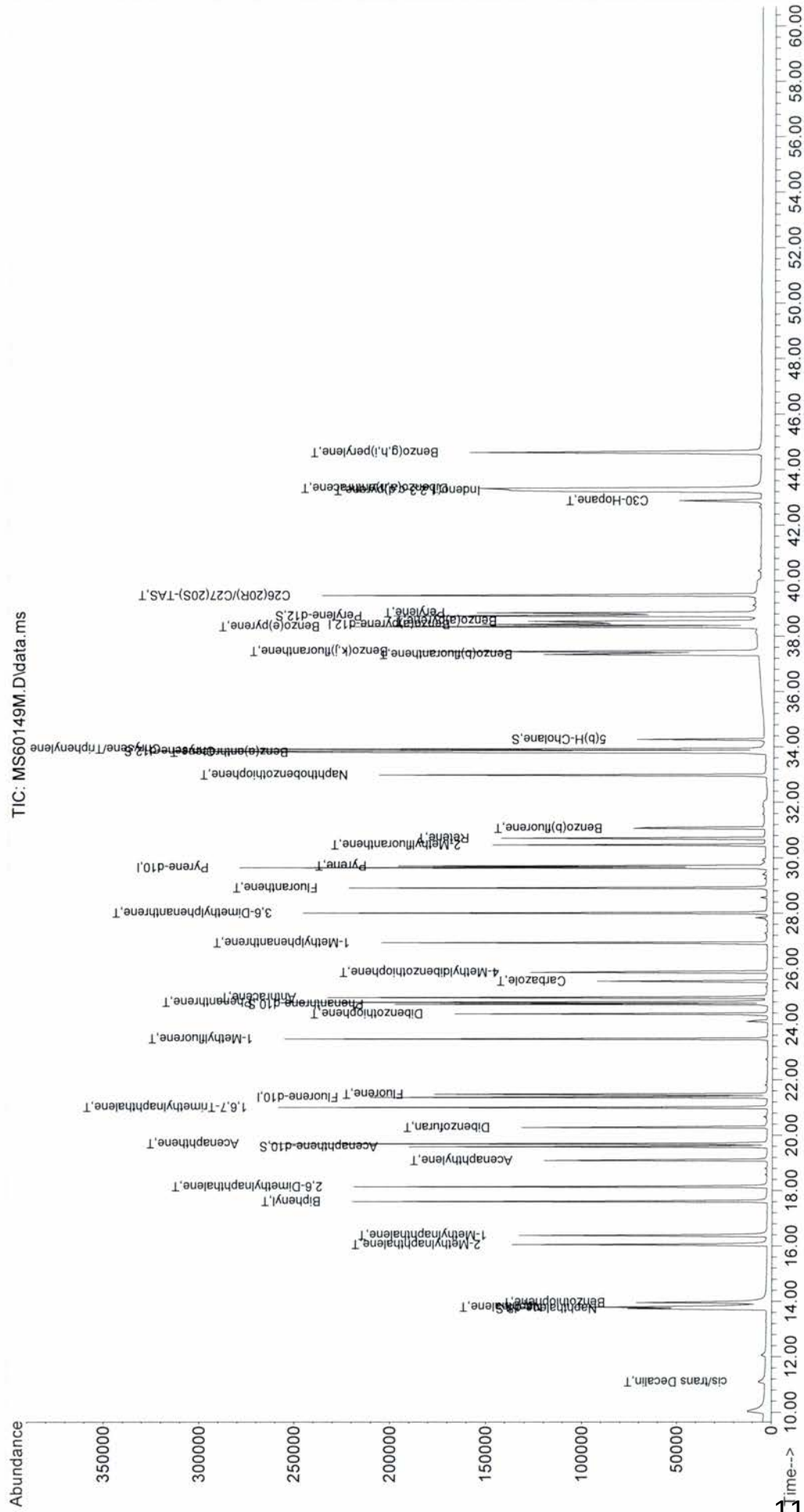
Data Path : F:\MS60149\
Data File : MS60149M.D
Acq On : 15 Sep 2013 1:37 am
Operator : MAG
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Sep 16 22:31:00 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration

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

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

Data Path : F:\MS60149\
Data File : MS60149M.D
Acq On : 15 Sep 2013 1:37 am
Operator : MAG
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 28 Sample Multiplier: 1
Quant Time: Sep 16 22:31:00 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration



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

Data File Name MS60149H.D
 Data File Path C:\GCMS6\MS60149\
 Operator MAG
 Date Acquired 9/14/2013 2:19
 Acq. Method File PAH-2012.M
 Sample Name AR-WKISSU-250-002
 Misc Info 0
 Instrument Name GCMS6
 Vial Number 8
 Sample Multiplier 1
 Sample Amount 0

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

Copy data below
 to Spread Sheet

MS60149H.D
 AR-WKISSU-250-002
 9/14/2013 2:19
 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-Methylantracene	0.00	0	0.0000	0.0000
46) 4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47) 1-Methylphenanthrene	0.00	0	0.0000	0.0000
48) 3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49) Retene	0.00	0	0.0000	0.0000
60) 2-Methylfluoranthene	0.00	0	0.0000	0.0000
61) Benzo(b)fluorene	0.00	0	0.0000	0.0000
74) C29-Hopane	0.00	0	0.0000	0.0000
75) 18a-Oleanane	0.00	0	0.0000	0.0000
76) C30-Hopane	0.00	0	0.0000	0.0000
91) C20-TAS	0.00	0	0.0000	0.0000
92) C21-TAS	0.00	0	0.0000	0.0000
93) C26(20S)-TAS	0.00	0	0.0000	0.0000
94) C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95) C28(20S)-TAS	0.00	0	0.0000	0.0000
96) C27(20R)-TAS	0.00	0	0.0000	0.0000
97) C28(20R)-TAS	0.00	0	0.0000	0.0000
Surrogate Standards				
2) Naphthalene-d8	13.74	263411	228.56	91.38
21) Acenaphthene-d10	19.59	166787	226.59	90.58
32) Phenanthrene-d10	24.72	355918	230.63	92.18
66) Chrysene-d12	33.84	478063	237.67	95.05
88) Perylene-d12	38.73	410838	237.74	95.09
90) 5(b)H-Cholane	34.27	126091	266.95	106.78
Internal Standards				
1) Fluorene-d10	21.37	184692	251.05	
31) Pyrene-d10	29.64	404539	250.63	
73) Benzo(a)pyrene-d12	38.42	372661	250.33	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : MS60149H.D
 Acq On : 14 Sep 2013 2:19 am
 Operator : MAG
 Sample : AR-WKISSU-250-002
 Misc :
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 16 22:35:36 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Fluorene-d10	21.372	176	184692m	251.05		0.00
31) Pyrene-d10	29.640	212	404539m	250.63		0.00
73) Benzo(a)pyrene-d12	38.420	264	372661m	250.32		-0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.736	136	263411m	228.56		0.00
21) Acenaphthene-d10	19.588	164	166787m	226.59		0.00
32) Phenanthrene-d10	24.722	188	355918m	230.63		0.00
66) Chrysene-d12	33.841	240	478063m	237.67		0.00
88) Perylene-d12	38.730	264	410838m	237.74		-0.04
90) 5(b)H-Cholane	34.268	217	126091m	266.95		0.00
Target Compounds						
						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	0.000		0	N.D.	d	
9) 2-Methylnaphthalene	0.000		0	N.D.	d	
10) 1-Methylnaphthalene	0.000		0	N.D.	d	
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.	d	
16) Benzothiophene	0.000		0	N.D.	d	
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	0.000		0	N.D.	d	
23) Acenaphthylene	0.000		0	N.D.	d	
24) Acenaphthene	0.000		0	N.D.	d	
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	0.000		0	N.D.	d	
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	0.000		0	N.D.	d	
35) 4-Methyldibenzothiophene	0.000		0	N.D.	d	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	0.000		0	N.D.	d	
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : MS60149H.D
 Acq On : 14 Sep 2013 2:19 am
 Operator : MAG
 Sample : AR-WKISSU-250-002
 Misc :
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 16 22:35:36 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 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-Methylantracene	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	

Data Path : C:\msdchem\2\data\MS60149\
Data File : MS60149H.D
Acq On : 14 Sep 2013 2:19 am
Operator : MAG
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

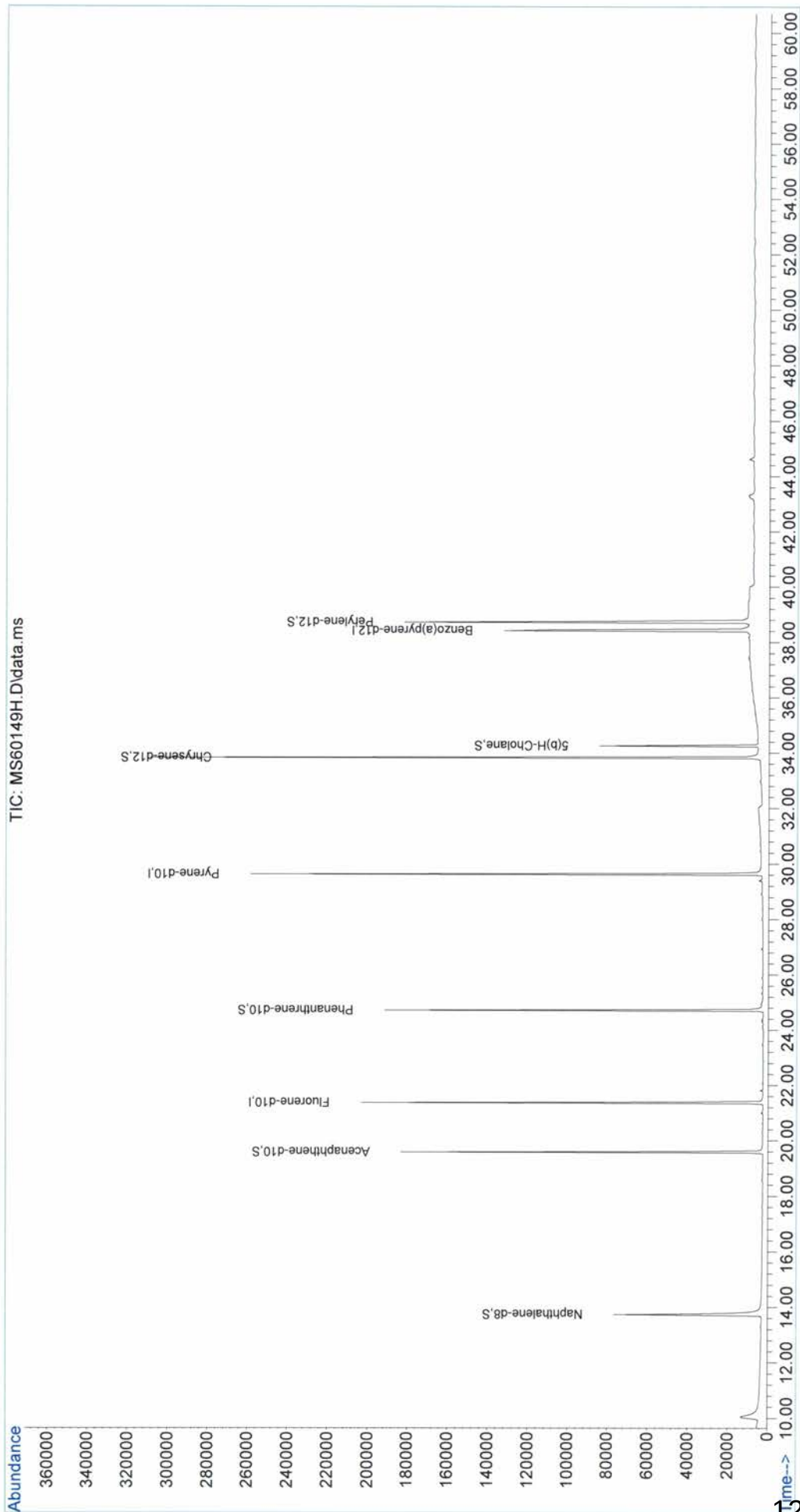
Quant Time: Sep 16 22:35:36 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration

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

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

Data Path : C:\msdchem\2\data\MS60149\
Data File : MS60149H.D
Acq On : 14 Sep 2013 2:19 am
Operator : MAG
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 16 22:35:36 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration



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

Data File Name MS60149K.D
 Data File Path C:\msdchem\2\data\MS60149\
 Operator MAG
 Date Acquired 9/14/2013 5:48
 Acq. Method File PAH-2012.M
 Sample Name AR-SRM2779-WK-4.0-002
 Misc Info 0
 Instrument Name GCMS6
 Vial Number 11
 Sample Multiplier 0.24461
 Sample Amount 0

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

Copy data below
 to Spread Sheet

MS60149K.D
 R-SRM2779-WK-4.0-002
 9/14/2013 5:48
 PAH-2012.M
 4.088140305

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.11	743260	583.6688	666.9275
4)	C1-Decalins	12.62	1032050	810.4492	926.0574
5)	C2-Decalins	14.65	929018	729.5395	833.6062
6)	C3-Decalins	16.63	963114	756.3146	864.2006
7)	C4-Decalins	17.66	588698	462.2933	528.2381
8)	Naphthalene	13.79	4868500	592.3011	676.7911
9)+10)	C1-Naphthalenes	16.21	10672690	1298.4381	1483.6565
13)	C2-Naphthalenes	18.53	13817900	1681.0798	1920.8809
14)	C3-Naphthalenes	20.45	9750020	1186.1848	1355.3906
15)	C4-Naphthalenes	22.76	5325560	647.9058	740.3277
16)	Benzothiophene	14.01	44838	6.8350	7.8100
17)	C1-Benzothiophenes	15.57	203497	31.0207	35.4457
18)	C2-Benzothiophenes	18.55	176029	26.8337	30.6615
19)	C3-Benzothiophenes	20.25	197011	30.0320	34.3160
20)	C4-Benzothiophenes	22.04	202449	30.8610	35.2632
22)	Biphenyl	17.63	919011	125.2503	143.1169
23)	Acenaphthylene	19.11	58513	6.6063	7.5487
24)	Acenaphthene	19.70	49471	9.2442	10.5628
25)	Dibenzofuran	20.31	209829	27.0267	30.8820
26)	Fluorene	21.48	673055	101.9945	116.5438
28)	C1-Fluorenes	23.47	1335150	202.3274	231.1889
29)	C2-Fluorenes	25.24	2066700	313.1864	357.8615
30)	C3-Fluorenes	26.83	1397610	211.7926	242.0042
33)	Carbazole	25.55	41322	5.8504	6.6849
42)	Anthracene	24.96	28055	3.5187	4.0206
41)	Phenanthrene	24.83	1668940	194.8299	222.6218
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.72	4719180	550.9110	629.4968
50)	C2-Phenanthrenes/Anthracenes	28.39	5423530	633.1363	723.4513
51)	C3-Phenanthrenes/Anthracenes	29.95	3823270	446.3227	509.9894
52)	C4-Phenanthrenes/Anthracenes	31.79	1881180	219.6069	250.9332
34)	Dibenzothiophene	24.38	382368	38.5637	44.0647
35)+36)+37)	C1-Dibenzothiophenes	26.20	1014911	102.3589	116.9601
38)	C2-Dibenzothiophenes	27.98	1338780	135.0225	154.2831
39)	C3-Dibenzothiophenes	28.81	1145030	115.4818	131.9550
40)	C4-Dibenzothiophenes	30.89	582193	58.7169	67.0927
58)	Fluoranthene	28.95	48570	4.7556	5.4340
59)	Pyrene	29.71	139384	10.2511	11.7134
62)	C1-Fluoranthenes/Pyrenes	30.85	645784	63.2300	72.2495
63)	C2-Fluoranthenes/Pyrenes	32.37	1494550	146.3348	167.2090
64)	C3-Fluoranthenes/Pyrenes	34.04	1361940	133.3509	152.3730
65)	C4-Fluoranthenes/Pyrenes	35.20	993665	97.2919	111.1703
53)	Naphthobenzothiophene	32.99	251522	18.1652	20.7564
54)	C1-Naphthobenzothiophenes	34.15	526914	38.0542	43.4825
55)	C2-Naphthobenzothiophenes	35.86	783517	56.5864	64.6582
56)	C3-Naphthobenzothiophenes	37.26	529410	38.2345	43.6885
57)	C4-Naphthobenzothiophenes	38.26	232733	16.8082	19.2058
67)	Benz(a)anthracene	33.80	77281	5.9212	6.7659
68)	Chrysene/Triphenylene	33.92	371810	33.1953	37.9305
69)	C1-Chrysenes	35.16	1186500	105.9313	121.0421
70)	C2-Chrysenes	36.36	1559470	139.2303	159.0911
71)	C3-Chrysenes	38.07	1029580	91.9213	105.0336
72)	C4-Chrysenes	39.51	651817	58.1947	66.4960
77)	Benzo(b)fluoranthene	37.37	70770	4.3307	4.9484
78)	Benzo(k,j)fluoranthene	37.41	7696	0.4316	0.4932
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.34	147998	8.3500	9.5411
81)	Benzo(a)pyrene	38.54	20140	1.1893	1.3590
89)	Perylene	38.85	9989	0.5630	0.6433
82)	Indeno(1,2,3-c,d)pyrene	43.29	11983	0.5877	0.6716
83)	Dibenzo(a,h)anthracene	43.33	9868	0.6116	0.6989
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.65	27420	1.5169	1.7333

# Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	6409700	1158.6442	1323.9214
10) 1-Methylnaphthalene	16.38	4262990	810.4247	926.0294
11) 2,6-Dimethylnaphthalene	18.19	3743850	731.7777	836.1637
12) 1,6,7-Trimethylnaphthalene	21.01	1040340	199.2654	227.6900
27) 1-Methylfluorene	23.47	639268	153.4871	175.3816
35) 4-Methyldibenzothiophene	25.90	588319	99.2943	113.4583
36) 2/3-Methyldibenzothiophene	26.18	231790	39.1207	44.7012
37) 1-Methyldibenzothiophene	26.52	194802	32.8780	37.5680
43) 3-Methylphenanthrene	26.49	1211840	149.7253	171.0832
44) 2-Methylphenanthrene	26.56	1052820	130.0777	148.6329
45) 2-Methylantracene	26.73	81250	10.0386	11.4705
46) 4/9-Methylphenanthrene	26.87	1299460	160.5498	183.4517
47) 1-Methylphenanthrene	26.94	1073810	132.6708	151.5959
48) 3,6-Dimethylphenanthrene	28.01	212527	33.7760	38.5940
49) Retene	30.71	27827	6.8924	7.8756
60) 2-Methylfluoranthene	30.47	51821	5.8200	6.6502
61) Benzo(b)fluorene	31.10	107868	16.0227	18.3083
74) C29-Hopane	40.82	115886	21.6963	24.7912
75) 18a-Oleanane	0.00	0	0.0000	0.0000
76) C30-Hopane	42.18	183742	34.4005	39.3076
91) C20-TAS	33.41	48577	2.3161	2.6465
92) C21-TAS	34.50	55481	2.6453	3.0226
93) C26(20S)-TAS	38.61	59808	2.8516	3.2584
94) C26(20R)/C27(20S)-TAS	39.55	193100	9.2069	10.5202
95) C28(20S)-TAS	40.30	143076	6.8218	7.7949
96) C27(20R)-TAS	40.78	113607	5.4167	6.1894
97) C28(20R)-TAS	41.92	102931	4.9077	5.6078
Surrogate Standards				
2) Naphthalene-d8	13.73	412051	54.49	89.07
21) Acenaphthene-d10	19.61	272373	56.40	92.17
32) Phenanthrene-d10	24.72	472023	53.56	87.52
66) Chrysene-d12	33.84	612142	53.29	87.13
88) Perylene-d12	38.77	802124	54.62	89.30
90) 5(b)H-Cholane	34.27	207194	51.61	84.40
Internal Standards				
1) Fluorene-d10	21.40	296413	61.41	
31) Pyrene-d10	29.64	565109	61.31	
73) Benzo(a)pyrene-d12	38.46	774709	61.23	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : MS60149K.D
 Acq On : 14 Sep 2013 5:48 am
 Operator : MAG
 Sample : AR-SRM2779-WK-4.0-002
 Misc :
 ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Sep 17 07:16:06 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Fluorene-d10	21.397	176	296413m	251.05		0.02
31) Pyrene-d10	29.641	212	565109m	250.63		0.00
73) Benzo(a)pyrene-d12	38.459	264	774709m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.734	136	412051m	54.49		0.00
21) Acenaphthene-d10	19.613	164	272373m	56.40		0.02
32) Phenanthrene-d10	24.722	188	472023m	53.56		0.00
66) Chrysene-d12	33.841	240	612142m	53.29		0.00
88) Perylene-d12	38.769	264	802124m	54.62		0.00
90) 5(b)H-Cholane	34.268	217	207194m	51.61		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.114	138	743260m	583.67		
4) C1-Decalins	12.619	152	1032049m	810.45		
5) C2-Decalins	14.653	166	929018m	729.54		
6) C3-Decalins	16.632	180	963114m	756.31		
7) C4-Decalins	17.663	194	588698m	462.29		
8) Naphthalene	13.789	128	4868496m	592.30		
9) 2-Methylnaphthalene	16.047	142	6409698m	1158.64		
10) 1-Methylnaphthalene	16.381	142	4262985m	810.42		
11) 2,6-Dimethylnaphthalene	18.192	156	3743852m	731.78		
12) 1,6,7-Trimethylnaphtha...	21.007	170	1040343m	199.27		
13) C2-Naphthalenes	18.527	156	13817866m	1681.08		
14) C3-Naphthalenes	20.449	170	9750021m	1186.19		
15) C4-Naphthalenes	22.762	184	5325555m	647.91		
16) Benzothiophene	14.012	134	44838m	6.84		
17) C1-Benzothiophenes	15.573	148	203497m	31.02		
18) C2-Benzothiophenes	18.554	162	176029m	26.83		
19) C3-Benzothiophenes	20.254	176	197011m	30.03		
20) C4-Benzothiophenes	22.038	190	202449m	30.86		
22) Biphenyl	17.635	154	919011m	125.25		
23) Acenaphthylene	19.112	152	58513m	6.61		
24) Acenaphthene	19.697	154	49471m	9.24		
25) Dibenzofuran	20.310	168	209829m	27.03		
26) Fluorene	21.480	166	673055m	101.99		
27) 1-Methylfluorene	23.475	180	639268m	153.49		
28) C1-Fluorenes	23.475	180	1335146m	202.33		
29) C2-Fluorenes	25.241	194	2066699m	313.19		
30) C3-Fluorenes	26.835	208	1397606m	211.79		
33) Carbazole	25.553	167	41322m	5.85		
34) Dibenzothiophene	24.375	184	382368m	38.56		
35) 4-Methyldibenzothiophene	25.900	198	588319m	99.29		
36) 2/3-Methyldibenzothiop...	26.177	198	231790m	39.12		
37) 1-Methyldibenzothiophene	26.523	198	194802m	32.88		
38) C2-Dibenzothiophenes	27.978	212	1338781m	135.02		
39) C3-Dibenzothiophenes	28.809	226	1145032m	115.48		
40) C4-Dibenzothiophenes	30.888	240	582193m	58.72		
41) Phenanthrene	24.826	178	1668937m	194.83		
42) Anthracene	24.964	178	28055m	3.52		
43) 3-Methylphenanthrene	26.488	192	1211844m	149.73		

Data Path : C:\msdchem\2\data\MS60149\
 Data File : MS60149K.D
 Acq On : 14 Sep 2013 5:48 am
 Operator : MAG
 Sample : AR-SRM2779-WK-4.0-002
 Misc :
 ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Sep 17 07:16:06 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.558	192	1052822m	130.08		
45) 2-Methylanthracene	26.731	192	81250m	10.04		
46) 4/9-Methylphenanthrene	26.869	192	1299455m	160.55		
47) 1-Methylphenanthrene	26.939	192	1073810m	132.67		
48) 3,6-Dimethylphenanthrene	28.013	206	212527m	33.78		
49) Retene	30.714	234	27827m	6.89		
50) C2-Phenanthrenes/Anthr...	28.394	206	5423525m	633.14		
51) C3-Phenanthrenes/Anthr...	29.952	220	3823266m	446.32		
52) C4-Phenanthrenes/Anthr...	31.788	234	1881181m	219.61		
53) Naphthobenzothiophene	32.987	234	251522m	18.17		
54) C1-Naphthobenzothiophenes	34.151	248	526914m	38.05		
55) C2-Naphthobenzothiophenes	35.859	262	783517m	56.59		
56) C3-Naphthobenzothiophenes	37.256	276	529410m	38.23		
57) C4-Naphthobenzothiophenes	38.265	290	232733m	16.81		
58) Fluoranthene	28.948	202	48570m	4.76		
59) Pyrene	29.710	202	139384m	10.25		
60) 2-Methylfluoranthene	30.472	216	51821m	5.82		
61) Benzo(b) fluorene	31.095	216	107868m	16.02		
62) C1-Fluoranthenes/Pyrenes	30.853	216	645784m	63.23		
63) C2-Fluoranthenes/Pyrenes	32.366	230	1494553m	146.33		
64) C3-Fluoranthenes/Pyrenes	34.035	244	1361944m	133.35		
65) C4-Fluoranthenes/Pyrenes	35.199	258	993665m	97.29		
67) Benz(a)anthracene	33.802	228	77281m	5.92		
68) Chrysene/Triphenylene	33.919	228	371810m	33.20		
69) C1-Chrysenes	35.160	242	1186500m	105.93		
70) C2-Chrysenes	36.363	256	1559471m	139.23		
71) C3-Chrysenes	38.071	270	1029577m	91.92		
72) C4-Chrysenes	39.507	284	651817m	58.19		
74) C29-Hopane	40.818	191	115886m	21.70		
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.182	191	183742m	34.40		
77) Benzo(b) fluoranthene	37.372	252	70770m	4.33		
78) Benzo(k,j) fluoranthene	37.411	252	7696m	0.43		
79) Benzo(a) fluoranthene	0.000		0	N.D.	d	
80) Benzo(e) pyrene	38.342	252	147998m	8.35		
81) Benzo(a) pyrene	38.537	252	20140m	1.19		
82) Indeno(1,2,3-c,d) pyrene	43.288	276	11983m	0.59		
83) Dibenzo(a,h) anthracene	43.325	278	9868m	0.61		
84) C1-Dibenzo(a,h) anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h) anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h) anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i) perylene	44.653	276	27420m	1.52		
89) Perylene	38.847	252	9989m	0.56		
91) C20-TAS	33.414	231	48577m	2.32		
92) C21-TAS	34.501	231	55481m	2.65		
93) C26(20S)-TAS	38.614	231	59808m	2.85		
94) C26(20R)/C27(20S)-TAS	39.545	231	193100m	9.21		
95) C28(20S)-TAS	40.301	231	143076m	6.82		
96) C27(20R)-TAS	40.781	231	113607m	5.42		
97) C28(20R)-TAS	41.924	231	102931m	4.91		

Data Path : C:\msdchem\2\data\MS60149\
Data File : MS60149K.D
Acq On : 14 Sep 2013 5:48 am
Operator : MAG
Sample : AR-SRM2779-WK-4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Sep 17 07:16:06 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration

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

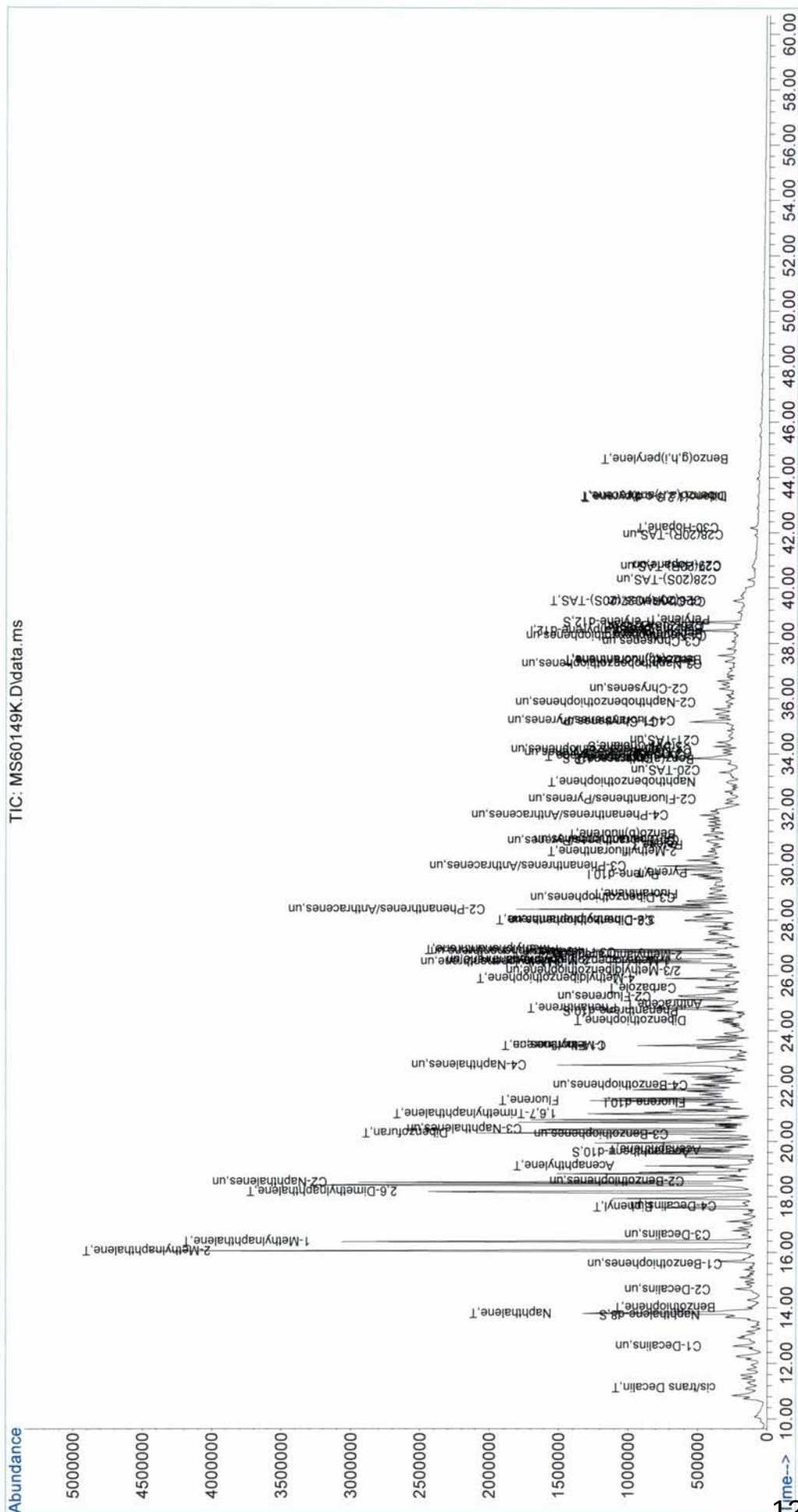
(#) = qualifier out of range (m) = manual integration (+) = signals summed						

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Data Path      : C:\msdchem\2\data\MS60149\
Data File     : MS60149K.D
Acq On       : 14 Sep 2013   5:48 am
Operator      : MAG
Sample        : AR-SRM2779-WK-4.0-002
Misc         :
ALS Vial      : 11   Sample Multiplier: 0.1

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Quant Time: Sep 17 07:16:06 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration



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

Data File Name ENV3089A.D
 Data File Path C:\msdchem\2\data\MS60149\
 Operator MAG
 Date Acquired 9/14/2013 6:58
 Acq. Method File PAH-2012.M
 Sample Name Procedural Blank
 Misc Info 0
 Instrument Name GCMS6
 Vial Number 12
 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

ENV3089A.D
 Procedural Blank
 9/14/2013 6:58
 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	13.79	2511	2.3404	2.8203
9)+10)	C1-Naphthalenes	16.21	1465	1.3655	1.6455
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	891	0.9303	1.1211
23)	Acenaphthylene	0.00	0	0.0000	0.0000
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	0.00	0	0.0000	0.0000
28)	C1-Fluorenes	0.00	0	0.0000	0.0000
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	0.00	0	0.0000	0.0000
41)	Phenanthrene	24.79	2563	1.8784	2.2635
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	0.00	0	0.0000	0.0000
35)+36)+37)	C1-Dibenzothiophenes	0.00	0	0.0000	0.0000
38)	C2-Dibenzothiophenes	0.00	0	0.0000	0.0000
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.91	1145	0.7038	0.8481
59)	Pyrene	29.71	1054	0.4866	0.5864
62)	C1-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	0.00	0	0.0000	0.0000
68)	Chrysene/Triphenylene	0.00	0	0.0000	0.0000
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	0.00	0	0.0000	0.0000
78)	Benzo(k,j)fluoranthene	0.00	0	0.0000	0.0000
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	0.00	0	0.0000	0.0000
81)	Benzo(a)pyrene	0.00	0	0.0000	0.0000
89)	Perylene	0.00	0	0.0000	0.0000
82)	Indeno(1,2,3-c,d)pyrene	0.00	0	0.0000	0.0000
83)	Dibenzo(a,h)anthracene	0.00	0	0.0000	0.0000
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	0.00	0	0.0000	0.0000

# Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	865	1.1979	1.4436
10) 1-Methylnaphthalene	16.38	600	0.8739	1.0531
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-Methylantracene	0.00	0	0.0000	0.0000
46) 4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47) 1-Methylphenanthrene	0.00	0	0.0000	0.0000
48) 3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49) Retene	0.00	0	0.0000	0.0000
60) 2-Methylfluoranthene	0.00	0	0.0000	0.0000
61) Benzo(b)fluorene	0.00	0	0.0000	0.0000
74) C29-Hopane	0.00	0	0.0000	0.0000
75) 18a-Oleanane	0.00	0	0.0000	0.0000
76) C30-Hopane	0.00	0	0.0000	0.0000
91) C20-TAS	0.00	0	0.0000	0.0000
92) C21-TAS	0.00	0	0.0000	0.0000
93) C26(20S)-TAS	0.00	0	0.0000	0.0000
94) C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95) C28(20S)-TAS	0.00	0	0.0000	0.0000
96) C27(20R)-TAS	0.00	0	0.0000	0.0000
97) C28(20R)-TAS	0.00	0	0.0000	0.0000
Surrogate Standards				
2) Naphthalene-d8	13.73	201088	203.75	81.46
21) Acenaphthene-d10	19.59	132036	209.46	83.73
32) Phenanthrene-d10	24.72	291466	207.62	82.99
66) Chrysene-d12	33.84	413266	225.86	90.33
88) Perylene-d12	38.73	360203	225.11	90.03
90) 5(b)H-Cholane	34.27	107323	245.39	98.15
Internal Standards				
1) Fluorene-d10	21.37	158168	251.05	
31) Pyrene-d10	29.64	367996	250.63	
73) Benzo(a)pyrene-d12	38.46	345065	250.33	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ENV3089A.D
 Acq On : 14 Sep 2013 6:58 am
 Operator : MAG
 Sample : Procedural Blank
 Misc :
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 16 23:43:12 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Fluorene-d10	21.370	176	158168m	251.05		0.00
31) Pyrene-d10	29.640	212	367996m	250.63		0.00
73) Benzo(a)pyrene-d12	38.458	264	345065m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.735	136	201088m	203.75		0.00
21) Acenaphthene-d10	19.586	164	132036m	209.46		0.00
32) Phenanthrene-d10	24.721	188	291466m	207.62		0.00
66) Chrysene-d12	33.840	240	413266m	225.86		0.00
88) Perylene-d12	38.730	264	360203m	225.11		-0.04
90) 5(b)H-Cholane	34.267	217	107323m	245.39		0.00
Target Compounds						
						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.790	128	2511m	2.34		
9) 2-Methylnaphthalene	16.048	142	865m	1.20		
10) 1-Methylnaphthalene	16.382	142	600m	0.87		
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	17.608	154	891m	0.93		
23) Acenaphthylene	0.000		0	N.D.	d	
24) Acenaphthene	0.000		0	N.D.	d	
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	0.000		0	N.D.	d	
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	0.000		0	N.D.	d	
35) 4-Methyldibenzothiophene	0.000		0	N.D.	d	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.790	178	2563m	1.88		
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ENV3089A.D
 Acq On : 14 Sep 2013 6:58 am
 Operator : MAG
 Sample : Procedural Blank
 Misc :
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 16 23:43:12 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	0.000		0	N.D.	d	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.913	202	1145m	0.70		
59) Pyrene	29.709	202	1054m	0.49		
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	

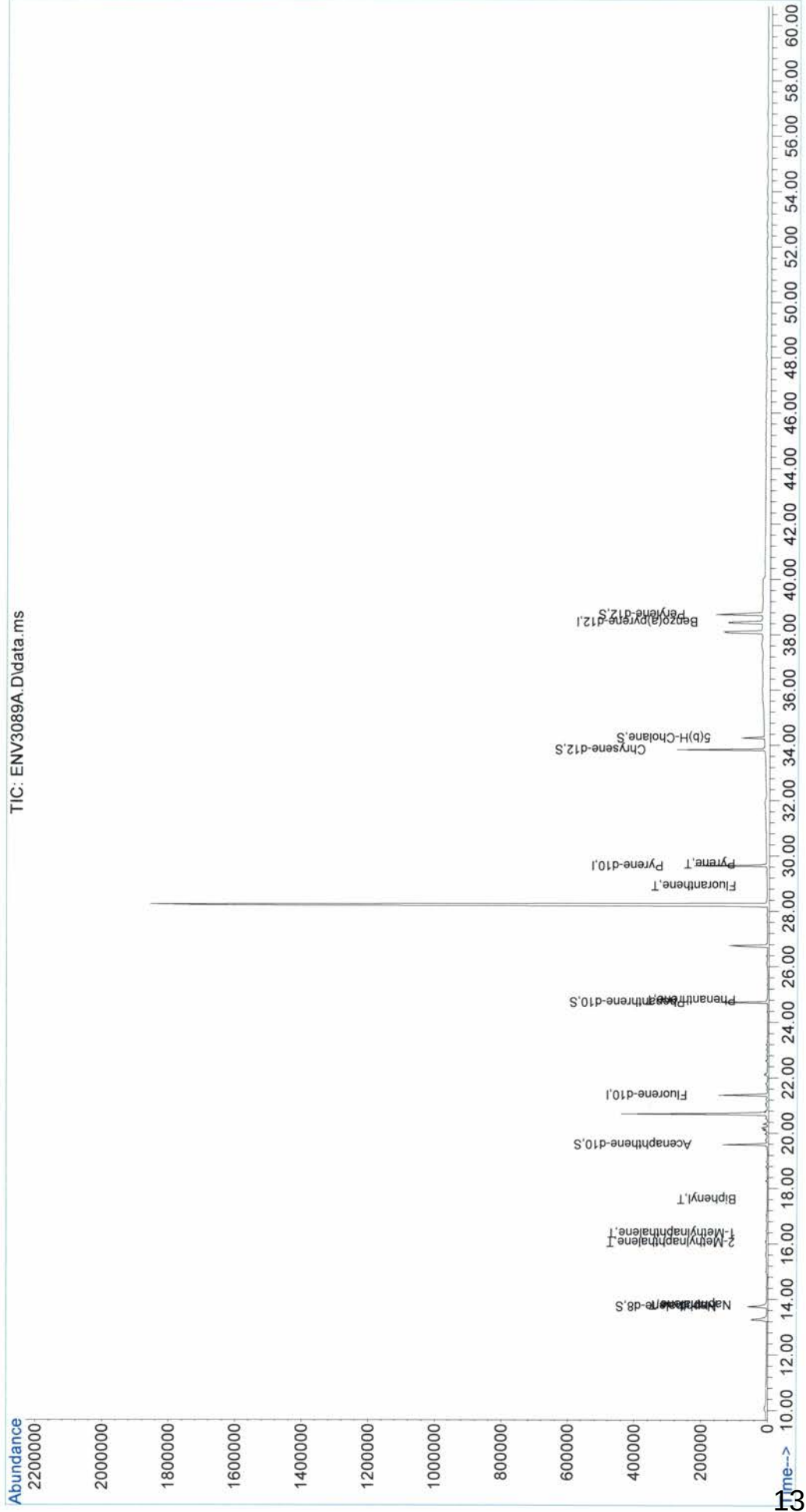
Data Path : C:\msdchem\2\data\MS60149\
Data File : ENV3089A.D
Acq On : 14 Sep 2013 6:58 am
Operator : MAG
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 16 23:43:12 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration

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

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

Data Path : C:\msdchem\2\data\MS60149\
Data File : ENV3089A.D
Acq On : 14 Sep 2013 6:58 am
Operator : MAG
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 1
Quant Time: Sep 16 23:43:12 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration



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

Data File Name ENV3089B.D
 Data File Path C:\GCMS6\MS60149\
 Operator MAG
 Date Acquired 9/14/2013 8:08
 Acq. Method File PAH-2012.M
 Sample Name Blank Spike
 Misc Info 0
 Instrument Name GCMS6
 Vial Number 13
 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

ENV3089B.D
 Blank Spike
 9/14/2013 8:08
 PAH-2012.M
 1

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.11	11809	70.3566	82.3920
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	85220	78.6602	92.1160
9)+10)	C1-Naphthalenes	16.21	108224	99.8935	116.9815
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	67453	78.0122	91.3572
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	99253	102.6290	120.1850
23)	Acenaphthylene	19.11	87013	74.5343	87.2843
24)	Acenaphthene	19.70	54862	77.7776	91.0824
25)	Dibenzofuran	20.28	81033	79.1875	92.7335
26)	Fluorene	21.48	69062	79.4020	92.9847
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	25.55	83663	75.1948	88.0578
42)	Anthracene	24.96	97925	77.9682	91.3056
41)	Phenanthrene	24.79	106758	79.1167	92.6506
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	5.39	101104	74.9266	87.7437
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	24.37	132224	84.6562	99.1377
35)+36)+37)	C1-Dibenzothiophenes	8.63	69342	44.3961	51.9906
38)	C2-Dibenzothiophenes	0.00	0	0.0000	0.0000
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.91	128643	79.9603	93.6385
59)	Pyrene	29.71	162653	75.9401	88.9306
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	32.99	172244	78.9696	92.4783
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.80	165979	80.7316	94.5418
68)	Chrysene/Triphenylene	33.92	160897	91.1920	106.7915
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	37.37	149511	82.3696	96.4600
78)	Benzo(k,j)fluoranthene	37.45	160690	81.1391	95.0190
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.34	188145	95.5674	111.9154
81)	Benzo(a)pyrene	38.54	152530	81.0945	94.9667
89)	Perylene	38.85	137486	69.7644	81.6985
82)	Indeno(1,2,3-c,d)pyrene	43.25	188612	83.2851	97.5321
83)	Dibenzo(a,h)anthracene	43.33	149731	83.5539	97.8468
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.62	168576	83.9628	98.3257

# Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
Individual Alkyl Isomers and Hopanones				
9) 2-Methylnaphthalene	16.05	55536	76.1647	89.1936
10) 1-Methylnaphthalene	16.38	52688	75.9935	88.9931
11) 2,6-Dimethylnaphthalene	18.14	49015	72.6869	85.1209
12) 1,6,7-Trimethylnaphthalene	21.01	52696	76.5772	89.6767
27) 1-Methylfluorene	23.47	47461	86.4554	101.2447
35) 4-Methyldibenzothiophene	25.90	69342	74.2951	87.0042
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-Methylantracene	0.00	0	0.0000	0.0000
46) 4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47) 1-Methylphenanthrene	26.94	101104	79.2992	92.8643
48) 3,6-Dimethylphenanthrene	28.05	90022	90.8229	106.3593
49) Retene	30.71	44227	69.5415	81.4374
60) 2-Methylfluoranthene	30.47	104738	74.6751	87.4492
61) Benzo(b)fluorene	31.09	81001	76.3809	89.4468
74) C29-Hopane	0.00	0	0.0000	0.0000
75) 18a-Oleanane	0.00	0	0.0000	0.0000
76) C30-Hopane	42.88	56445	95.1413	111.4164
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	39.51	208595	89.5409	104.8580
95) C28(20S)-TAS	0.00	0	0.0000	0.0000
96) C27(20R)-TAS	0.00	0	0.0000	0.0000
97) C28(20R)-TAS	0.00	0	0.0000	0.0000
Surrogate Standards				
2) Naphthalene-d8	13.73	199781	200.46	80.14
21) Acenaphthene-d10	19.58	132392	207.99	83.14
32) Phenanthrene-d10	24.72	296598	213.65	85.39
66) Chrysene-d12	33.84	426716	235.82	94.31
88) Perylene-d12	38.73	366217	224.50	89.79
90) 5(b)H-Cholane	34.27	107325	240.70	96.28
Internal Standards				
1) Fluorene-d10	21.37	159719	251.05	
31) Pyrene-d10	29.64	363920	250.63	
73) Benzo(a)pyrene-d12	38.46	351784	250.33	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ENV3089B.D
 Acq On : 14 Sep 2013 8:08 am
 Operator : MAG
 Sample : Blank Spike
 Misc :
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Sep 16 23:50:32 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Fluorene-d10	21.368	176	159719m	251.05		0.00
31) Pyrene-d10	29.640	212	363920m	250.63		0.00
73) Benzo(a)pyrene-d12	38.458	264	351784m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.733	136	199781m	200.46		0.00
21) Acenaphthene-d10	19.585	164	132392m	207.99		0.00
32) Phenanthrene-d10	24.721	188	296598m	213.65		0.00
66) Chrysene-d12	33.840	240	426716m	235.82		0.00
88) Perylene-d12	38.730	264	366217m	224.50		-0.04
90) 5(b)H-Cholane	34.267	217	107325m	240.70		0.00
Target Compounds						
						Qvalue
3) cis/trans Decalin	11.114	138	11809m	70.36		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.789	128	85220m	78.66		
9) 2-Methylnaphthalene	16.046	142	55536m	76.16		
10) 1-Methylnaphthalene	16.380	142	52688m	75.99		
11) 2,6-Dimethylnaphthalene	18.136	156	49015m	72.69		
12) 1,6,7-Trimethylnaphtha...	21.006	170	52696m	76.58		
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.		
16) Benzothiophene	13.956	134	67453m	78.01		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.606	154	99253m	102.63		
23) Acenaphthylene	19.111	152	87013m	74.53		
24) Acenaphthene	19.696	154	54862m	77.78		
25) Dibenzofuran	20.282	168	81033m	79.19		
26) Fluorene	21.480	166	69062m	79.40		
27) 1-Methylfluorene	23.474	180	47461m	86.46		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.552	167	83663m	75.19		
34) Dibenzothiophene	24.375	184	132224m	84.66		
35) 4-Methyldibenzothiophene	25.899	198	69342m	74.30		
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	24.790	178	106758m	79.12		
42) Anthracene	24.963	178	97925m	77.97		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ENV3089B.D
 Acq On : 14 Sep 2013 8:08 am
 Operator : MAG
 Sample : Blank Spike
 Misc :
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Sep 16 23:50:32 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 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	26.938	192	101104m	79.30		
48) 3,6-Dimethylphenanthrene	28.046	206	90022m	90.82		
49) Retene	30.714	234	44227m	69.54		
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	32.986	234	172244m	78.97		
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.912	202	128643m	79.96		
59) Pyrene	29.709	202	162653m	75.94		
60) 2-Methylfluoranthene	30.471	216	104738m	74.68		
61) Benzo(b) fluorene	31.095	216	81001m	76.38		
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	33.801	228	165979m	80.73		
68) Chrysene/Triphenylene	33.918	228	160897m	91.19		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.883	191	56445m	95.14		
77) Benzo(b) fluoranthene	37.371	252	149511m	82.37		
78) Benzo(k,j) fluoranthene	37.449	252	160690m	81.14		
79) Benzo(a) fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.342	252	188145m	95.57		
81) Benzo(a)pyrene	38.536	252	152530m	81.09		
82) Indeno(1,2,3-c,d)pyrene	43.251	276	188612m	83.29		
83) Dibenzo(a,h)anthracene	43.325	278	149731m	83.55		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.616	276	168576m	83.96		
89) Perylene	38.846	252	137486m	69.76		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.506	231	208595m	89.54		
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:\msdchem\2\data\MS60149\
Data File : ENV3089B.D
Acq On : 14 Sep 2013 8:08 am
Operator : MAG
Sample : Blank Spike
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Sep 16 23:50:32 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration

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

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

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Data Path      : C:\msdchem\2\data\MS60149\
Data File     : ENV3089B.D
Acq On        : 14 Sep 2013   8:08 am
Operator      : MAG
Sample        : Blank Spike
Misc          :
ALS Vial      : 13   Sample Multiplier: 1

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

Data File Name ENV3089C.D
 Data File Path C:\msdchem\2\data\MS60149\
 Operator MAG
 Date Acquired 9/14/2013 9:18
 Acq. Method File PAH-2012.M
 Sample Name Blank Spike Dupl.
 Misc Info 0
 Instrument Name GCMS6
 Vial Number 14
 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*

ENV3089C.D
 Blank Spike Dupl.
 9/14/2013 9:18
 PAH-2012.M
 1

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.12	12405	67.9845	82.6984
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	89009	75.5734	91.9297
9)+10)	C1-Naphthalenes	16.22	111312	94.5098	114.9646
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	68463	72.8348	88.5984
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	102469	97.4628	118.5566
23)	Acenaphthylene	19.09	91091	71.7744	87.3085
24)	Acenaphthene	19.70	56273	73.3846	89.2672
25)	Dibenzofuran	20.28	85192	76.5800	93.1542
26)	Fluorene	21.48	67791	71.6946	87.2114
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	25.55	82272	69.9726	85.1167
42)	Anthracene	24.96	103497	77.9782	94.8550
41)	Phenanthrene	24.79	113053	79.2814	96.4402
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	5.39	98359	68.9768	83.9055
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	24.38	133377	80.8074	98.2965
35)+36)+37)	C1-Dibenzothiophenes	8.63	67973	41.1819	50.0949
38)	C2-Dibenzothiophenes	0.00	0	0.0000	0.0000
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.91	136598	80.3442	97.7331
59)	Pyrene	29.71	158916	70.2099	85.4054
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	32.99	165903	71.9766	87.5545
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.80	162334	74.7174	90.8884
68)	Chrysene/Triphenylene	33.92	168003	90.1047	109.6060
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	37.37	154147	83.7347	101.8574
78)	Benzo(k,j)fluoranthene	37.45	150233	74.7969	90.9852
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.34	186949	93.6304	113.8948
81)	Benzo(a)pyrene	38.54	152975	80.1925	97.5485
89)	Perylene	38.85	155766	77.9336	94.8007
82)	Indeno(1,2,3-c,d)pyrene	43.25	192294	83.7222	101.8422
83)	Dibenzo(a,h)anthracene	43.33	155557	85.5896	104.1137
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.62	170213	83.5912	101.6828

# Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	56932	71.8220	87.3664
10) 1-Methylnaphthalene	16.38	54380	72.1483	87.7633
11) 2,6-Dimethylnaphthalene	18.14	52526	71.6512	87.1586
12) 1,6,7-Trimethylnaphthalene	21.01	57099	76.3260	92.8452
27) 1-Methylfluorene	23.47	49801	83.4479	101.5085
35) 4-Methyldibenzothiophene	25.90	67973	68.9162	83.8317
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-Methylantracene	0.00	0	0.0000	0.0000
46) 4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47) 1-Methylphenanthrene	26.94	98359	73.0022	88.8020
48) 3,6-Dimethylphenanthrene	28.05	88529	84.5189	102.8113
49) Retene	30.71	56204	83.6267	101.7260
60) 2-Methylfluoranthene	30.47	100217	67.6136	82.2472
61) Benzo(b)fluorene	31.10	80125	71.4963	86.9702
74) C29-Hopane	0.00	0	0.0000	0.0000
75) 18a-Oleanane	0.00	0	0.0000	0.0000
76) C30-Hopane	42.88	59222	98.4245	119.7265
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	39.47	206817	87.5348	106.4799
95) C28(20S)-TAS	0.00	0	0.0000	0.0000
96) C27(20R)-TAS	0.00	0	0.0000	0.0000
97) C28(20R)-TAS	0.00	0	0.0000	0.0000
Surrogate Standards				
2) Naphthalene-d8	13.74	204079	188.36	75.31
21) Acenaphthene-d10	19.59	136847	197.76	79.05
32) Phenanthrene-d10	24.72	301746	205.68	82.21
66) Chrysene-d12	33.84	420748	220.03	88.00
88) Perylene-d12	38.73	369453	223.31	89.31
90) 5(b)H-Cholane	34.27	104961	232.11	92.84
Internal Standards				
1) Fluorene-d10	21.37	173634	251.05	
31) Pyrene-d10	29.64	384578	250.63	
73) Benzo(a)pyrene-d12	38.42	356779	250.33	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ENV3089C.D
 Acq On : 14 Sep 2013 9:18 am
 Operator : MAG
 Sample : Blank Spike Dupl.
 Misc :
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 16 23:59:20 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Fluorene-d10	21.372	176	173634m	251.05		0.00
31) Pyrene-d10	29.640	212	384578m	250.63		0.00
73) Benzo(a)pyrene-d12	38.419	264	356779m	250.32		-0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.736	136	204079m	188.36		0.00
21) Acenaphthene-d10	19.588	164	136847m	197.76		0.00
32) Phenanthrene-d10	24.721	188	301746m	205.68		0.00
66) Chrysene-d12	33.840	240	420748m	220.03		0.00
88) Perylene-d12	38.730	264	369453m	223.31		-0.04
90) 5(b)H-Cholane	34.267	217	104961m	232.11		0.00
Target Compounds						
3) cis/trans Decalin	11.117	138	12405m	67.98		Qvalue
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.792	128	89009m	75.57		
9) 2-Methylnaphthalene	16.049	142	56932m	71.82		
10) 1-Methylnaphthalene	16.384	142	54380m	72.15		
11) 2,6-Dimethylnaphthalene	18.139	156	52526m	71.65		
12) 1,6,7-Trimethylnaphtha...	21.009	170	57099m	76.33		
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.	d	
16) Benzothiophene	13.959	134	68463m	72.83		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.610	154	102469m	97.46		
23) Acenaphthylene	19.087	152	91091m	71.77		
24) Acenaphthene	19.700	154	56273m	73.38		
25) Dibenzofuran	20.285	168	85192m	76.58		
26) Fluorene	21.483	166	67791m	71.69		
27) 1-Methylfluorene	23.474	180	49801m	83.45		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.553	167	82272m	69.97		
34) Dibenzothiophene	24.375	184	133377m	80.81		
35) 4-Methyldibenzothiophene	25.899	198	67973m	68.92		
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.791	178	113053m	79.28		
42) Anthracene	24.964	178	103497m	77.98		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ENV3089C.D
 Acq On : 14 Sep 2013 9:18 am
 Operator : MAG
 Sample : Blank Spike Dupl.
 Misc :
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 16 23:59:20 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 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	26.938	192	98359m	73.00		
48) 3,6-Dimethylphenanthrene	28.047	206	88529m	84.52		
49) Retene	30.714	234	56204m	83.63		
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	32.987	234	165903m	71.98		
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	28.913	202	136598m	80.34		
59) Pyrene	29.710	202	158916m	70.21		
60) 2-Methylfluoranthene	30.472	216	100217m	67.61		
61) Benzo(b) fluorene	31.095	216	80125m	71.50		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.802	228	162334m	74.72		
68) Chrysene/Triphenylene	33.918	228	168003m	90.10		
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	42.882	191	59222m	98.42		
77) Benzo(b)fluoranthene	37.372	252	154147m	83.73		
78) Benzo(k,j)fluoranthene	37.449	252	150233m	74.80		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.342	252	186949m	93.63		
81) Benzo(a)pyrene	38.536	252	152975m	80.19		
82) Indeno(1,2,3-c,d)pyrene	43.251	276	192294m	83.72		
83) Dibenzo(a,h)anthracene	43.325	278	155557m	85.59		
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	44.616	276	170213m	83.59		
89) Perylene	38.846	252	155766m	77.93		
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	39.467	231	206817m	87.53		
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Data Path : C:\msdchem\2\data\MS60149\
Data File : ENV3089C.D
Acq On : 14 Sep 2013 9:18 am
Operator : MAG
Sample : Blank Spike Dupl.
Misc :
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 16 23:59:20 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration

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

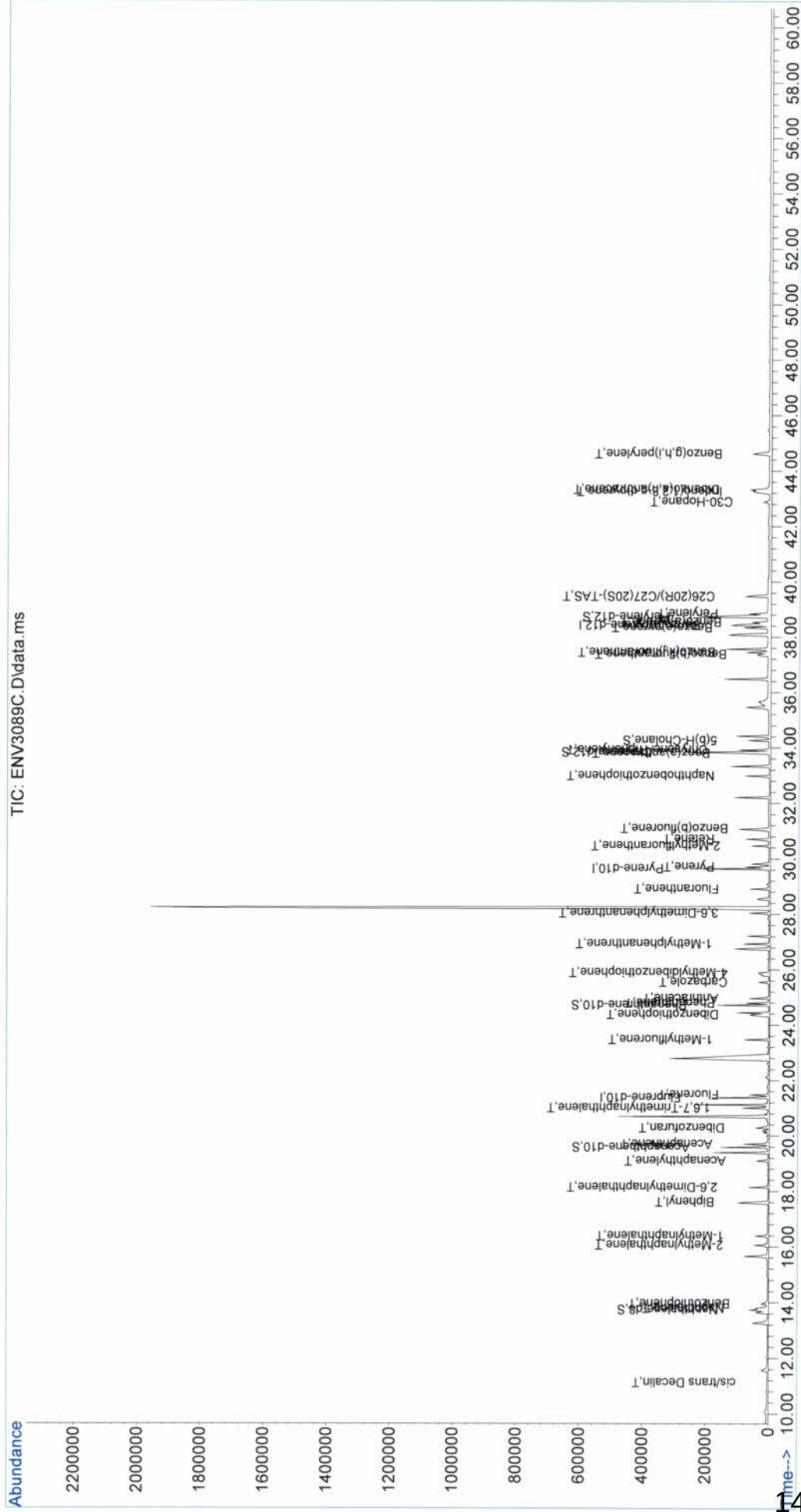
(#) = qualifier out of range (m) = manual integration (+) = signals summed						

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Data Path      : C:\msdchem\2\data\MS60149\
Data File     : ENV3089C.D
Acq On        : 14 Sep 2013   9:18 am
Operator      : MAG
Sample        : Blank Spike Dupl.
Misc          :
ALS Vial      : 14   Sample Multiplier: 1

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Quant Time: Sep 16 23:59:20 2013
Quant Method : C:\GCM56\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
Quant Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration



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

Data File Name ENV3089D.D
 Data File Path C:\msdchem\2\data\MS60149\
 Operator MAG
 Date Acquired 9/14/2013 10:28
 Acq. Method File PAH-2012.M
 Sample Name MS (WS-024DA(mid depth)081313 MS/MSD)
 Misc Info 0
 Instrument Name GCMS6
 Vial Number 15
 Sample Multiplier 1.06383
 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

ENV3089D.D
 24DA(mid depth)081313 MS/MSD)
 9/14/2013 10:28
 PAH-2012.M
 0.939999812

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.11	14467	89.5519	110.0443
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	88705	85.0680	104.5343
9)+10)	C1-Naphthalenes	16.21	111001	106.4498	130.8090
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	67413	81.0046	99.5411
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	103654	111.3564	136.8384
23)	Acenaphthylene	19.08	81882	72.8728	89.5484
24)	Acenaphthene	19.70	56567	83.3203	102.3867
25)	Dibenzofuran	20.28	81870	83.1236	102.1450
26)	Fluorene	21.48	68405	81.7118	100.4102
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	25.55	76851	69.3185	85.1809
42)	Anthracene	24.96	96523	77.1259	94.7748
41)	Phenanthrene	24.79	123425	91.7944	112.7999
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	5.39	92619	68.8832	84.6459
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	24.38	131807	84.6900	104.0699
35)+36)+37)	C1-Dibenzothiophenes	8.63	66746	42.8863	52.7001
38)	C2-Dibenzothiophenes	0.00	0	0.0000	0.0000
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.91	154048	96.0926	118.0817
59)	Pyrene	29.71	156052	73.1179	89.8496
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	33.80	149805	73.1244	89.8576
68)	Chrysene/Triphenylene	33.92	170536	96.9996	119.1963
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.33	157038	103.6815	127.4072
78)	Benzo(k,j)fluoranthene	37.45	137176	83.0085	102.0036
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.34	165207	100.5653	123.5780
81)	Benzo(a)pyrene	38.54	134802	85.8885	105.5426
89)	Perylene	38.85	165696	100.7604	123.8177
82)	Indeno(1,2,3-c,d)pyrene	43.25	185461	98.1416	120.5996
83)	Dibenzo(a,h)anthracene	43.32	150379	100.5645	123.5769
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	44.61	165847	98.9924	121.6450

# Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	57495	81.9246	100.6716
10) 1-Methylnaphthalene	16.38	53506	80.1811	98.5291
11) 2,6-Dimethylnaphthalene	18.14	50001	77.0391	94.6681
12) 1,6,7-Trimethylnaphthalene	21.01	54086	81.6604	100.3470
27) 1-Methylfluorene	23.48	51420	97.3178	119.5873
35) 4-Methyldibenzothiophene	25.90	66746	71.7685	88.1915
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	26.94	92619	72.9030	89.5856
48) 3,6-Dimethylphenanthrene	28.05	83127	84.1654	103.4252
49) Retene	30.71	39461	62.2687	76.5179
60) 2-Methylfluoranthene	30.47	92718	66.3408	81.5217
61) Benzo(b)fluorene	31.10	74687	70.6780	86.8514
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	39.47	199575	102.6660	126.1593
95) C28(20S)-TAS	0.00	0	0.0000	0.0000
96) C27(20R)-TAS	0.00	0	0.0000	0.0000
97) C28(20R)-TAS	0.00	0	0.0000	0.0000
Surrogate Standards				
2) Naphthalene-d8	13.73	201491	210.05	78.94
21) Acenaphthene-d10	19.59	131862	215.23	80.87
32) Phenanthrene-d10	24.72	299628	216.60	81.38
66) Chrysene-d12	33.84	406548	225.47	84.77
88) Perylene-d12	38.73	326018	239.51	90.04
90) 5(b)H-Cholane	34.27	97282	261.47	98.31
Internal Standards				
1) Fluorene-d10	21.37	163540	267.07	
31) Pyrene-d10	29.64	385774	266.62	
73) Benzo(a)pyrene-d12	38.42	312281	266.30	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ENV3089D.D
 Acq On : 14 Sep 2013 10:28 am
 Operator : MAG
 Sample : MS (WS-024DA(mid depth)081313 MS/MSD)
 Misc :
 ALS Vial : 15 Sample Multiplier: 1.06383

Quant Time: Sep 17 17:07:52 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Fluorene-d10	21.369	176	163540m	251.05		0.00
31) Pyrene-d10	29.641	212	385774m	250.63		0.00
73) Benzo(a)pyrene-d12	38.420	264	312281m	250.32		-0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.734	136	201491m	210.05		0.00
21) Acenaphthene-d10	19.586	164	131862m	215.23		0.00
32) Phenanthrene-d10	24.722	188	299628m	216.60		0.00
66) Chrysene-d12	33.841	240	406548m	225.47		0.00
88) Perylene-d12	38.731	264	326018m	239.51		-0.04
90) 5(b)H-Cholane	34.268	217	97282m	261.47		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.115	138	14467m	89.55		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.790	128	88705m	85.07		
9) 2-Methylnaphthalene	16.047	142	57495m	81.92		
10) 1-Methylnaphthalene	16.381	142	53506m	80.18		
11) 2,6-Dimethylnaphthalene	18.137	156	50001m	77.04		
12) 1,6,7-Trimethylnaphtha...	21.007	170	54086m	81.66		
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	13.957	134	67413m	81.00		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.607	154	103654m	111.36		
23) Acenaphthylene	19.084	152	81882m	72.87		
24) Acenaphthene	19.697	154	56567m	83.32		
25) Dibenzofuran	20.283	168	81870m	83.12		
26) Fluorene	21.481	166	68405m	81.71		
27) 1-Methylfluorene	23.475	180	51420m	97.32		
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	25.554	167	76851m	69.32		
34) Dibenzothiophene	24.376	184	131807m	84.69		
35) 4-Methyldibenzothiophene	25.900	198	66746m	71.77		
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.791	178	123425m	91.79		
42) Anthracene	24.965	178	96523m	77.13		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ENV3089D.D
 Acq On : 14 Sep 2013 10:28 am
 Operator : MAG
 Sample : MS (WS-024DA(mid depth)081313 MS/MSD)
 Misc :
 ALS Vial : 15 Sample Multiplier: 1.06383

Quant Time: Sep 17 17:07:52 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 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	26.939	192	92619m	72.90		
48) 3,6-Dimethylphenanthrene	28.048	206	83127m	84.17		
49) Retene	30.715	234	39461m	62.27		
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	28.914	202	154048m	96.09		
59) Pyrene	29.710	202	156052m	73.12		
60) 2-Methylfluoranthene	30.472	216	92718m	66.34		
61) Benzo(b) fluorene	31.096	216	74687m	70.68		
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	33.802	228	149805m	73.12		
68) Chrysene/Triphenylene	33.919	228	170536m	97.00		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	37.334	252	157038m	103.68		
78) Benzo(k,j)fluoranthene	37.450	252	137176m	83.01		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.343	252	165207m	100.57		
81) Benzo(a)pyrene	38.537	252	134802m	85.89		
82) Indeno(1,2,3-c,d)pyrene	43.250	276	185461m	98.14		
83) Dibenzo(a,h)anthracene	43.324	278	150379m	100.56		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.615	276	165847m	98.99		
89) Perylene	38.847	252	165696m	100.76		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.468	231	199575m	102.67		
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:\msdchem\2\data\MS60149\
Data File : ENV3089D.D
Acq On : 14 Sep 2013 10:28 am
Operator : MAG
Sample : MS (WS-024DA(mid depth)081313 MS/MSD)
Misc :
ALS Vial : 15 Sample Multiplier: 1.06383

Quant Time: Sep 17 17:07:52 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration

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

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

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Data Path      : C:\msdchem\2\data\MS60149\
Data File     : ENV3089D.D
Acq On        : 14 Sep 2013  10:28 am
Operator      : MAG
Sample        : MS (WS-024DA(mid depth) 081
Misc          :
ALS Vial      : 15 Sample Multiplier: 1.

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Quant Time: Sep 17 17:07:52 2013
Quant Method : C:\GCM56\MS60149\N
Quant Title : PAH Calibration T
Qlast Update : Mon Sep 16 22:11:
Response via : Initial Calibration



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

Data File Name ENV3089E.D
 Data File Path C:\msdchem\2\data\MS60149\
 Operator MAG
 Date Acquired 9/14/2013 11:38
 Acq. Method File PAH-2012.M
 Sample Name MSD (WS-024DA(mid depth)081313 MS/MSD)
 Misc Info 0
 Instrument Name GCMS6
 Vial Number 16
 Sample Multiplier 1.08696
 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

ENV3089E.D
 024DA(mid depth)081313 MS/MSD)
 9/14/2013 11:38
 PAH-2012.M
 0.919997056

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	12.04	14308	81.8838	100.3746
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	94205	83.5247	102.3860
9)+10)	C1-Naphthalenes	16.22	119871	106.2809	130.2809
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	73742	81.9227	100.4221
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	111531	110.7764	135.7916
23)	Acenaphthylene	19.09	92925	76.4597	93.7255
24)	Acenaphthene	19.70	59179	80.5895	98.7879
25)	Dibenzofuran	20.29	93010	87.3077	107.0232
26)	Fluorene	21.48	72442	80.0038	98.0700
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	25.55	85313	73.8810	90.5645
42)	Anthracene	24.96	110199	84.5405	103.6311
41)	Phenanthrene	24.79	140901	100.6109	123.3304
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	5.39	101709	72.6257	89.0257
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	24.38	142811	88.0994	107.9937
35)+36)+37)	C1-Dibenzothiophenes	8.63	72347	44.6305	54.7088
38)	C2-Dibenzothiophenes	0.00	0	0.0000	0.0000
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.91	189989	113.7841	139.4783
59)	Pyrene	29.71	190382	85.6442	104.9840
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	33.80	168655	79.0411	96.8899
68)	Chrysene/Triphenylene	33.92	206304	112.6623	138.1033
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.33	191402	111.8438	137.1000
78)	Benzo(k,j)fluoranthene	37.45	156550	83.8433	102.7765
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.34	191708	103.2835	126.6066
81)	Benzo(a)pyrene	38.54	166974	94.1583	115.4208
89)	Perylene	38.85	189214	101.8362	124.8325
82)	Indeno(1,2,3-c,d)pyrene	43.25	214279	100.3578	123.0202
83)	Dibenzo(a,h)anthracene	43.33	169388	100.2562	122.8957
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.62	192653	101.7749	124.7573

# Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
Individual Alkyl Isomers and Hopanones				
9) 2-Methylnaphthalene	16.05	62090	81.7954	100.2661
10) 1-Methylnaphthalene	16.38	57781	80.0531	98.1304
11) 2,6-Dimethylnaphthalene	18.14	56846	80.9757	99.2613
12) 1,6,7-Trimethylnaphthalene	21.01	63115	88.1014	107.9961
27) 1-Methylfluorene	23.47	55232	96.6438	118.4675
35) 4-Methyldibenzothiophene	25.90	72347	74.6874	91.5530
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-Methylantracene	0.00	0	0.0000	0.0000
46) 4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47) 1-Methylphenanthrene	26.94	101709	76.8639	94.2211
48) 3,6-Dimethylphenanthrene	28.05	94535	91.8971	112.6490
49) Retene	30.71	43184	65.4248	80.1988
60) 2-Methylfluoranthene	30.47	103060	70.7986	86.7861
61) Benzo(b)fluorene	31.10	82894	75.3148	92.3221
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	39.47	217461	99.0086	121.3663
95) C28(20S)-TAS	0.00	0	0.0000	0.0000
96) C27(20R)-TAS	0.00	0	0.0000	0.0000
97) C28(20R)-TAS	0.00	0	0.0000	0.0000
Surrogate Standards				
2) Naphthalene-d8	13.74	210797	203.17	74.73
21) Acenaphthene-d10	19.59	143668	216.80	79.73
32) Phenanthrene-d10	24.72	319649	221.85	81.58
66) Chrysene-d12	33.84	441014	234.83	86.40
88) Perylene-d12	38.73	376267	244.65	90.02
90) 5(b)H-Cholane	34.27	103853	247.04	90.91
Internal Standards				
1) Fluorene-d10	21.37	180735	272.88	
31) Pyrene-d10	29.64	410541	272.42	
73) Benzo(a)pyrene-d12	38.42	360509	272.09	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ENV3089E.D
 Acq On : 14 Sep 2013 11:38 am
 Operator : MAG
 Sample : MSD (WS-024DA(mid depth)081313 MS/MSD)
 Misc :
 ALS Vial : 16 Sample Multiplier: 1.08696

Quant Time: Sep 17 05:45:08 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Fluorene-d10	21.372	176	180735m	251.05		0.00
31) Pyrene-d10	29.640	212	410541m	250.63		0.00
73) Benzo(a)pyrene-d12	38.420	264	360509m	250.32		-0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.737	136	210797m	203.17		0.00
21) Acenaphthene-d10	19.589	164	143668m	216.80		0.00
32) Phenanthrene-d10	24.722	188	319649m	221.85		0.00
66) Chrysene-d12	33.841	240	441014m	234.83		0.00
88) Perylene-d12	38.731	264	376267m	244.65		-0.04
90) 5(b)H-Cholane	34.268	217	103853m	247.04		0.00
Target Compounds						
						Qvalue
3) cis/trans Decalin	12.037	138	14308m	81.88		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.792	128	94205m	83.52		
9) 2-Methylnaphthalene	16.050	142	62090m	81.80		
10) 1-Methylnaphthalene	16.384	142	57781m	80.05		
11) 2,6-Dimethylnaphthalene	18.140	156	56846m	80.98		
12) 1,6,7-Trimethylnaphtha...	21.010	170	63115m	88.10		
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.	d	
16) Benzothiophene	13.960	134	73742m	81.92		
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	111531m	110.78		
23) Acenaphthylene	19.087	152	92925m	76.46		
24) Acenaphthene	19.700	154	59179m	80.59		
25) Dibenzofuran	20.285	168	93010m	87.31		
26) Fluorene	21.483	166	72442m	80.00		
27) 1-Methylfluorene	23.475	180	55232m	96.64		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.553	167	85313m	73.88		
34) Dibenzothiophene	24.375	184	142811m	88.10		
35) 4-Methyldibenzothiophene	25.899	198	72347m	74.69		
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.791	178	140901m	100.61		
42) Anthracene	24.964	178	110199m	84.54		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ENV3089E.D
 Acq On : 14 Sep 2013 11:38 am
 Operator : MAG
 Sample : MSD (WS-024DA(mid depth)081313 MS/MSD)
 Misc :
 ALS Vial : 16 Sample Multiplier: 1.08696

Quant Time: Sep 17 05:45:08 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 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	26.939	192	101709m	76.86		
48) 3,6-Dimethylphenanthrene	28.047	206	94535m	91.90		
49) Retene	30.714	234	43184m	65.42		
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.913	202	189989m	113.78		
59) Pyrene	29.710	202	190382m	85.64		
60) 2-Methylfluoranthene	30.472	216	103060m	70.80		
61) Benzo(b) fluorene	31.095	216	82894m	75.31		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.802	228	168655m	79.04		
68) Chrysene/Triphenylene	33.919	228	206304m	112.66		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b) fluoranthene	37.334	252	191402m	111.84		
78) Benzo(k,j) fluoranthene	37.450	252	156550m	83.84		
79) Benzo(a) fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.343	252	191708m	103.28		
81) Benzo(a)pyrene	38.537	252	166974m	94.16		
82) Indeno(1,2,3-c,d)pyrene	43.252	276	214279m	100.36		
83) Dibenzo(a,h)anthracene	43.326	278	169388m	100.26		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.617	276	192653m	101.77		
89) Perylene	38.847	252	189214m	101.84		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.468	231	217461m	99.01		
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:\msdchem\2\data\MS60149\
Data File : ENV3089E.D
Acq On : 14 Sep 2013 11:38 am
Operator : MAG
Sample : MSD (WS-024DA(mid depth)081313 MS/MSD)
Misc :
ALS Vial : 16 Sample Multiplier: 1.08696

Quant Time: Sep 17 05:45:08 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration

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

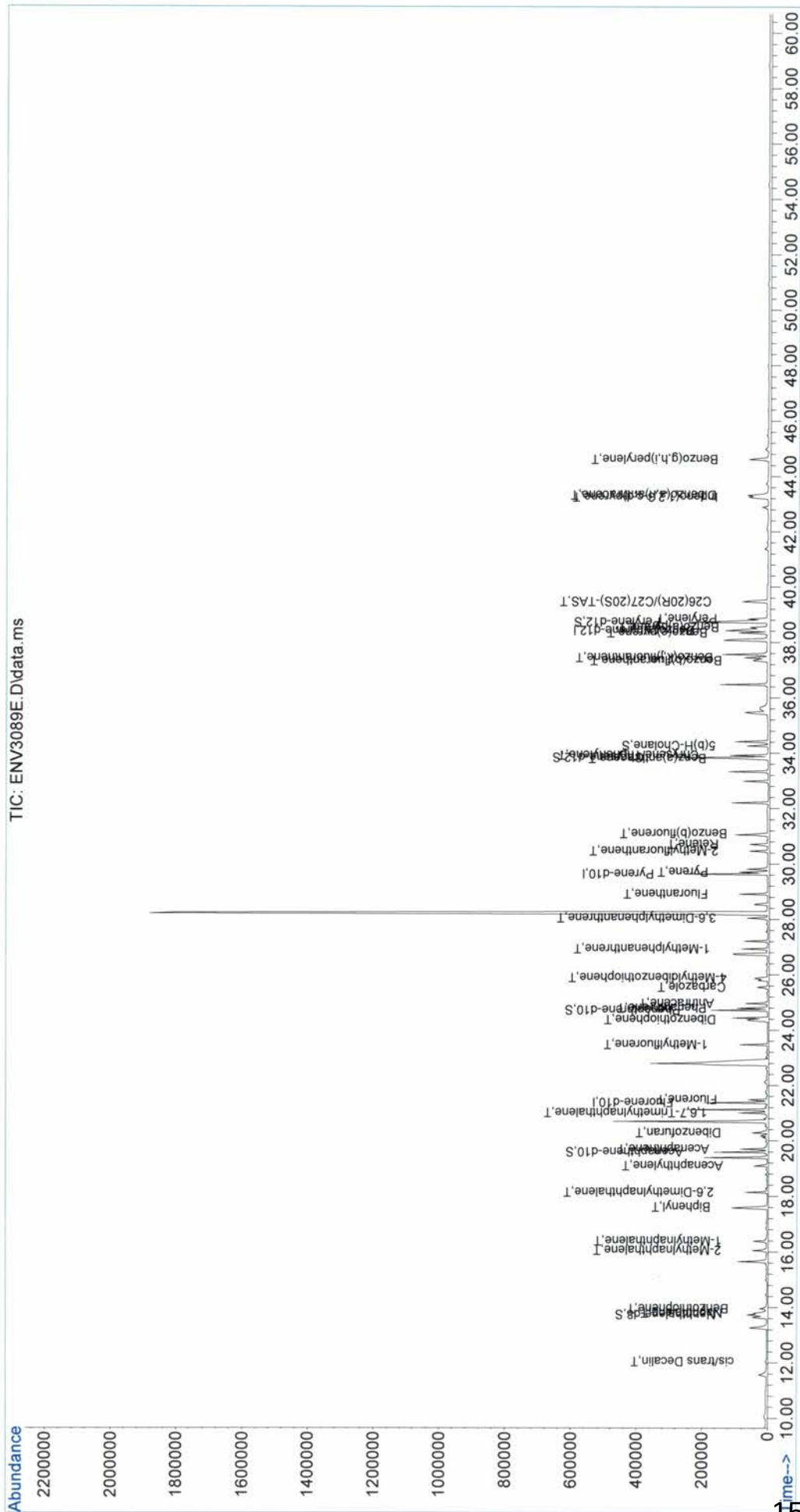
(#) = qualifier out of range (m) = manual integration (+) = signals summed						

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Data Path      : C:\msdchem\2\data\MS60149\
Data File     : ENV3089E.D
Acq On       : 14 Sep 2013 11:38 am
Operator      : MAG
Sample        : MSD (WS-024DA(mid depth)08)
Misc         :
ALS Vial     : 16 Sample Multiplier: 1.0

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Quant Time: Sep 17 05:45:08 2013
Quant Method : C:\GCM56\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration



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

Data File Name ARC1878.D
 Data File Path C:\GCMS6\MS60149\
 Operator MAG
 Date Acquired 9/14/2013 12:48
 Acq. Method File PAH-2012.M
 Sample Name SED-DA-EB-09-081513
 Misc Info 0
 Instrument Name GCMS6
 Vial Number 17
 Sample Multiplier 0.95238
 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

ARC1878.D
 SED-DA-EB-09-081513
 9/14/2013 12:48
 PAH-2012.M
 1.05000105

#	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	62769	51.6164	66.9143
9)+10)	C1-Naphthalenes	16.21	2565	2.1093	2.7344
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	1139	1.0492	1.3602
23)	Acenaphthylene	0.00	0	0.0000	0.0000
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	20.28	1836	1.5984	2.0722
26)	Fluorene	21.48	752	0.7703	0.9986
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	25.55	790	0.5981	0.7753
42)	Anthracene	0.00	0	0.0000	0.0000
41)	Phenanthrene	24.79	4864	3.0362	3.9361
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	0.00	0	0.0000	0.0000
35)+36)+37)	C1-Dibenzothiophenes	0.00	0	0.0000	0.0000
38)	C2-Dibenzothiophenes	0.00	0	0.0000	0.0000
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.91	1955	1.0235	1.3269
59)	Pyrene	29.71	13311	5.2347	6.7861
62)	C1-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	0.00	0	0.0000	0.0000
68)	Chrysene/Triphenylene	0.00	0	0.0000	0.0000
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	0.00	0	0.0000	0.0000
78)	Benzo(k,j)fluoranthene	0.00	0	0.0000	0.0000
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	0.00	0	0.0000	0.0000
81)	Benzo(a)pyrene	0.00	0	0.0000	0.0000
89)	Perylene	38.73	1455	0.7018	0.9098
82)	Indeno(1,2,3-c,d)pyrene	0.00	0	0.0000	0.0000
83)	Dibenzo(a,h)anthracene	0.00	0	0.0000	0.0000
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	0.00	0	0.0000	0.0000

# Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	1488	1.8181	2.3569
10) 1-Methylnaphthalene	16.38	1077	1.3839	1.7941
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-Methylantracene	0.00	0	0.0000	0.0000
46) 4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47) 1-Methylphenanthrene	0.00	0	0.0000	0.0000
48) 3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49) Retene	0.00	0	0.0000	0.0000
60) 2-Methylfluoranthene	0.00	0	0.0000	0.0000
61) Benzo(b)fluorene	0.00	0	0.0000	0.0000
74) C29-Hopane	0.00	0	0.0000	0.0000
75) 18a-Oleanane	0.00	0	0.0000	0.0000
76) C30-Hopane	0.00	0	0.0000	0.0000
91) C20-TAS	0.00	0	0.0000	0.0000
92) C21-TAS	0.00	0	0.0000	0.0000
93) C26(20S)-TAS	0.00	0	0.0000	0.0000
94) C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95) C28(20S)-TAS	0.00	0	0.0000	0.0000
96) C27(20R)-TAS	0.00	0	0.0000	0.0000
97) C28(20R)-TAS	0.00	0	0.0000	0.0000
Surrogate Standards				
2) Naphthalene-d8	13.73	192818	172.36	72.36
21) Acenaphthene-d10	19.59	133528	186.88	78.44
32) Phenanthrene-d10	24.72	302943	183.80	77.14
66) Chrysene-d12	33.84	414706	193.04	81.06
88) Perylene-d12	38.73	362102	211.01	88.61
90) 5(b)H-Cholane	34.27	110108	234.74	98.59
Internal Standards				
1) Fluorene-d10	21.37	170741	239.09	
31) Pyrene-d10	29.64	411479	238.69	
73) Benzo(a)pyrene-d12	38.42	352453	238.40	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ARC1878.D
 Acq On : 14 Sep 2013 12:48 pm
 Operator : MAG
 Sample : SED-DA-EB-09-081513
 Misc :
 ALS Vial : 17 Sample Multiplier: 0.95238

Quant Time: Sep 17 05:50:22 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Fluorene-d10	21.369	176	170741m	251.05		0.00
31) Pyrene-d10	29.640	212	411479m	250.63		0.00
73) Benzo(a)pyrene-d12	38.420	264	352453m	250.32		-0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.733	136	192818m	172.36		0.00
21) Acenaphthene-d10	19.585	164	133528m	186.88		0.00
32) Phenanthrene-d10	24.721	188	302943m	183.80		0.00
66) Chrysene-d12	33.841	240	414706m	193.04		0.00
88) Perylene-d12	38.730	264	362102m	211.01		-0.04
90) 5(b)H-Cholane	34.267	217	110108m	234.74		0.00
Target Compounds						
						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.789	128	62769m	51.62		
9) 2-Methylnaphthalene	16.046	142	1488m	1.82		
10) 1-Methylnaphthalene	16.381	142	1077m	1.38		
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	17.607	154	1139m	1.05		
23) Acenaphthylene	0.000		0	N.D.	d	
24) Acenaphthene	0.000		0	N.D.	d	
25) Dibenzofuran	20.282	168	1836m	1.60		
26) Fluorene	21.480	166	752m	0.77		
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	25.553	167	790m	0.60		
34) Dibenzothiophene	0.000		0	N.D.	d	
35) 4-Methyldibenzothiophene	0.000		0	N.D.	d	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.791	178	4864m	3.04		
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ARC1878.D
 Acq On : 14 Sep 2013 12:48 pm
 Operator : MAG
 Sample : SED-DA-EB-09-081513
 Misc :
 ALS Vial : 17 Sample Multiplier: 0.95238

Quant Time: Sep 17 05:50:22 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	0.000		0	N.D.	d	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.913	202	1955m	1.02		
59) Pyrene	29.709	202	13311m	5.23		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	0.000		0	N.D.	d	
68) Chrysene/Triphenylene	0.000		0	N.D.	d	
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	0.000		0	N.D.	d	
78) Benzo(k,j)fluoranthene	0.000		0	N.D.	d	
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	0.000		0	N.D.	d	
81) Benzo(a)pyrene	0.000		0	N.D.	d	
82) Indeno(1,2,3-c,d)pyrene	0.000		0	N.D.	d	
83) Dibenzo(a,h)anthracene	0.000		0	N.D.	d	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	0.000		0	N.D.	d	
89) Perylene	38.730	252	1455m	0.70		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Data Path : C:\msdchem\2\data\MS60149\
Data File : ARC1878.D
Acq On : 14 Sep 2013 12:48 pm
Operator : MAG
Sample : SED-DA-EB-09-081513
Misc :
ALS Vial : 17 Sample Multiplier: 0.95238

Quant Time: Sep 17 05:50:22 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration

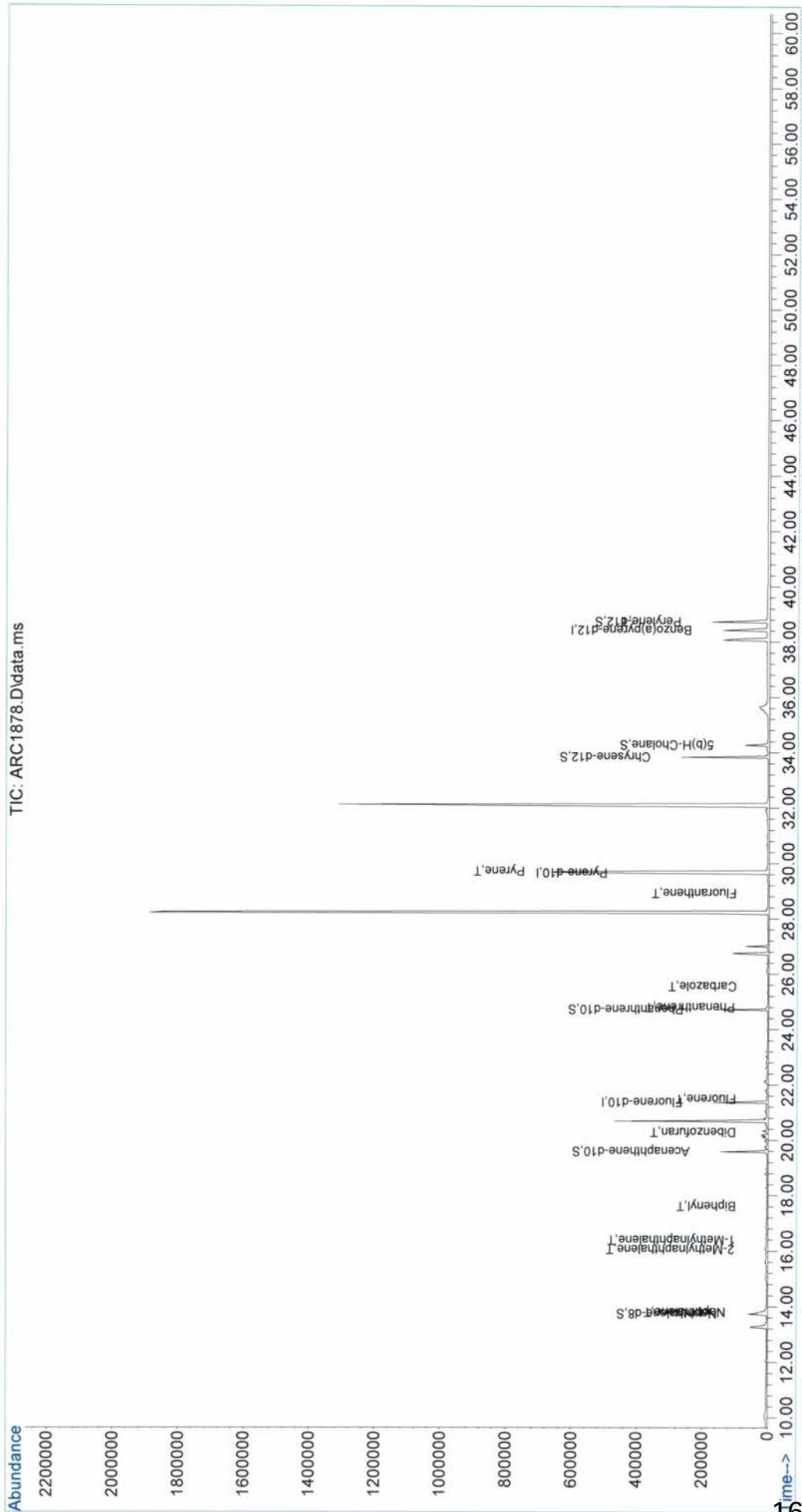
Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)

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

Data Path : C:\msdchem\2\data\MS60149\
Data File : ARC1878.D
Acq On : 14 Sep 2013 12:48 pm
Operator : MAG
Sample : SED-DA-EB-09-081513
Misc :
ALS Vial : 17 Sample Multiplier: 0.95238

Quant Time: Sep 17 05:50:22 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration

TIC: ARC1878.D\data.ms



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

Data File Name ARC1880.D
 Data File Path C:\msdchem\2\data\MS60149\
 Operator MAG
 Date Acquired 9/14/2013 13:59
 Acq. Method File PAH-2012.M
 Sample Name SO-DA-EB-06-081513
 Misc Info 0
 Instrument Name GCMS6
 Vial Number 18
 Sample Multiplier 0.95238
 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

ARC1880.D
 SO-DA-EB-06-081513
 9/14/2013 13:59
 PAH-2012.M
 1.05000105

#	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	39812	33.0724	42.7375
9)+10)	C1-Naphthalenes	16.21	2212	1.8375	2.3745
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	21.48	729	0.7543	0.9748
28)	C1-Fluorenes	0.00	0	0.0000	0.0000
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	0.00	0	0.0000	0.0000
41)	Phenanthrene	24.79	5217	3.2962	4.2594
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	0.00	0	0.0000	0.0000
35)+36)+37)	C1-Dibenzothiophenes	0.00	0	0.0000	0.0000
38)	C2-Dibenzothiophenes	0.00	0	0.0000	0.0000
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.91	1769	0.9374	1.2114
59)	Pyrene	29.71	16966	6.7532	8.7267
62)	C1-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	0.00	0	0.0000	0.0000
68)	Chrysene/Triphenylene	0.00	0	0.0000	0.0000
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	0.00	0	0.0000	0.0000
78)	Benzo(k,j)fluoranthene	0.00	0	0.0000	0.0000
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	0.00	0	0.0000	0.0000
81)	Benzo(a)pyrene	0.00	0	0.0000	0.0000
89)	Perylene	0.00	0	0.0000	0.0000
82)	Indeno(1,2,3-c,d)pyrene	0.00	0	0.0000	0.0000
83)	Dibenzo(a,h)anthracene	0.00	0	0.0000	0.0000
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	0.00	0	0.0000	0.0000

# Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	1324	1.6342	2.1118
10) 1-Methylnaphthalene	16.38	888	1.1527	1.4896
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-Methylantracene	0.00	0	0.0000	0.0000
46) 4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47) 1-Methylphenanthrene	0.00	0	0.0000	0.0000
48) 3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49) Retene	0.00	0	0.0000	0.0000
60) 2-Methylfluoranthene	0.00	0	0.0000	0.0000
61) Benzo(b)fluorene	0.00	0	0.0000	0.0000
74) C29-Hopane	0.00	0	0.0000	0.0000
75) 18a-Oleanane	0.00	0	0.0000	0.0000
76) C30-Hopane	0.00	0	0.0000	0.0000
91) C20-TAS	0.00	0	0.0000	0.0000
92) C21-TAS	0.00	0	0.0000	0.0000
93) C26(20S)-TAS	0.00	0	0.0000	0.0000
94) C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95) C28(20S)-TAS	0.00	0	0.0000	0.0000
96) C27(20R)-TAS	0.00	0	0.0000	0.0000
97) C28(20R)-TAS	0.00	0	0.0000	0.0000
Surrogate Standards				
2) Naphthalene-d8	13.73	195111	176.19	73.96
21) Acenaphthene-d10	19.59	133325	188.50	79.12
32) Phenanthrene-d10	24.72	300258	184.39	77.39
66) Chrysene-d12	33.84	396548	186.83	78.46
88) Perylene-d12	38.73	356390	216.33	90.85
90) 5(b)H-Cholane	34.27	110350	245.05	102.92
Internal Standards				
1) Fluorene-d10	21.37	169016	239.09	
31) Pyrene-d10	29.64	406532	238.69	
73) Benzo(a)pyrene-d12	38.42	338359	238.40	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ARC1880.D
 Acq On : 14 Sep 2013 1:59 pm
 Operator : MAG
 Sample : SO-DA-EB-06-081513
 Misc :
 ALS Vial : 18 Sample Multiplier: 0.95238

Quant Time: Sep 17 07:04:24 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Fluorene-d10	21.369	176	169016m	251.05		0.00
31) Pyrene-d10	29.641	212	406532m	250.63		0.00
73) Benzo(a)pyrene-d12	38.420	264	338359m	250.32		-0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.733	136	195111m	176.19		0.00
21) Acenaphthene-d10	19.585	164	133325m	188.50		0.00
32) Phenanthrene-d10	24.722	188	300258m	184.39		0.00
66) Chrysene-d12	33.841	240	396548m	186.83		0.00
88) Perylene-d12	38.730	264	356390m	216.33		-0.04
90) 5(b)H-Cholane	34.268	217	110350m	245.05		0.00
Target Compounds						
						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.789	128	39812m	33.07		
9) 2-Methylnaphthalene	16.046	142	1324m	1.63		
10) 1-Methylnaphthalene	16.381	142	888m	1.15		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.	d	
16) Benzothiophene	0.000		0	N.D.	d	
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	0.000		0	N.D.	d	
23) Acenaphthylene	0.000		0	N.D.	d	
24) Acenaphthene	0.000		0	N.D.	d	
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	21.480	166	729m	0.75		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	0.000		0	N.D.	d	
35) 4-Methyldibenzothiophene	0.000		0	N.D.	d	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.791	178	5217m	3.30		
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ARC1880.D
 Acq On : 14 Sep 2013 1:59 pm
 Operator : MAG
 Sample : SO-DA-EB-06-081513
 Misc :
 ALS Vial : 18 Sample Multiplier: 0.95238

Quant Time: Sep 17 07:04:24 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	0.000		0	N.D.	d	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.913	202	1769m	0.94		
59) Pyrene	29.710	202	16966m	6.75		
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.		
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.		

Data Path : C:\msdchem\2\data\MS60149\
Data File : ARC1880.D
Acq On : 14 Sep 2013 1:59 pm
Operator : MAG
Sample : SO-DA-EB-06-081513
Misc :
ALS Vial : 18 Sample Multiplier: 0.95238

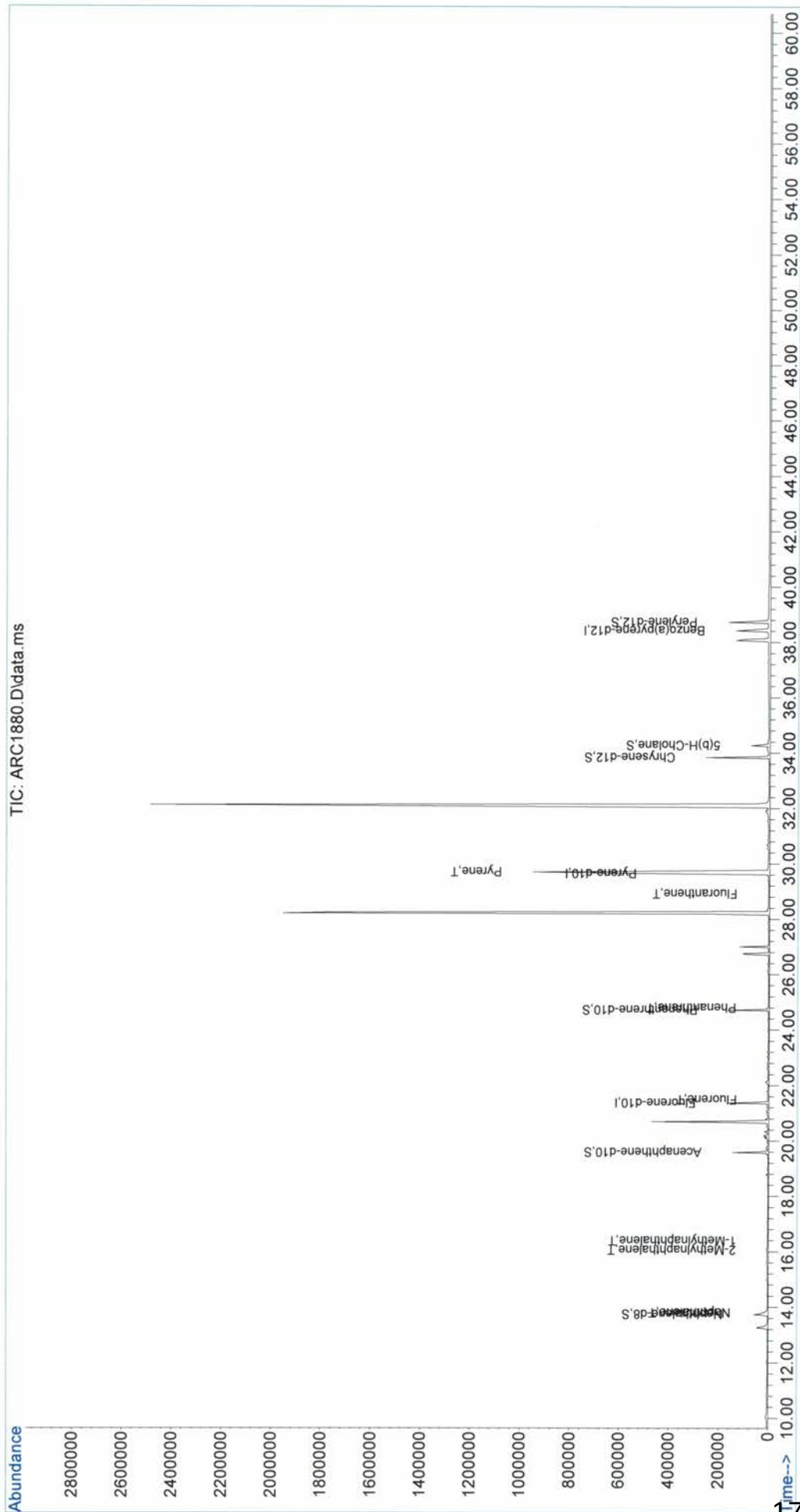
Quant Time: Sep 17 07:04:24 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration

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

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

Data Path : C:\msdchem\2\data\MS60149\
Data File : ARC1880.D
Acq On : 14 Sep 2013 1:59 pm
Operator : MAG
Sample : SO-DA-EB-06-081513
Misc :
ALS Vial : 18 Sample Multiplier: 0.95238

Quant Time: Sep 17 07:04:24 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration



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

Data File Name ARC1905.D
 Data File Path C:\GCMS6\MS60149\
 Operator MAG
 Date Acquired 9/14/2013 15:09
 Acq. Method File PAH-2012.M
 Sample Name WS-025DA(mid depth)081513
 Misc Info 0
 Instrument Name GCMS6
 Vial Number 19
 Sample Multiplier 0.96154
 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

ARC1905.D
 3-025DA(mid depth)081513
 9/14/2013 15:09
 PAH-2012.M
 1.039998336

#	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	6464	5.0396	6.0750
9)+10)	C1-Naphthalenes	16.22	2317	1.8064	2.1776
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	16.05	1608	1.8627	2.2454
10) 1-Methylnaphthalene	16.38	709	0.8638	1.0412
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-Methylantracene	0.00	0	0.0000	0.0000
46) 4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47) 1-Methylphenanthrene	0.00	0	0.0000	0.0000
48) 3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49) Retene	0.00	0	0.0000	0.0000
60) 2-Methylfluoranthene	0.00	0	0.0000	0.0000
61) Benzo(b)fluorene	0.00	0	0.0000	0.0000
74) C29-Hopane	0.00	0	0.0000	0.0000
75) 18a-Oleanane	0.00	0	0.0000	0.0000
76) C30-Hopane	0.00	0	0.0000	0.0000
91) C20-TAS	0.00	0	0.0000	0.0000
92) C21-TAS	0.00	0	0.0000	0.0000
93) C26(20S)-TAS	0.00	0	0.0000	0.0000
94) C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95) C28(20S)-TAS	0.00	0	0.0000	0.0000
96) C27(20R)-TAS	0.00	0	0.0000	0.0000
97) C28(20R)-TAS	0.00	0	0.0000	0.0000
Surrogate Standards				
2) Naphthalene-d8	13.74	200424	169.86	70.63
21) Acenaphthene-d10	19.59	139405	184.98	76.90
32) Phenanthrene-d10	24.72	313851	199.57	82.96
66) Chrysene-d12	33.84	435561	212.49	88.38
88) Perylene-d12	38.73	303178	224.63	93.44
90) 5(b)H-Cholane	34.27	102902	278.94	116.04
Internal Standards				
1) Fluorene-d10	21.37	181820	241.39	
31) Pyrene-d10	29.64	396395	240.99	
73) Benzo(a)pyrene-d12	38.42	279861	240.70	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ARC1905.D
 Acq On : 14 Sep 2013 3:09 pm
 Operator : MAG
 Sample : WS-025DA(mid depth)081513
 Misc :
 ALS Vial : 19 Sample Multiplier: 0.96154

Quant Time: Sep 17 06:04:34 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Fluorene-d10	21.372	176	181820m	251.05		0.00
31) Pyrene-d10	29.640	212	396395m	250.63		0.00
73) Benzo(a)pyrene-d12	38.420	264	279861m	250.32		-0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.736	136	200424m	169.86		0.00
21) Acenaphthene-d10	19.588	164	139405m	184.98		0.00
32) Phenanthrene-d10	24.721	188	313851m	199.57		0.00
66) Chrysene-d12	33.840	240	435561m	212.49		0.00
88) Perylene-d12	38.730	264	303178m	224.63		-0.04
90) 5(b)H-Cholane	34.267	217	102902m	278.94		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	13.792	128	6464m	5.04		
9) 2-Methylnaphthalene	16.049	142	1608m	1.86		
10) 1-Methylnaphthalene	16.384	142	709m	0.86		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.	d	
16) Benzothiophene	0.000		0	N.D.	d	
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	0.000		0	N.D.	d	
23) Acenaphthylene	0.000		0	N.D.	d	
24) Acenaphthene	0.000		0	N.D.	d	
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	0.000		0	N.D.	d	
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	0.000		0	N.D.	d	
35) 4-Methyldibenzothiophene	0.000		0	N.D.	d	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	0.000		0	N.D.	d	
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ARC1905.D
 Acq On : 14 Sep 2013 3:09 pm
 Operator : MAG
 Sample : WS-025DA(mid depth)081513
 Misc :
 ALS Vial : 19 Sample Multiplier: 0.96154

Quant Time: Sep 17 06:04:34 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 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	

Data Path : C:\msdchem\2\data\MS60149\
Data File : ARC1905.D
Acq On : 14 Sep 2013 3:09 pm
Operator : MAG
Sample : WS-025DA(mid depth)081513
Misc :
ALS Vial : 19 Sample Multiplier: 0.96154

Quant Time: Sep 17 06:04:34 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration

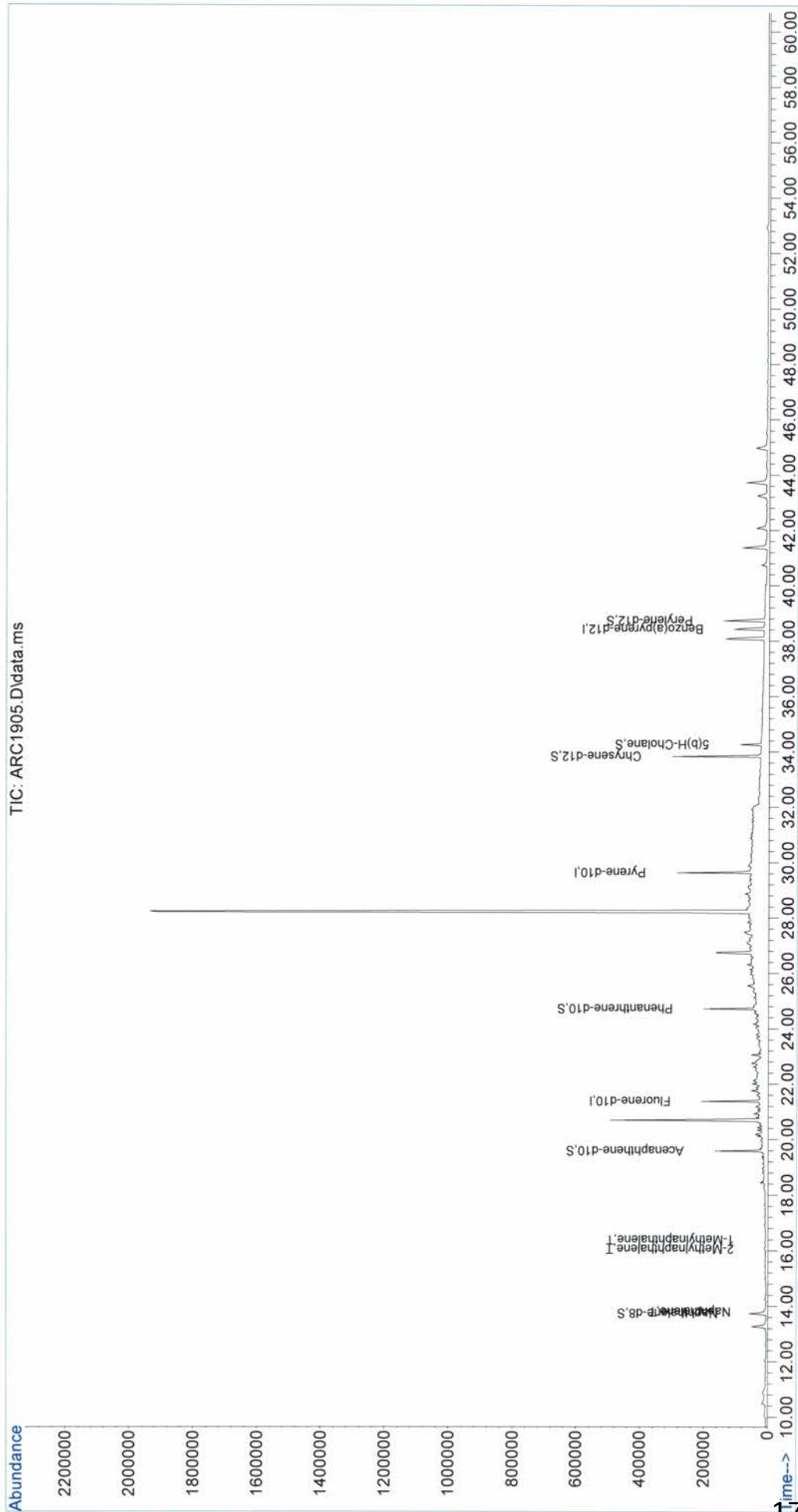
Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)

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

Data Path : C:\msdchem\2\data\MS60149\
Data File : ARC1905.D
Acq On : 14 Sep 2013 3:09 pm
Operator : MAG
Sample : WS-025DA(mid depth)081513
Misc :
ALS Vial : 19 Sample Multiplier: 0.96154

Quant Time: Sep 17 06:04:34 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration

TIC: ARC1905.D\data.ms



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

Data File Name ARC1906.D
 Data File Path C:\msdchem\2\data\MS60149\
 Operator MAG
 Date Acquired 9/14/2013 17:29
 Acq. Method File PAH-2012.M
 Sample Name WS-026DA(mid depth)081513
 Misc Info 0
 Instrument Name GCMS6
 Vial Number 21
 Sample Multiplier 1.03093
 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

ARC1906.D
 3-026DA(mid depth)081513
 9/14/2013 17:29
 PAH-2012.M
 0.969997963

#	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	8008	7.0453	8.4512
9)+10)	C1-Naphthalenes	16.21	9723	8.5541	10.2611
13)	C2-Naphthalenes	18.42	29230	25.7159	30.8477
14)	C3-Naphthalenes	20.70	41002	36.0727	43.2712
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	2936	2.8936	3.4711
23)	Acenaphthylene	19.09	2133	1.7415	2.0890
24)	Acenaphthene	19.70	809	1.0932	1.3113
25)	Dibenzofuran	20.28	2944	2.7422	3.2894
26)	Fluorene	21.48	3762	4.1226	4.9453
28)	C1-Fluorenes	23.48	6701	7.3433	8.8087
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	24.97	2081	1.5423	1.8501
41)	Phenanthrene	24.79	8099	5.5868	6.7017
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.38	4316	2.5721	3.0854
35)+36)+37)	C1-Dibenzothiophenes	26.19	10438	6.2206	7.4620
38)	C2-Dibenzothiophenes	27.98	14355	8.5550	10.2622
39)	C3-Dibenzothiophenes	28.81	11569	6.8946	8.2705
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.91	6907	3.9962	4.7936
59)	Pyrene	29.71	5852	2.5432	3.0507
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	33.84	1984	0.8983	1.0775
68)	Chrysene/Triphenylene	33.92	3980	2.0997	2.5187
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	37.37	2956	2.0569	2.4674
78)	Benzo(k,j)fluoranthene	37.45	976	0.6225	0.7467
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	38.85	1260	0.8075	0.9687
82)	Indeno(1,2,3-c,d)pyrene	43.25	2593	1.4462	1.7348
83)	Dibenzo(a,h)anthracene	43.32	1317	0.9282	1.1135
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.62	2808	1.7665	2.1190

# Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	3351	4.3804	5.2545
10) 1-Methylnaphthalene	16.38	6372	8.7599	10.5080
11) 2,6-Dimethylnaphthalene	18.14	3964	5.6030	6.7211
12) 1,6,7-Trimethylnaphthalene	21.01	2697	3.7356	4.4811
27) 1-Methylfluorene	23.48	2347	4.0750	4.8882
35) 4-Methyldibenzothiophene	25.87	3917	3.9065	4.6860
36) 2/3-Methyldibenzothiophene	26.18	2613	2.6060	3.1260
37) 1-Methyldibenzothiophene	26.52	3908	3.8975	4.6753
43) 3-Methylphenanthrene	0.00	0	0.0000	0.0000
44) 2-Methylphenanthrene	0.00	0	0.0000	0.0000
45) 2-Methylantracene	0.00	0	0.0000	0.0000
46) 4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47) 1-Methylphenanthrene	0.00	0	0.0000	0.0000
48) 3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49) Retene	0.00	0	0.0000	0.0000
60) 2-Methylfluoranthene	0.00	0	0.0000	0.0000
61) Benzo(b)fluorene	0.00	0	0.0000	0.0000
74) C29-Hopane	0.00	0	0.0000	0.0000
75) 18a-Oleanane	0.00	0	0.0000	0.0000
76) C30-Hopane	0.00	0	0.0000	0.0000
91) C20-TAS	0.00	0	0.0000	0.0000
92) C21-TAS	0.00	0	0.0000	0.0000
93) C26(20S)-TAS	0.00	0	0.0000	0.0000
94) C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95) C28(20S)-TAS	0.00	0	0.0000	0.0000
96) C27(20R)-TAS	0.00	0	0.0000	0.0000
97) C28(20R)-TAS	0.00	0	0.0000	0.0000
Surrogate Standards				
2) Naphthalene-d8	13.73	211984	202.73	78.62
21) Acenaphthene-d10	19.59	141174	211.39	81.97
32) Phenanthrene-d10	24.72	320694	215.02	83.36
66) Chrysene-d12	33.84	419675	215.88	83.75
88) Perylene-d12	38.73	314390	243.43	94.44
90) 5(b)H-Cholane	34.27	103299	292.62	113.53
Internal Standards				
1) Fluorene-d10	21.37	172753	258.81	
31) Pyrene-d10	29.64	403059	258.38	
73) Benzo(a)pyrene-d12	38.42	287134	258.07	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ARC1906.D
 Acq On : 14 Sep 2013 5:29 pm
 Operator : MAG
 Sample : WS-026DA(mid depth)081513
 Misc :
 ALS Vial : 21 Sample Multiplier: 1.03093

Quant Time: Sep 17 06:10:30 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Fluorene-d10	21.370	176	172753m	251.05		0.00
31) Pyrene-d10	29.641	212	403059m	250.63		0.00
73) Benzo(a)pyrene-d12	38.419	264	287134m	250.32		-0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.735	136	211984m	202.73		0.00
21) Acenaphthene-d10	19.587	164	141174m	211.39		0.00
32) Phenanthrene-d10	24.723	188	320694m	215.02		0.00
66) Chrysene-d12	33.840	240	419675m	215.88		0.00
88) Perylene-d12	38.729	264	314390m	243.43		-0.04
90) 5(b)H-Cholane	34.266	217	103299m	292.62		0.00
Target Compounds						
						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.791	128	8008m	7.05		
9) 2-Methylnaphthalene	16.048	142	3351m	4.38		
10) 1-Methylnaphthalene	16.382	142	6372m	8.76		
11) 2,6-Dimethylnaphthalene	18.138	156	3964m	5.60		
12) 1,6,7-Trimethylnaphtha...	21.008	170	2697m	3.74		
13) C2-Naphthalenes	18.416	156	29230m	25.72		
14) C3-Naphthalenes	20.701	170	41002m	36.07		
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	17.608	154	2936m	2.89		
23) Acenaphthylene	19.085	152	2133m	1.74		
24) Acenaphthene	19.698	154	809m	1.09		
25) Dibenzofuran	20.283	168	2944m	2.74		
26) Fluorene	21.482	166	3762m	4.12		
27) 1-Methylfluorene	23.476	180	2347m	4.08		
28) C1-Fluorenes	23.476	180	6701m	7.34		
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	24.376	184	4316m	2.57		
35) 4-Methyldibenzothiophene	25.866	198	3917m	3.91		
36) 2/3-Methyldibenzothiop...	26.178	198	2613m	2.61		
37) 1-Methyldibenzothiophene	26.524	198	3908m	3.90		
38) C2-Dibenzothiophenes	27.979	212	14355m	8.55		
39) C3-Dibenzothiophenes	28.810	226	11569m	6.89		
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.792	178	8099m	5.59		
42) Anthracene	24.965	178	2081m	1.54		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ARC1906.D
 Acq On : 14 Sep 2013 5:29 pm
 Operator : MAG
 Sample : WS-026DA(mid depth)081513
 Misc :
 ALS Vial : 21 Sample Multiplier: 1.03093

Quant Time: Sep 17 06:10:30 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	0.000		0	N.D.	d	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.914	202	6907m	4.00		
59) Pyrene	29.711	202	5852m	2.54		
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	33.840	228	1984m	0.90		
68) Chrysene/Triphenylene	33.917	228	3980m	2.10		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	37.371	252	2956m	2.06		
78) Benzo(k,j)fluoranthene	37.449	252	976m	0.62		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	0.000		0	N.D.	d	
81) Benzo(a)pyrene	0.000		0	N.D.	d	
82) Indeno(1,2,3-c,d)pyrene	43.251	276	2593m	1.45		
83) Dibenzo(a,h)anthracene	43.325	278	1317m	0.93		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.616	276	2808m	1.77		
89) Perylene	38.846	252	1260m	0.81		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	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	

Data Path : C:\msdchem\2\data\MS60149\
Data File : ARC1906.D
Acq On : 14 Sep 2013 5:29 pm
Operator : MAG
Sample : WS-026DA(mid depth)081513
Misc :
ALS Vial : 21 Sample Multiplier: 1.03093

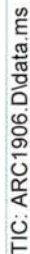
Quant Time: Sep 17 06:10:30 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration

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

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

Data Path : C:\msdchem\2\data\MS60149\
Data File : ARC1906.D
Acq On : 14 Sep 2013 5:29 pm
Operator : MAG
Sample : WS-026DA(mid depth)081513
Misc :
ALS Vial : 21 Sample Multiplier: 1.

Quant Time: Sep 17 06:10:30 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initia Calibration



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

Data File Name ARC1908.D
 Data File Path C:\msdchem\2\data\MS60149\
 Operator MAG
 Date Acquired 9/14/2013 18:39
 Acq. Method File PAH-2012.M
 Sample Name WS-027DA(mid depth)081513
 Misc Info 0
 Instrument Name GCMS6
 Vial Number 22
 Sample Multiplier 1.07527
 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

ARC1908.D
 3-027DA(mid depth)081513
 9/14/2013 18:39
 PAH-2012.M
 0.929998977

#	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	19073	16.8541	21.4499
9)+10)	C1-Naphthalenes	16.21	24269	21.4456	27.2935
13)	C2-Naphthalenes	18.50	60824	53.7479	68.4040
14)	C3-Naphthalenes	20.42	67383	59.5439	75.7805
15)	C4-Naphthalenes	22.76	47193	41.7027	53.0743
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	24505	24.2579	30.8726
23)	Acenaphthylene	19.08	13443	11.0241	14.0302
24)	Acenaphthene	19.70	4055	5.5036	7.0043
25)	Dibenzofuran	20.28	8370	7.8306	9.9658
26)	Fluorene	21.48	12801	14.0900	17.9321
28)	C1-Fluorenes	23.47	17145	18.8714	24.0173
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	25.55	7783	6.7931	8.6455
42)	Anthracene	24.96	24867	19.2271	24.4700
41)	Phenanthrene	24.79	46276	33.3036	42.3849
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.72	103842	74.7323	95.1104
50)	C2-Phenanthrenes/Anthracenes	28.22	152429	109.6990	139.6120
51)	C3-Phenanthrenes/Anthracenes	29.95	73568	52.9448	67.3819
52)	C4-Phenanthrenes/Anthracenes	31.79	49092	35.3301	44.9640
34)	Dibenzothiophene	24.37	19710	12.2546	15.5963
35)+36)+37)	C1-Dibenzothiophenes	26.20	35205	21.8886	27.8572
38)	C2-Dibenzothiophenes	27.98	53470	33.2450	42.3103
39)	C3-Dibenzothiophenes	28.81	65896	40.9708	52.1428
40)	C4-Dibenzothiophenes	29.81	50685	31.5134	40.1065
58)	Fluoranthene	28.91	84035	50.7242	64.5558
59)	Pyrene	29.71	86270	39.1143	49.7801
62)	C1-Fluoranthenes/Pyrenes	30.85	56218	33.9337	43.1868
63)	C2-Fluoranthenes/Pyrenes	32.60	64432	38.8917	49.4967
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	32.99	34420	15.3247	19.5035
54)	C1-Naphthobenzothiophenes	34.15	38455	17.1212	21.7898
55)	C2-Naphthobenzothiophenes	36.05	64680	28.7973	36.6499
56)	C3-Naphthobenzothiophenes	36.94	60464	26.9202	34.2609
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.80	42239	19.9513	25.3917
68)	Chrysene/Triphenylene	33.92	77638	42.7317	54.3838
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	37.37	111667	78.3982	99.7759
78)	Benzo(k,j)fluoranthene	37.45	40193	25.8630	32.9154
79)	Benzo(a)fluoranthene	37.72	11428	7.3536	9.3588
80)	Benzo(e)pyrene	38.34	72769	47.1032	59.9474
81)	Benzo(a)pyrene	38.54	40298	27.3028	34.7478
89)	Perylene	38.85	128102	82.8359	105.4238
82)	Indeno(1,2,3-c,d)pyrene	43.25	60647	34.1267	43.4324
83)	Dibenzo(a,h)anthracene	43.33	15269	10.8581	13.8189
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.65	60837	38.6141	49.1435

# Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	14013	18.3985	23.4155
10) 1-Methylnaphthalene	16.38	10256	14.1617	18.0234
11) 2,6-Dimethylnaphthalene	18.14	11925	16.9301	21.5467
12) 1,6,7-Trimethylnaphthalene	21.01	5630	7.8326	9.9684
27) 1-Methylfluorene	23.47	5629	9.8166	12.4934
35) 4-Methyldibenzothiophene	25.90	13698	14.2524	18.1387
36) 2/3-Methyldibenzothiophene	26.18	10348	10.7668	13.7027
37) 1-Methyldibenzothiophene	26.52	11159	11.6107	14.7767
43) 3-Methylphenanthrene	26.49	8324	6.3401	8.0690
44) 2-Methylphenanthrene	26.56	13453	10.2468	13.0409
45) 2-Methylantracene	26.76	59448	45.2798	57.6268
46) 4/9-Methylphenanthrene	26.83	11950	9.1020	11.5839
47) 1-Methylphenanthrene	26.94	10667	8.1247	10.3402
48) 3,6-Dimethylphenanthrene	27.98	2372	2.3240	2.9577
49) Retene	30.71	3727	5.6909	7.2427
60) 2-Methylfluoranthene	30.47	5722	3.9617	5.0420
61) Benzo(b)fluorene	31.09	8496	7.7799	9.9014
74) C29-Hopane	0.00	0	0.0000	0.0000
75) 18a-Oleanane	0.00	0	0.0000	0.0000
76) C30-Hopane	0.00	0	0.0000	0.0000
91) C20-TAS	0.00	0	0.0000	0.0000
92) C21-TAS	0.00	0	0.0000	0.0000
93) C26(20S)-TAS	0.00	0	0.0000	0.0000
94) C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95) C28(20S)-TAS	0.00	0	0.0000	0.0000
96) C27(20R)-TAS	0.00	0	0.0000	0.0000
97) C28(20R)-TAS	0.00	0	0.0000	0.0000
Surrogate Standards				
2) Naphthalene-d8	13.73	196865	189.11	70.31
21) Acenaphthene-d10	19.59	136692	205.58	76.43
32) Phenanthrene-d10	24.72	302190	211.39	78.57
66) Chrysene-d12	33.84	433191	232.48	86.47
88) Perylene-d12	38.73	304770	238.09	88.56
90) 5(b)H-Cholane	34.27	108208	309.26	115.05
Internal Standards				
1) Fluorene-d10	21.37	179391	269.95	
31) Pyrene-d10	29.64	402955	269.49	
73) Benzo(a)pyrene-d12	38.46	296829	269.17	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ARC1908.D
 Acq On : 14 Sep 2013 6:39 pm
 Operator : MAG
 Sample : WS-027DA(mid depth)081513
 Misc :
 ALS Vial : 22 Sample Multiplier: 1.07527

Quant Time: Sep 17 06:18:00 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Fluorene-d10	21.370	176	179391m	251.05		0.00
31) Pyrene-d10	29.639	212	402955m	250.63		0.00
73) Benzo(a)pyrene-d12	38.458	264	296829m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.735	136	196865m	189.11		0.00
21) Acenaphthene-d10	19.587	164	136692m	205.58		0.00
32) Phenanthrene-d10	24.721	188	302190m	211.39		0.00
66) Chrysene-d12	33.840	240	433191m	232.48		0.00
88) Perylene-d12	38.730	264	304770m	238.09		-0.04
90) 5(b)H-Cholane	34.267	217	108208m	309.26		0.00
Target Compounds						
						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.790	128	19073m	16.85		
9) 2-Methylnaphthalene	16.048	142	14013m	18.40		
10) 1-Methylnaphthalene	16.382	142	10256m	14.16		
11) 2,6-Dimethylnaphthalene	18.137	156	11925m	16.93		
12) 1,6,7-Trimethylnaphtha...	21.008	170	5630m	7.83		
13) C2-Naphthalenes	18.500	156	60824m	53.75		
14) C3-Naphthalenes	20.422	170	67383m	59.54		
15) C4-Naphthalenes	22.763	184	47193m	41.70		
16) Benzothiophene	0.000		0	N.D.	d	
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.608	154	24505m	24.26		
23) Acenaphthylene	19.085	152	13443m	11.02		
24) Acenaphthene	19.698	154	4055m	5.50		
25) Dibenzofuran	20.283	168	8370m	7.83		
26) Fluorene	21.481	166	12801m	14.09		
27) 1-Methylfluorene	23.474	180	5629m	9.82		
28) C1-Fluorenes	23.474	180	17145m	18.87		
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.552	167	7783m	6.79		
34) Dibenzothiophene	24.374	184	19710m	12.25		
35) 4-Methyldibenzothiophene	25.898	198	13698m	14.25		
36) 2/3-Methyldibenzothiop...	26.175	198	10348m	10.77		
37) 1-Methyldibenzothiophene	26.522	198	11159m	11.61		
38) C2-Dibenzothiophenes	27.977	212	53470m	33.24		
39) C3-Dibenzothiophenes	28.808	226	65896m	40.97		
40) C4-Dibenzothiophenes	29.812	240	50685m	31.51		
41) Phenanthrene	24.790	178	46276m	33.30		
42) Anthracene	24.963	178	24867m	19.23		
43) 3-Methylphenanthrene	26.487	192	8324m	6.34		

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ARC1908.D
 Acq On : 14 Sep 2013 6:39 pm
 Operator : MAG
 Sample : WS-027DA(mid depth)081513
 Misc :
 ALS Vial : 22 Sample Multiplier: 1.07527

Quant Time: Sep 17 06:18:00 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
44) 2-Methylphenanthrene	26.556	192	13453m	10.25		
45) 2-Methylanthracene	26.764	192	59448m	45.28		
46) 4/9-Methylphenanthrene	26.834	192	11950m	9.10		
47) 1-Methylphenanthrene	26.937	192	10667m	8.12		
48) 3,6-Dimethylphenanthrene	27.977	206	2372m	2.32		
49) Retene	30.713	234	3727m	5.69		
50) C2-Phenanthrenes/Anthr...	28.219	206	152429m	109.70		
51) C3-Phenanthrenes/Anthr...	29.951	220	73568m	52.94		
52) C4-Phenanthrenes/Anthr...	31.787	234	49092m	35.33		
53) Naphthobenzothiophene	32.987	234	34420m	15.32		
54) C1-Naphthobenzothiophenes	34.151	248	38455m	17.12		
55) C2-Naphthobenzothiophenes	36.052	262	64680m	28.80		
56) C3-Naphthobenzothiophenes	36.945	276	60464m	26.92		
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.912	202	84035m	50.72		
59) Pyrene	29.709	202	86270m	39.11		
60) 2-Methylfluoranthene	30.471	216	5722m	3.96		
61) Benzo(b) fluorene	31.094	216	8496m	7.78		
62) C1-Fluoranthenes/Pyrenes	30.852	216	56218m	33.93		
63) C2-Fluoranthenes/Pyrenes	32.599	230	64432m	38.89		
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.802	228	42239m	19.95		
68) Chrysene/Triphenylene	33.918	228	77638m	42.73		
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	37.372	252	111667m	78.40		
78) Benzo(k,j)fluoranthene	37.449	252	40193m	25.86		
79) Benzo(a)fluoranthene	37.721	252	11428m	7.35		
80) Benzo(e)pyrene	38.342	252	72769m	47.10		
81) Benzo(a)pyrene	38.536	252	40298m	27.30		
82) Indeno(1,2,3-c,d)pyrene	43.251	276	60647m	34.13		
83) Dibenzo(a,h)anthracene	43.325	278	15269m	10.86		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.653	276	60837m	38.61		
89) Perylene	38.846	252	128102m	82.84		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	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	

Data Path : C:\msdchem\2\data\MS60149\
Data File : ARC1908.D
Acq On : 14 Sep 2013 6:39 pm
Operator : MAG
Sample : WS-027DA(mid depth)081513
Misc :
ALS Vial : 22 Sample Multiplier: 1.07527

Quant Time: Sep 17 06:18:00 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration

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

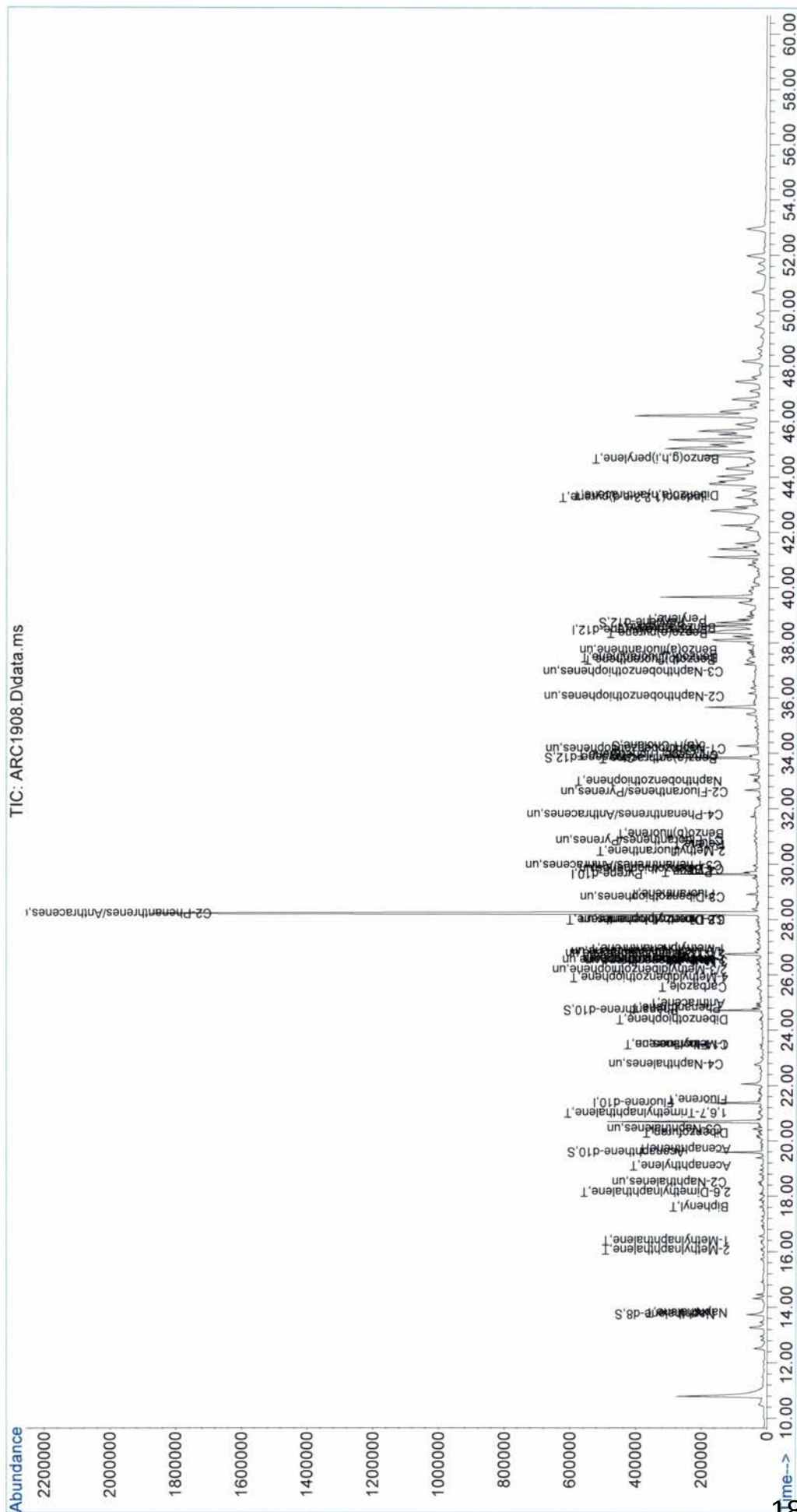
(#) = qualifier out of range (m) = manual integration (+) = signals summed						

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Data Path      : C:\msdchem\2\data\MS60149\
Data File     : ARC1908.D
Acq On        : 14 Sep 2013   6:39 pm
Operator      : MAG
Sample        : WS-027DA (mid depth) 081513
Misc          :
ALS Vial      : 22   Sample Multiplier: 1.0

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Quant Time: Sep 17 06:18:00 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration



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

Data File Name ARC1910.D
 Data File Path C:\msdchem\2\data\MS60149\
 Operator MAG
 Date Acquired 9/14/2013 19:48
 Acq. Method File PAH-2012.M
 Sample Name WS-024DA(mid depth)081313
 Misc Info 0
 Instrument Name GCMS6
 Vial Number 23
 Sample Multiplier 0.9901
 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

ARC1910.D
 S-024DA(mid depth)081313
 9/14/2013 19:48
 PAH-2012.M
 1.00999899

#	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	42551	36.0857	47.3540
9)+10)	C1-Naphthalenes	16.21	2520	2.1371	2.8044
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	1376	1.3072	1.7154
23)	Acenaphthylene	19.11	3526	2.7750	3.6416
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	20.28	1961	1.7607	2.3105
26)	Fluorene	21.48	1180	1.2465	1.6357
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	25.55	2112	1.6339	2.1441
42)	Anthracene	24.96	7515	5.1502	6.7584
41)	Phenanthrene	24.79	6846	4.3669	5.7305
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	0.00	0	0.0000	0.0000
35)+36)+37)	C1-Dibenzothiophenes	0.00	0	0.0000	0.0000
38)	C2-Dibenzothiophenes	0.00	0	0.0000	0.0000
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.91	14715	7.8726	10.3309
59)	Pyrene	29.71	9694	3.8957	5.1121
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	33.80	4241	1.7755	2.3300
68)	Chrysene/Triphenylene	33.92	12676	6.1839	8.1149
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.33	17311	9.4516	12.4031
78)	Benzo(k,j)fluoranthene	37.45	4408	2.2058	2.8947
79)	Benzo(a)fluoranthene	37.72	1678	0.8397	1.1019
80)	Benzo(e)pyrene	38.34	11255	5.6657	7.4349
81)	Benzo(a)pyrene	38.54	5337	2.8121	3.6902
89)	Perylene	0.00	0	0.0000	0.0000
82)	Indeno(1,2,3-c,d)pyrene	43.25	9809	4.2925	5.6330
83)	Dibenzo(a,h)anthracene	43.29	2191	1.2117	1.5901
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.62	9096	4.4899	5.8919

# Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	1421	1.7905	2.3497
10) 1-Methylnaphthalene	16.38	1099	1.4564	1.9112
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-Methylantracene	0.00	0	0.0000	0.0000
46) 4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47) 1-Methylphenanthrene	0.00	0	0.0000	0.0000
48) 3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49) Retene	0.00	0	0.0000	0.0000
60) 2-Methylfluoranthene	0.00	0	0.0000	0.0000
61) Benzo(b)fluorene	0.00	0	0.0000	0.0000
74) C29-Hopane	0.00	0	0.0000	0.0000
75) 18a-Oleanane	0.00	0	0.0000	0.0000
76) C30-Hopane	0.00	0	0.0000	0.0000
91) C20-TAS	0.00	0	0.0000	0.0000
92) C21-TAS	0.00	0	0.0000	0.0000
93) C26(20S)-TAS	0.00	0	0.0000	0.0000
94) C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95) C28(20S)-TAS	0.00	0	0.0000	0.0000
96) C27(20R)-TAS	0.00	0	0.0000	0.0000
97) C28(20R)-TAS	0.00	0	0.0000	0.0000
Surrogate Standards				
2) Naphthalene-d8	13.73	195496	180.22	72.77
21) Acenaphthene-d10	19.59	135328	195.33	78.86
32) Phenanthrene-d10	24.72	304465	188.77	76.20
66) Chrysene-d12	33.84	416902	198.31	80.10
88) Perylene-d12	38.73	340812	207.05	83.64
90) 5(b)H-Cholane	34.27	95464	212.18	85.72
Internal Standards				
1) Fluorene-d10	21.37	172117	248.56	
31) Pyrene-d10	29.64	418616	248.14	
73) Benzo(a)pyrene-d12	38.42	351450	247.85	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ARC1910.D
 Acq On : 14 Sep 2013 7:48 pm
 Operator : MAG
 Sample : WS-024DA(mid depth)081313
 Misc :
 ALS Vial : 23 Sample Multiplier: 0.9901

Quant Time: Sep 17 06:19:12 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Fluorene-d10	21.369	176	172117m	251.05		0.00
31) Pyrene-d10	29.641	212	418616m	250.63		0.00
73) Benzo(a)pyrene-d12	38.421	264	351450m	250.32		-0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.734	136	195496m	180.22		0.00
21) Acenaphthene-d10	19.586	164	135328m	195.33		0.00
32) Phenanthrene-d10	24.722	188	304465m	188.77		0.00
66) Chrysene-d12	33.841	240	416902m	198.31		0.00
88) Perylene-d12	38.731	264	340812m	207.05		-0.04
90) 5(b)H-Cholane	34.268	217	95464m	212.18		0.00
Target Compounds						
						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.790	128	42551m	36.09		
9) 2-Methylnaphthalene	16.047	142	1421m	1.79		
10) 1-Methylnaphthalene	16.381	142	1099m	1.46		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	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	17.607	154	1376m	1.31		
23) Acenaphthylene	19.112	152	3526m	2.78		
24) Acenaphthene	0.000		0	N.D.	d	
25) Dibenzofuran	20.283	168	1961m	1.76		
26) Fluorene	21.481	166	1180m	1.25		
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	25.554	167	2112m	1.63		
34) Dibenzothiophene	0.000		0	N.D.	d	
35) 4-Methyldibenzothiophene	0.000		0	N.D.	d	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.792	178	6846m	4.37		
42) Anthracene	24.965	178	7515m	5.15		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ARC1910.D
 Acq On : 14 Sep 2013 7:48 pm
 Operator : MAG
 Sample : WS-024DA(mid depth)081313
 Misc :
 ALS Vial : 23 Sample Multiplier: 0.9901

Quant Time: Sep 17 06:19:12 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	0.000		0	N.D.	d	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.914	202	14715m	7.87		
59) Pyrene	29.710	202	9694m	3.90		
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	33.803	228	4241m	1.78		
68) Chrysene/Triphenylene	33.919	228	12676m	6.18		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b) fluoranthene	37.334	252	17311m	9.45		
78) Benzo(k,j) fluoranthene	37.450	252	4408m	2.21		
79) Benzo(a) fluoranthene	37.722	252	1678m	0.84		
80) Benzo(e)pyrene	38.343	252	11255m	5.67		
81) Benzo(a)pyrene	38.537	252	5337m	2.81		
82) Indeno(1,2,3-c,d)pyrene	43.252	276	9809m	4.29		
83) Dibenzo(a,h)anthracene	43.288	278	2191m	1.21		
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	44.616	276	9096m	4.49		
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	

Data Path : C:\msdchem\2\data\MS60149\
Data File : ARC1910.D
Acq On : 14 Sep 2013 7:48 pm
Operator : MAG
Sample : WS-024DA(mid depth)081313
Misc :
ALS Vial : 23 Sample Multiplier: 0.9901

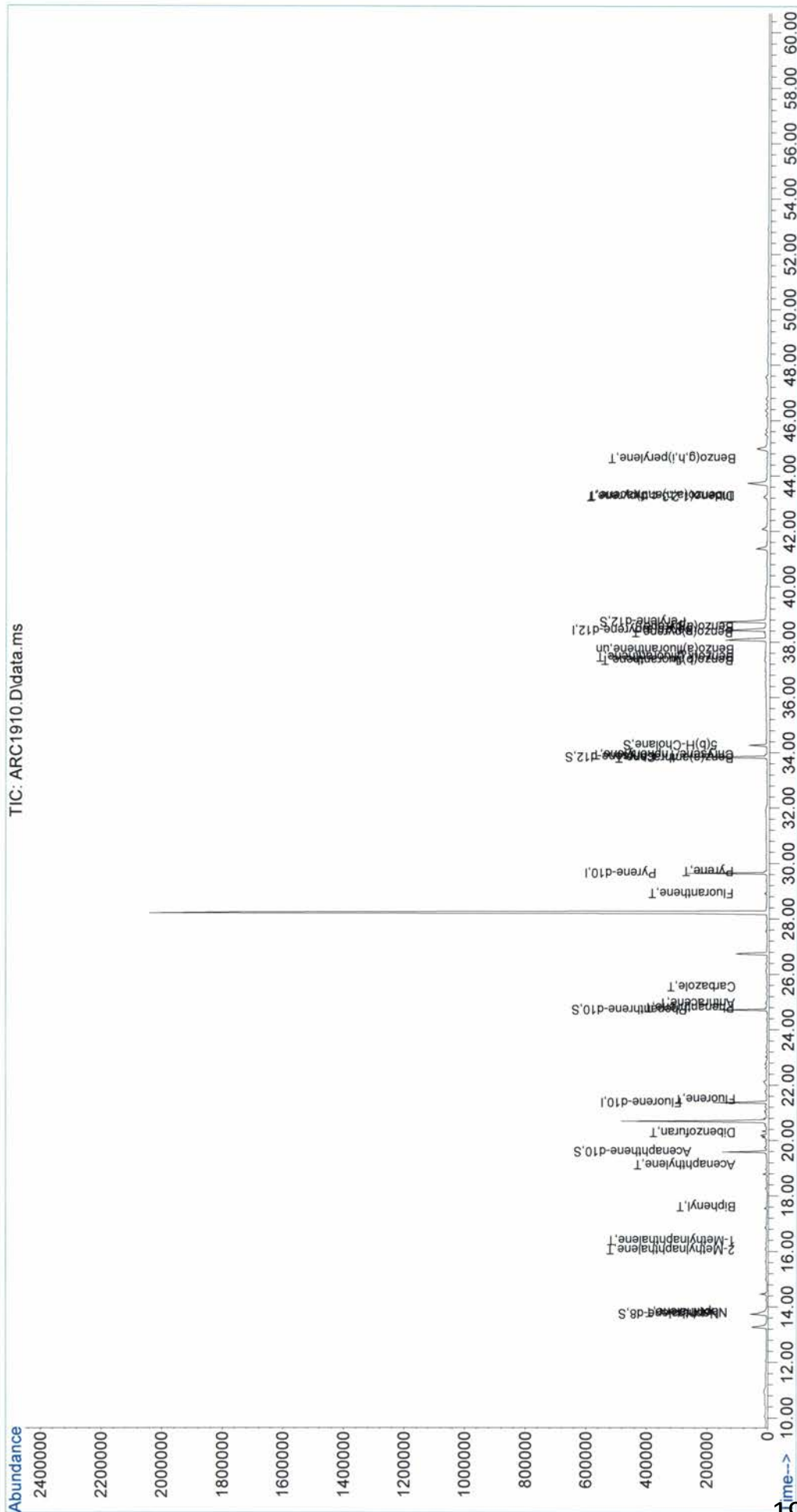
Quant Time: Sep 17 06:19:12 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
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(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ARC1910.D
 Acq On : 14 Sep 2013 7:48 pm
 Operator : MAG
 Sample : WS-024DA(mid depth)081313
 Misc :
 ALS Vial : 23 Sample Multiplier: 0.9901

Quant Time: Sep 17 06:19:12 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration



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

Data File Name ARC1916.D	Surrogate/Internal Multiplier Factor: 1.00	
Data File Path C:\GCMS6\MS60149\	AR-WKSU-2500-001: (ng/mL)	
Operator MAG	Naphthalene-d8 250.125	
Date Acquired 9/14/2013 20:58	Acenaphthene-d10 250.163	Copy data below
Acq. Method File PAH-2012.M	Phenanthrene-d10 250.194	to Spread Sheet
Sample Name WS-022DA(surface)081313	Chrysene-d12 250.038	
Misc Info 0	Perylene-d12 250.031	ARC1916.D
Instrument Name GCMS6	5(b)H-Cholane 250.000	/S-022DA(surface)081313
Vial Number 24		9/14/2013 20:58
Sample Multiplier 1.03093		PAH-2012.M
Sample Amount 0		0.969997963

#	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	5747	4.7887	6.2925
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	2185	2.0396	2.6801
23)	Acenaphthylene	19.11	6748	5.2181	6.8567
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	20.28	2460	2.1702	2.8517
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	25.55	2193	1.6575	2.1781
42)	Anthracene	24.96	21010	14.0676	18.4852
41)	Phenanthrene	24.79	3552	2.2137	2.9088
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	0.00	0	0.0000	0.0000
35)+36)+37)	C1-Dibenzothiophenes	0.00	0	0.0000	0.0000
38)	C2-Dibenzothiophenes	0.00	0	0.0000	0.0000
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.91	13623	7.1208	9.3570
59)	Pyrene	29.71	18025	7.0771	9.2995
62)	C1-Fluoranthenes/Pyrenes	31.68	13576	7.0963	9.3247
63)	C2-Fluoranthenes/Pyrenes	33.30	16140	8.4365	11.0858
64)	C3-Fluoranthenes/Pyrenes	34.15	6864	3.5879	4.7146
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	33.80	6651	2.7205	3.5748
68)	Chrysene/Triphenylene	33.92	18797	8.9592	11.7726
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.33	27649	21.1276	27.7623
78)	Benzo(k,j)fluoranthene	37.45	6965	4.8780	6.4098
79)	Benzo(a)fluoranthene	37.72	2493	1.7460	2.2943
80)	Benzo(e)pyrene	38.34	18915	13.3260	17.5108
81)	Benzo(a)pyrene	38.54	6682	4.9274	6.4748
89)	Perylene	38.85	3723	2.6203	3.4431
82)	Indeno(1,2,3-c,d)pyrene	43.25	13733	8.4109	11.0521
83)	Dibenzo(a,h)anthracene	43.29	3279	2.5379	3.3349
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.62	14943	10.3230	13.5647

# 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-Methylantracene	0.00	0	0.0000	0.0000
46) 4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47) 1-Methylphenanthrene	0.00	0	0.0000	0.0000
48) 3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49) Retene	0.00	0	0.0000	0.0000
60) 2-Methylfluoranthene	30.47	1282	0.7687	1.0100
61) Benzo(b)fluorene	31.10	549	0.4353	0.5721
74) C29-Hopane	0.00	0	0.0000	0.0000
75) 18a-Oleanane	0.00	0	0.0000	0.0000
76) C30-Hopane	0.00	0	0.0000	0.0000
91) C20-TAS	0.00	0	0.0000	0.0000
92) C21-TAS	0.00	0	0.0000	0.0000
93) C26(20S)-TAS	0.00	0	0.0000	0.0000
94) C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95) C28(20S)-TAS	0.00	0	0.0000	0.0000
96) C27(20R)-TAS	0.00	0	0.0000	0.0000
97) C28(20R)-TAS	0.00	0	0.0000	0.0000
Surrogate Standards				
2) Naphthalene-d8	13.73	206684	187.21	72.60
21) Acenaphthene-d10	19.59	141336	200.44	77.72
32) Phenanthrene-d10	24.72	324043	196.29	76.10
66) Chrysene-d12	33.84	431322	200.45	77.76
88) Perylene-d12	38.73	288262	245.10	95.09
90) 5(b)H-Cholane	34.27	96027	298.71	115.90
Internal Standards				
1) Fluorene-d10	21.37	182398	258.81	
31) Pyrene-d10	29.64	446134	258.38	
73) Benzo(a)pyrene-d12	38.42	261474	258.07	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ARC1916.D
 Acq On : 14 Sep 2013 8:58 pm
 Operator : MAG
 Sample : WS-022DA(surface)081313
 Misc :
 ALS Vial : 24 Sample Multiplier: 1.03093

Quant Time: Sep 17 06:33:56 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Fluorene-d10	21.369	176	182398m	251.05		0.00
31) Pyrene-d10	29.641	212	446134m	250.63		0.00
73) Benzo(a)pyrene-d12	38.420	264	261474m	250.32		-0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.733	136	206684m	187.21		0.00
21) Acenaphthene-d10	19.585	164	141336m	200.44		0.00
32) Phenanthrene-d10	24.722	188	324043m	196.29		0.00
66) Chrysene-d12	33.841	240	431322m	200.45		0.00
88) Perylene-d12	38.730	264	288262m	245.10		-0.04
90) 5(b)H-Cholane	34.268	217	96027m	298.71		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	13.789	128	5747m	4.79		
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	17.607	154	2185m	2.04		
23) Acenaphthylene	19.112	152	6748m	5.22		
24) Acenaphthene	0.000		0	N.D.	d	
25) Dibenzofuran	20.282	168	2460m	2.17		
26) Fluorene	0.000		0	N.D.	d	
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.553	167	2193m	1.66		
34) Dibenzothiophene	0.000		0	N.D.	d	
35) 4-Methyldibenzothiophene	0.000		0	N.D.	d	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.791	178	3552m	2.21		
42) Anthracene	24.964	178	21010m	14.07		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ARC1916.D
 Acq On : 14 Sep 2013 8:58 pm
 Operator : MAG
 Sample : WS-022DA(surface)081313
 Misc :
 ALS Vial : 24 Sample Multiplier: 1.03093

Quant Time: Sep 17 06:33:56 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	0.000		0	N.D.	d	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.913	202	13623m	7.12		
59) Pyrene	29.710	202	18025m	7.08		
60) 2-Methylfluoranthene	30.472	216	1282m	0.77		
61) Benzo(b)fluorene	31.096	216	549m	0.44		
62) C1-Fluoranthenes/Pyrenes	31.684	216	13576m	7.10		
63) C2-Fluoranthenes/Pyrenes	33.298	230	16140m	8.44		
64) C3-Fluoranthenes/Pyrenes	34.151	244	6864m	3.59		
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.802	228	6651m	2.72		
68) Chrysene/Triphenylene	33.918	228	18797m	8.96		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	37.333	252	27649m	21.13		
78) Benzo(k,j)fluoranthene	37.450	252	6965m	4.88		
79) Benzo(a)fluoranthene	37.721	252	2493m	1.75		
80) Benzo(e)pyrene	38.342	252	18915m	13.33		
81) Benzo(a)pyrene	38.536	252	6682m	4.93		
82) Indeno(1,2,3-c,d)pyrene	43.252	276	13733m	8.41		
83) Dibenzo(a,h)anthracene	43.289	278	3279m	2.54		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.617	276	14943m	10.32		
89) Perylene	38.847	252	3723m	2.62		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Data Path : C:\msdchem\2\data\MS60149\
Data File : ARC1916.D
Acq On : 14 Sep 2013 8:58 pm
Operator : MAG
Sample : WS-022DA(surface)081313
Misc :
ALS Vial : 24 Sample Multiplier: 1.03093

Quant Time: Sep 17 06:33:56 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration

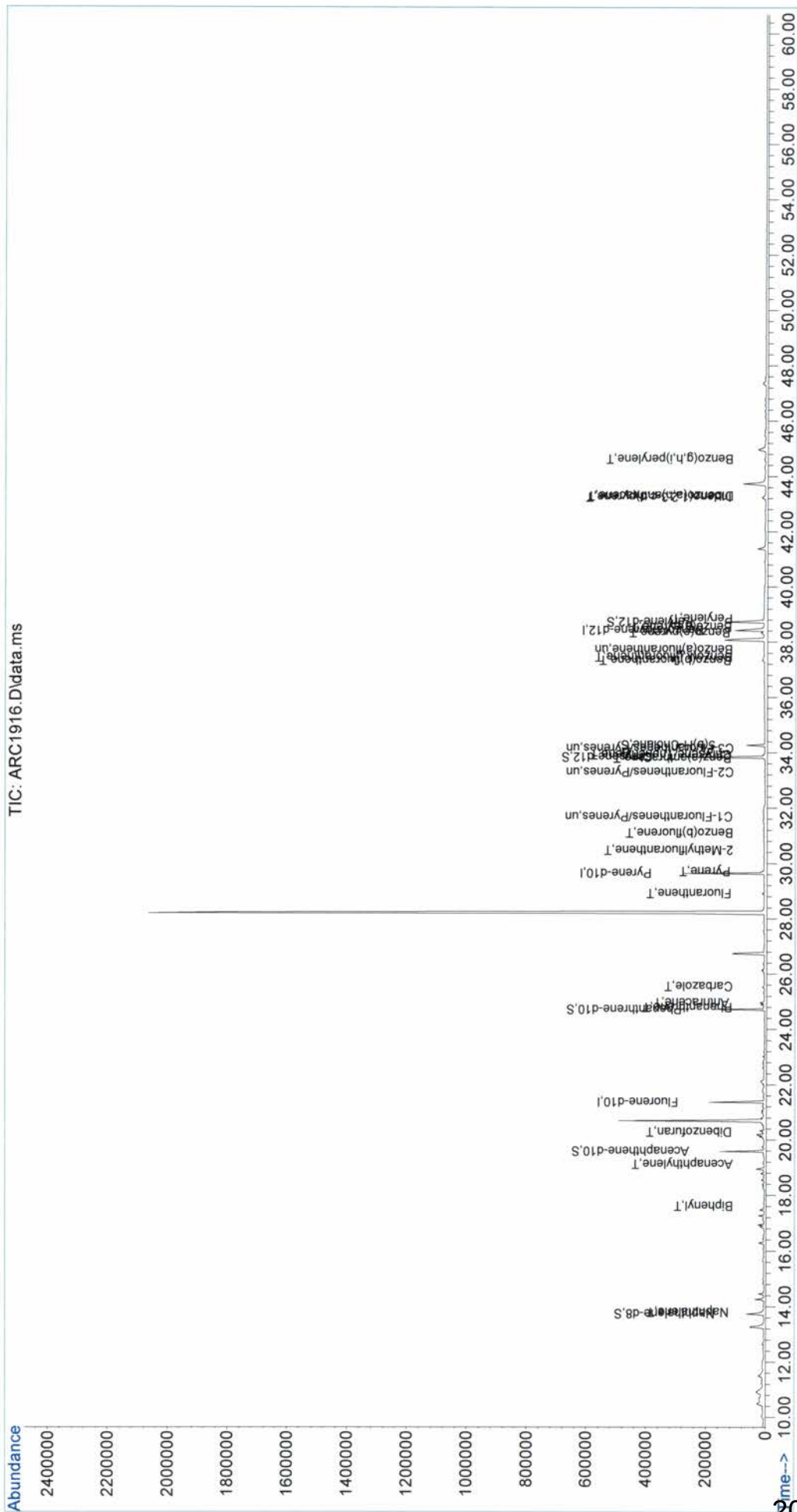
Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)

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

Data Path : C:\msdchem\2\data\MS60149\
Data File : ARC1916.D
Acq On : 14 Sep 2013 8:58 pm
Operator : MAG
Sample : WS-022DA(surface)081313
Misc :
ALS Vial : 24 Sample Multiplier: 1.03093

Quant Time: Sep 17 06:33:56 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration

TIC: ARC1916.D\data.ms



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

Data File Name ARC1918.D
 Data File Path C:\GCMS6\MS60149\
 Operator MAG
 Date Acquired 9/14/2013 22:08
 Acq. Method File PAH-2012.M
 Sample Name WS-023DA(surface)081313
 Misc Info 0
 Instrument Name GCMS6
 Vial Number 25
 Sample Multiplier 1.05263
 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

ARC1918.D
 /S-023DA(surface)081313
 9/14/2013 22:08
 PAH-2012.M
 0.950001425

#	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	8890	7.5727	10.0827
9)+10)	C1-Naphthalenes	16.21	3103	2.6432	3.5193
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	1617	1.5430	2.0545
23)	Acenaphthylene	19.08	9425	7.4505	9.9201
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	20.28	2389	2.1545	2.8686
26)	Fluorene	21.48	1137	1.2064	1.6063
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	25.55	2598	2.1208	2.8238
42)	Anthracene	24.96	28688	20.7463	27.6229
41)	Phenanthrene	24.79	4739	3.1898	4.2472
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	0.00	0	0.0000	0.0000
35)+36)+37)	C1-Dibenzothiophenes	0.00	0	0.0000	0.0000
38)	C2-Dibenzothiophenes	0.00	0	0.0000	0.0000
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.91	20596	11.6276	15.4817
59)	Pyrene	29.71	22735	9.6410	12.8366
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	33.80	8665	3.8280	5.0969
68)	Chrysene/Triphenylene	33.92	24516	12.6204	16.8036
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.33	38587	29.4572	39.2212
78)	Benzo(k,j)fluoranthene	37.45	10075	7.0493	9.3858
79)	Benzo(a)fluoranthene	37.72	3728	2.6084	3.4730
80)	Benzo(e)pyrene	38.34	25140	17.6945	23.5596
81)	Benzo(a)pyrene	38.54	10687	7.8732	10.4828
89)	Perylene	38.85	5444	3.8278	5.0966
82)	Indeno(1,2,3-c,d)pyrene	43.25	19184	11.7380	15.6287
83)	Dibenzo(a,h)anthracene	43.29	4222	3.2646	4.3467
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.62	20318	14.0226	18.6706

# Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	1742	2.2048	2.9356
10) 1-Methylnaphthalene	16.38	1361	1.8116	2.4120
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-Methylantracene	0.00	0	0.0000	0.0000
46) 4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47) 1-Methylphenanthrene	0.00	0	0.0000	0.0000
48) 3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49) Retene	0.00	0	0.0000	0.0000
60) 2-Methylfluoranthene	0.00	0	0.0000	0.0000
61) Benzo(b)fluorene	0.00	0	0.0000	0.0000
74) C29-Hopane	0.00	0	0.0000	0.0000
75) 18a-Oleanane	0.00	0	0.0000	0.0000
76) C30-Hopane	0.00	0	0.0000	0.0000
91) C20-TAS	0.00	0	0.0000	0.0000
92) C21-TAS	0.00	0	0.0000	0.0000
93) C26(20S)-TAS	0.00	0	0.0000	0.0000
94) C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95) C28(20S)-TAS	0.00	0	0.0000	0.0000
96) C27(20R)-TAS	0.00	0	0.0000	0.0000
97) C28(20R)-TAS	0.00	0	0.0000	0.0000
Surrogate Standards				
2) Naphthalene-d8	13.73	194298	179.91	68.33
21) Acenaphthene-d10	19.59	131605	190.80	72.46
32) Phenanthrene-d10	24.72	302329	197.80	75.11
66) Chrysene-d12	33.84	399570	200.56	76.20
88) Perylene-d12	38.73	289973	246.32	93.59
90) 5(b)H-Cholane	34.27	88422	274.79	104.42
Internal Standards				
1) Fluorene-d10	21.37	182179	264.26	
31) Pyrene-d10	29.64	421760	263.82	
73) Benzo(a)pyrene-d12	38.42	267236	263.50	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ARC1918.D
 Acq On : 14 Sep 2013 10:08 pm
 Operator : MAG
 Sample : WS-023DA(surface)081313
 Misc :
 ALS Vial : 25 Sample Multiplier: 1.05263

Quant Time: Sep 17 06:36:22 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Fluorene-d10	21.370	176	182179m	251.05		0.00
31) Pyrene-d10	29.640	212	421760m	250.63		0.00
73) Benzo(a)pyrene-d12	38.420	264	267236m	250.32		-0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.735	136	194298m	179.91		0.00
21) Acenaphthene-d10	19.586	164	131605m	190.80		0.00
32) Phenanthrene-d10	24.721	188	302329m	197.80		0.00
66) Chrysene-d12	33.841	240	399570m	200.56		0.00
88) Perylene-d12	38.730	264	289973m	246.32		-0.04
90) 5(b)H-Cholane	34.267	217	88422m	274.79		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.790	128	8890m	7.57		
9) 2-Methylnaphthalene	16.047	142	1742m	2.20		
10) 1-Methylnaphthalene	16.382	142	1361m	1.81		
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	17.608	154	1617m	1.54		
23) Acenaphthylene	19.085	152	9425m	7.45		
24) Acenaphthene	0.000		0	N.D.	d	
25) Dibenzofuran	20.283	168	2389m	2.15		
26) Fluorene	21.481	166	1137m	1.21		
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	25.553	167	2598m	2.12		
34) Dibenzothiophene	0.000		0	N.D.	d	
35) 4-Methyldibenzothiophene	0.000		0	N.D.	d	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.791	178	4739m	3.19		
42) Anthracene	24.964	178	28688m	20.75		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ARC1918.D
 Acq On : 14 Sep 2013 10:08 pm
 Operator : MAG
 Sample : WS-023DA(surface)081313
 Misc :
 ALS Vial : 25 Sample Multiplier: 1.05263

Quant Time: Sep 17 06:36:22 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	0.000		0	N.D.	d	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.913	202	20596m	11.63		
59) Pyrene	29.709	202	22735m	9.64		
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	33.802	228	8665m	3.83		
68) Chrysene/Triphenylene	33.918	228	24516m	12.62		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b) fluoranthene	37.333	252	38587m	29.46		
78) Benzo(k,j) fluoranthene	37.450	252	10075m	7.05		
79) Benzo(a) fluoranthene	37.721	252	3728m	2.61		
80) Benzo(e)pyrene	38.342	252	25140m	17.69		
81) Benzo(a)pyrene	38.536	252	10687m	7.87		
82) Indeno(1,2,3-c,d)pyrene	43.251	276	19184m	11.74		
83) Dibenzo(a,h)anthracene	43.288	278	4222m	3.26		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.616	276	20318m	14.02		
89) Perylene	38.847	252	5444m	3.83		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Data Path : C:\msdchem\2\data\MS60149\
Data File : ARC1918.D
Acq On : 14 Sep 2013 10:08 pm
Operator : MAG
Sample : WS-023DA(surface)081313
Misc :
ALS Vial : 25 Sample Multiplier: 1.05263

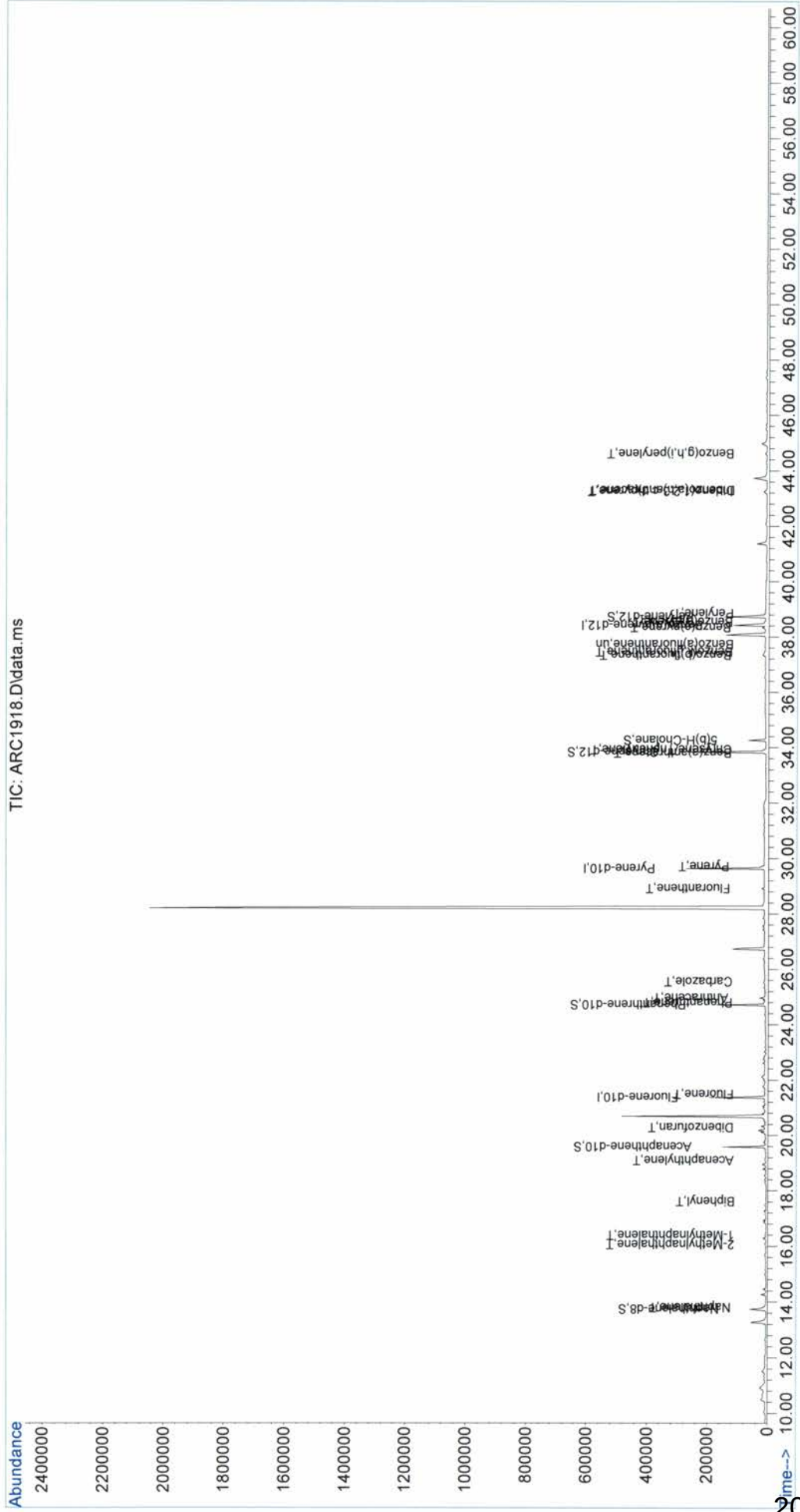
Quant Time: Sep 17 06:36:22 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration

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

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

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ARC1918.D
 Acq On : 14 Sep 2013 10:08 pm
 Operator : MAG
 Sample : WS-023DA(surface)081313
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 ALS Vial : 25 Sample Multiplier: 1.05263

Quant Time: Sep 17 06:36:22 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration



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

Data File Name ARC1920.D
 Data File Path C:\msdchem\2\data\MS60149\
 Operator MAG
 Date Acquired 9/14/2013 23:18
 Acq. Method File PAH-2012.M
 Sample Name WS-DUP-01DA-081513
 Misc Info 0
 Instrument Name GCMS6
 Vial Number 26
 Sample Multiplier 1.14943
 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

ARC1920.D
 WS-DUP-01DA-081513
 9/14/2013 23:18
 PAH-2012.M
 0.869996433

#	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	20574	19.4859	31.0147
9)+10)	C1-Naphthalenes	16.22	22718	21.5166	34.2467
13)	C2-Naphthalenes	18.50	61337	58.0933	92.4640
14)	C3-Naphthalenes	20.42	84745	80.2634	127.7510
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	22550	23.9255	38.0809
23)	Acenaphthylene	19.09	10967	9.6394	15.3425
24)	Acenaphthene	19.70	4698	6.8342	10.8776
25)	Dibenzofuran	20.28	9756	9.7826	15.5705
26)	Fluorene	21.48	13243	15.6232	24.8666
28)	C1-Fluorenes	23.48	17104	20.1781	32.1164
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	25.55	6987	6.0447	9.6210
42)	Anthracene	24.96	23639	18.1167	28.8354
41)	Phenanthrene	24.79	54274	38.7157	61.6216
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.71	98040	69.9356	111.3127
50)	C2-Phenanthrenes/Anthracenes	28.22	142054	101.3325	161.2854
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.38	20548	12.6633	20.1554
35)+36)+37)	C1-Dibenzothiophenes	26.19	38811	23.9183	38.0695
38)	C2-Dibenzothiophenes	27.29	64585	39.8022	63.3511
39)	C3-Dibenzothiophenes	28.81	78125	48.1466	76.6324
40)	C4-Dibenzothiophenes	29.81	56789	34.9977	55.7040
58)	Fluoranthene	28.91	94516	56.5485	90.0052
59)	Pyrene	29.71	83013	37.3064	59.3785
62)	C1-Fluoranthenes/Pyrenes	30.85	52221	31.2436	49.7287
63)	C2-Fluoranthenes/Pyrenes	32.60	83709	50.0827	79.7140
64)	C3-Fluoranthenes/Pyrenes	34.19	42879	25.6544	40.8327
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	32.99	28352	12.5120	19.9147
54)	C1-Naphthobenzothiophenes	34.15	45911	20.2610	32.2483
55)	C2-Naphthobenzothiophenes	36.05	77375	34.1463	54.3489
56)	C3-Naphthobenzothiophenes	37.25	73311	32.3529	51.4943
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.80	32983	15.4421	24.5784
68)	Chrysene/Triphenylene	33.92	72111	39.3404	62.6160
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	37.37	103762	63.2415	100.6581
78)	Benzo(k,j)fluoranthene	37.45	35214	19.6710	31.3093
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.34	72937	40.9859	65.2351
81)	Benzo(a)pyrene	38.53	42171	24.8039	39.4790
89)	Perylene	38.85	153113	85.9523	136.8056
82)	Indeno(1,2,3-c,d)pyrene	43.25	61911	30.2438	48.1374
83)	Dibenzo(a,h)anthracene	43.55	5401	3.3343	5.3070
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.65	62419	34.3936	54.7424

# Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	12781	17.9859	28.6272
10) 1-Methylnaphthalene	16.38	9937	14.7065	23.4075
11) 2,6-Dimethylnaphthalene	18.14	13307	20.2487	32.2288
12) 1,6,7-Trimethylnaphthalene	21.01	4643	6.9233	11.0194
27) 1-Methylfluorene	23.48	6082	11.3682	18.0941
35) 4-Methylidibenzothiophene	25.87	14843	15.3078	24.3645
36) 2/3-Methylidibenzothiophene	26.18	11814	12.1840	19.3925
37) 1-Methylidibenzothiophene	26.52	12154	12.5346	19.9507
43) 3-Methylphenanthrene	26.45	9887	7.4644	11.8806
44) 2-Methylphenanthrene	26.56	14057	10.6126	16.8915
45) 2-Methylanthracene	26.77	49866	37.6472	59.9210
46) 4/9-Methylphenanthrene	26.84	15134	11.4257	18.1856
47) 1-Methylphenanthrene	26.94	9096	6.8672	10.9301
48) 3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49) Retene	0.00	0	0.0000	0.0000
60) 2-Methylfluoranthene	30.47	4414	3.0292	4.8214
61) Benzo(b)fluorene	31.10	7908	7.1778	11.4244
74) C29-Hopane	0.00	0	0.0000	0.0000
75) 18a-Oleanane	0.00	0	0.0000	0.0000
76) C30-Hopane	0.00	0	0.0000	0.0000
91) C20-TAS	0.00	0	0.0000	0.0000
92) C21-TAS	0.00	0	0.0000	0.0000
93) C26(20S)-TAS	0.00	0	0.0000	0.0000
94) C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95) C28(20S)-TAS	0.00	0	0.0000	0.0000
96) C27(20R)-TAS	0.00	0	0.0000	0.0000
97) C28(20R)-TAS	0.00	0	0.0000	0.0000
Surrogate Standards				
2) Naphthalene-d8	13.74	168227	173.20	60.24
21) Acenaphthene-d10	19.59	118749	191.42	66.57
32) Phenanthrene-d10	24.72	260590	180.68	62.83
66) Chrysene-d12	33.84	383400	203.95	70.96
88) Perylene-d12	38.73	302037	204.84	71.27
90) 5(b)H-Cholane	34.27	95189	236.18	82.19
Internal Standards				
1) Fluorene-d10	21.37	178916	288.56	
31) Pyrene-d10	29.64	434571	288.08	
73) Benzo(a)pyrene-d12	38.46	365501	287.73	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ARC1920.D
 Acq On : 14 Sep 2013 11:18 pm
 Operator : MAG
 Sample : WS-DUP-01DA-081513
 Misc :
 ALS Vial : 26 Sample Multiplier: 1.14943

Quant Time: Sep 17 06:47:24 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Fluorene-d10	21.371	176	178916m	251.05		0.00
31) Pyrene-d10	29.641	212	434571m	250.63		0.00
73) Benzo(a)pyrene-d12	38.457	264	365501m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.736	136	168227m	173.20		0.00
21) Acenaphthene-d10	19.588	164	118749m	191.42		0.00
32) Phenanthrene-d10	24.722	188	260590m	180.68		0.00
66) Chrysene-d12	33.839	240	383400m	203.95		0.00
88) Perylene-d12	38.729	264	302037m	204.84		-0.04
90) 5(b)H-Cholane	34.266	217	95189m	236.18		0.00
Target Compounds						
						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.791	128	20574m	19.49		
9) 2-Methylnaphthalene	16.049	142	12781m	17.99		
10) 1-Methylnaphthalene	16.383	142	9937m	14.71		
11) 2,6-Dimethylnaphthalene	18.139	156	13307m	20.25		
12) 1,6,7-Trimethylnaphtha...	21.009	170	4643m	6.92		
13) C2-Naphthalenes	18.501	156	61337m	58.09		
14) C3-Naphthalenes	20.424	170	84745m	80.26		
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	17.609	154	22550m	23.93		
23) Acenaphthylene	19.086	152	10967m	9.64		
24) Acenaphthene	19.699	154	4698m	6.83		
25) Dibenzofuran	20.284	168	9756m	9.78		
26) Fluorene	21.482	166	13243m	15.62		
27) 1-Methylfluorene	23.475	180	6082m	11.37		
28) C1-Fluorenes	23.475	180	17104m	20.18		
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.554	167	6987m	6.04		
34) Dibenzothiophene	24.376	184	20548m	12.66		
35) 4-Methyldibenzothiophene	25.865	198	14843m	15.31		
36) 2/3-Methyldibenzothiop...	26.177	198	11814m	12.18		
37) 1-Methyldibenzothiophene	26.524	198	12154m	12.53		
38) C2-Dibenzothiophenes	27.286	212	64585m	39.80		
39) C3-Dibenzothiophenes	28.810	226	78125m	48.15		
40) C4-Dibenzothiophenes	29.814	240	56789m	35.00		
41) Phenanthrene	24.792	178	54274m	38.72		
42) Anthracene	24.965	178	23639m	18.12		
43) 3-Methylphenanthrene	26.454	192	9887m	7.46		

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ARC1920.D
 Acq On : 14 Sep 2013 11:18 pm
 Operator : MAG
 Sample : WS-DUP-01DA-081513
 Misc :
 ALS Vial : 26 Sample Multiplier: 1.14943

Quant Time: Sep 17 06:47:24 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
44) 2-Methylphenanthrene	26.558	192	14057m	10.61		
45) 2-Methylanthracene	26.766	192	49866m	37.65		
46) 4/9-Methylphenanthrene	26.835	192	15134m	11.43		
47) 1-Methylphenanthrene	26.939	192	9096m	6.87		
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	28.221	206	142054m	101.33		
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	32.985	234	28352m	12.51		
54) C1-Naphthobenzothiophenes	34.150	248	45911m	20.26		
55) C2-Naphthobenzothiophenes	36.051	262	77375m	34.15		
56) C3-Naphthobenzothiophenes	37.254	276	73311m	32.35		
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.914	202	94516m	56.55		
59) Pyrene	29.710	202	83013m	37.31		
60) 2-Methylfluoranthene	30.472	216	4414m	3.03		
61) Benzo(b) fluorene	31.096	216	7908m	7.18		
62) C1-Fluoranthenes/Pyrenes	30.853	216	52221m	31.24		
63) C2-Fluoranthenes/Pyrenes	32.597	230	83709m	50.08		
64) C3-Fluoranthenes/Pyrenes	34.188	244	42879m	25.65		
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.800	228	32983m	15.44		
68) Chrysene/Triphenylene	33.917	228	72111m	39.34		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b) fluoranthene	37.370	252	103762m	63.24		
78) Benzo(k,j) fluoranthene	37.448	252	35214m	19.67		
79) Benzo(a) fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.341	252	72937m	40.99		
81) Benzo(a)pyrene	38.535	252	42171m	24.80		
82) Indeno(1,2,3-c,d)pyrene	43.252	276	61911m	30.24		
83) Dibenzo(a,h)anthracene	43.547	278	5401m	3.33		
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	44.654	276	62419m	34.39		
89) Perylene	38.845	252	153113m	85.95		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Data Path : C:\msdchem\2\data\MS60149\
Data File : ARC1920.D
Acq On : 14 Sep 2013 11:18 pm
Operator : MAG
Sample : WS-DUP-01DA-081513
Misc :
ALS Vial : 26 Sample Multiplier: 1.14943

Quant Time: Sep 17 06:47:24 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration

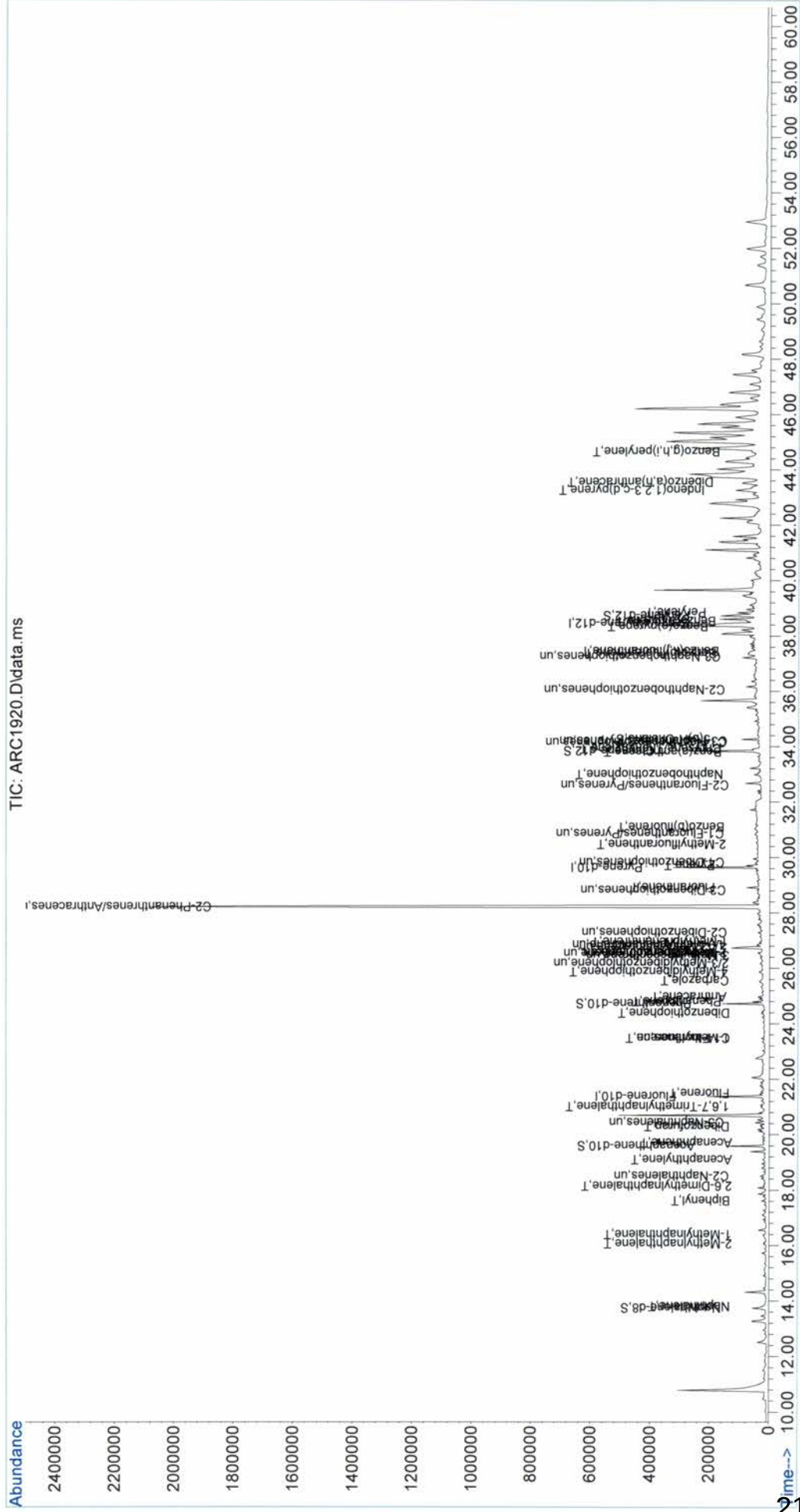
Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
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(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ARC1920.D
 Acq On : 14 Sep 2013 11:18 pm
 Operator : MAG
 Sample : WS-DUP-01DA-081513
 Misc :
 ALS Vial : 26 Sample Multiplier: 1.14943

Quant Time: Sep 17 06:47:24 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

TIC: ARC1920.D\data.ms



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

Data File Name ARC1922.D
 Data File Path C:\msdchem\2\data\MS60149\
 Operator MAG
 Date Acquired 9/15/2013 0:27
 Acq. Method File PAH-2012.M
 Sample Name SED-DA-EB-10-081613
 Misc Info 0
 Instrument Name GCMS6
 Vial Number 27
 Sample Multiplier 0.97087
 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

ARC1922.D
 SED-DA-EB-10-081613
 9/15/2013 0:27
 PAH-2012.M
 1.030004017

#	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	237722	208.1778	274.3372
9)+10)	C1-Naphthalenes	16.21	2789	2.4424	3.2186
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	1145	1.1233	1.4802
23)	Acenaphthylene	19.08	788	0.6404	0.8439
24)	Acenaphthene	19.70	291	0.3914	0.5158
25)	Dibenzofuran	20.28	1781	1.6512	2.1760
26)	Fluorene	21.48	639	0.6970	0.9185
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	25.55	694	0.5625	0.7413
42)	Anthracene	0.00	0	0.0000	0.0000
41)	Phenanthrene	24.79	4971	3.3222	4.3780
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	0.00	0	0.0000	0.0000
35)+36)+37)	C1-Dibenzothiophenes	0.00	0	0.0000	0.0000
38)	C2-Dibenzothiophenes	0.00	0	0.0000	0.0000
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.91	1858	1.0415	1.3724
59)	Pyrene	29.71	1245	0.5242	0.6908
62)	C1-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	0.00	0	0.0000	0.0000
68)	Chrysene/Triphenylene	0.00	0	0.0000	0.0000
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	0.00	0	0.0000	0.0000
78)	Benzo(k,j)fluoranthene	0.00	0	0.0000	0.0000
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	0.00	0	0.0000	0.0000
81)	Benzo(a)pyrene	0.00	0	0.0000	0.0000
89)	Perylene	38.85	1779	0.9322	1.2284
82)	Indeno(1,2,3-c,d)pyrene	0.00	0	0.0000	0.0000
83)	Dibenzo(a,h)anthracene	0.00	0	0.0000	0.0000
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	0.00	0	0.0000	0.0000

# Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
Individual Alkyl Isomers and Hopanes				
9) 2-Methylnaphthalene	16.05	1622	2.1105	2.7812
10) 1-Methylnaphthalene	16.38	1167	1.5969	2.1044
11) 2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12) 1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27) 1-Methylfluorene	23.48	227	0.3923	0.5170
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-Methylantracene	0.00	0	0.0000	0.0000
46) 4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47) 1-Methylphenanthrene	0.00	0	0.0000	0.0000
48) 3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49) Retene	0.00	0	0.0000	0.0000
60) 2-Methylfluoranthene	0.00	0	0.0000	0.0000
61) Benzo(b)fluorene	0.00	0	0.0000	0.0000
74) C29-Hopane	0.00	0	0.0000	0.0000
75) 18a-Oleanane	0.00	0	0.0000	0.0000
76) C30-Hopane	0.00	0	0.0000	0.0000
91) C20-TAS	0.00	0	0.0000	0.0000
92) C21-TAS	0.00	0	0.0000	0.0000
93) C26(20S)-TAS	0.00	0	0.0000	0.0000
94) C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95) C28(20S)-TAS	0.00	0	0.0000	0.0000
96) C27(20R)-TAS	0.00	0	0.0000	0.0000
97) C28(20R)-TAS	0.00	0	0.0000	0.0000
Surrogate Standards				
2) Naphthalene-d8	13.73	195323	185.94	76.57
21) Acenaphthene-d10	19.59	129732	193.36	79.61
32) Phenanthrene-d10	24.72	283759	184.33	75.88
66) Chrysene-d12	33.84	382110	190.43	78.45
88) Perylene-d12	38.73	340033	215.25	88.67
90) 5(b)H-Cholane	34.27	88426	204.79	84.37
Internal Standards				
1) Fluorene-d10	21.37	163443	243.74	
31) Pyrene-d10	29.64	391794	243.32	
73) Benzo(a)pyrene-d12	38.42	330742	243.03	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ARC1922.D
 Acq On : 15 Sep 2013 12:27 am
 Operator : MAG
 Sample : SED-DA-EB-10-081613
 Misc :
 ALS Vial : 27 Sample Multiplier: 0.97087

Quant Time: Sep 17 06:52:16 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Fluorene-d10	21.369	176	163443m	251.05		0.00
31) Pyrene-d10	29.641	212	391794m	250.63		0.00
73) Benzo(a)pyrene-d12	38.420	264	330742m	250.32		-0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.734	136	195323m	185.94		0.00
21) Acenaphthene-d10	19.586	164	129732m	193.36		0.00
32) Phenanthrene-d10	24.722	188	283759m	184.33		0.00
66) Chrysene-d12	33.841	240	382110m	190.43		0.00
88) Perylene-d12	38.730	264	340033m	215.25		-0.04
90) 5(b)H-Cholane	34.268	217	88426m	204.79		0.00
Target Compounds						
						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.790	128	237722m	208.18		
9) 2-Methylnaphthalene	16.047	142	1622m	2.11		
10) 1-Methylnaphthalene	16.381	142	1167m	1.60		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	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	17.608	154	1145m	1.12		
23) Acenaphthylene	19.084	152	788m	0.64		
24) Acenaphthene	19.698	154	291m	0.39		
25) Dibenzofuran	20.283	168	1781m	1.65		
26) Fluorene	21.481	166	639m	0.70		
27) 1-Methylfluorene	23.475	180	227m	0.39		
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	25.553	167	694m	0.56		
34) Dibenzothiophene	0.000		0	N.D.	d	
35) 4-Methyldibenzothiophene	0.000		0	N.D.	d	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.791	178	4971m	3.32		
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : C:\msdchem\2\data\MS60149\
 Data File : ARC1922.D
 Acq On : 15 Sep 2013 12:27 am
 Operator : MAG
 Sample : SED-DA-EB-10-081613
 Misc :
 ALS Vial : 27 Sample Multiplier: 0.97087

Quant Time: Sep 17 06:52:16 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	0.000		0	N.D.	d	
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.913	202	1858m	1.04		
59) Pyrene	29.710	202	1245m	0.52		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	0.000		0	N.D.	d	
68) Chrysene/Triphenylene	0.000		0	N.D.	d	
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	0.000		0	N.D.	d	
78) Benzo(k,j)fluoranthene	0.000		0	N.D.	d	
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	0.000		0	N.D.	d	
81) Benzo(a)pyrene	0.000		0	N.D.	d	
82) Indeno(1,2,3-c,d)pyrene	0.000		0	N.D.	d	
83) Dibenzo(a,h)anthracene	0.000		0	N.D.	d	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	0.000		0	N.D.	d	
89) Perylene	38.847	252	1779m	0.93		
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	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	

Data Path : C:\msdchem\2\data\MS60149\
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Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration

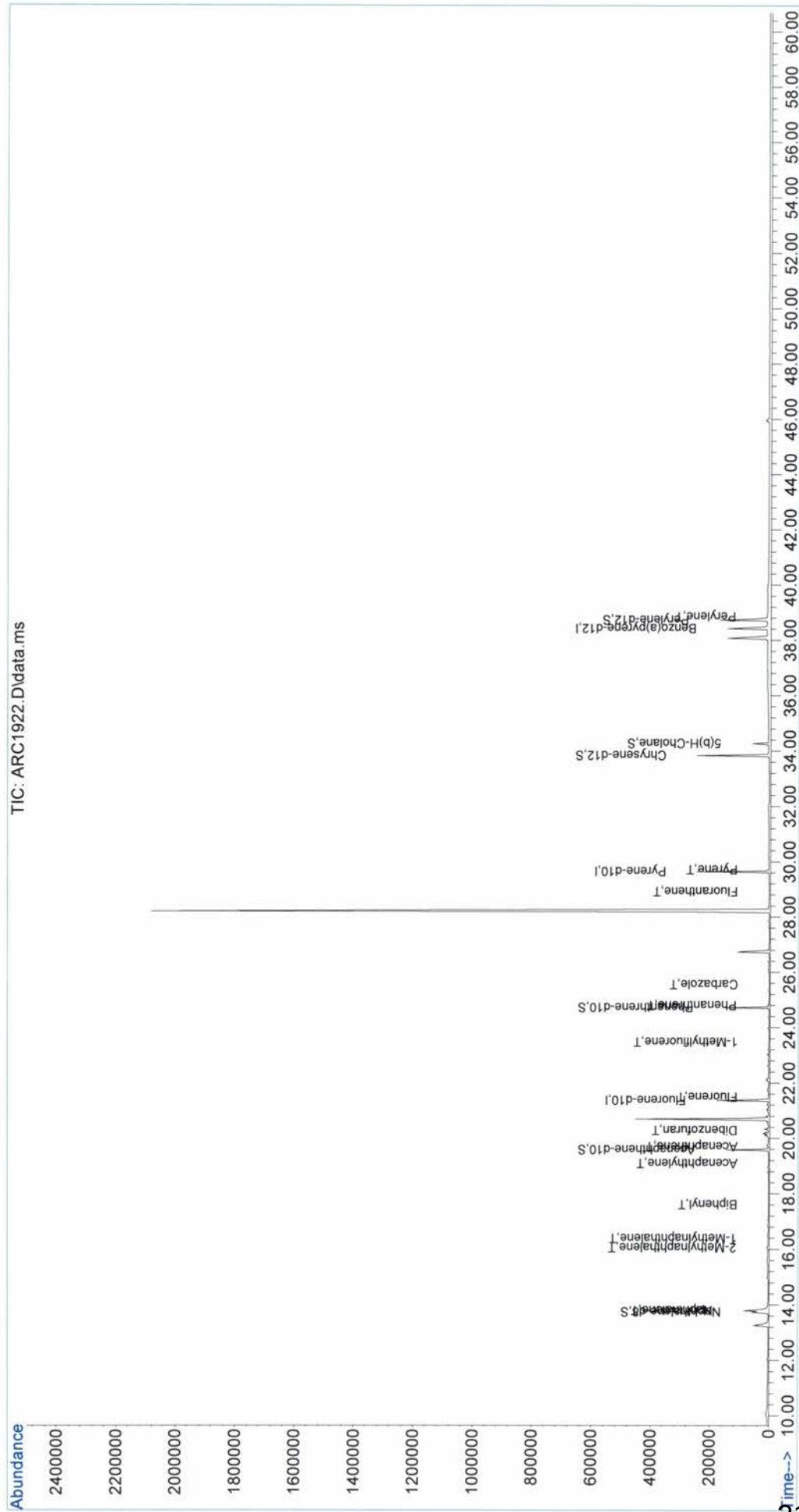
Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
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(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\2\data\MS60149\
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TIC: ARC1922.D\data.ms



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

**TPH/Aliphatic
ICAL
FID1C08FRONT081213.M**

GC/FID-1 FRONT

Method Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
 Method File : FID1C08FRONT081213.M
 Title : C8 - C40 aliphatic
 Last Update : Mon Aug 12 13:56:00 2013
 Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	1	1	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID10072C.D
2	2	10	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID10072D.D
3	3	25	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID10072E.D
4	4	40	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID10072F.D
5	5	50	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID10072G.D
6	6	100	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID10072H.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1	Aug 12 11:25 2013	Aug 12 11:24 2013	09-Aug-2013, 22:41:20
2	2	Aug 12 11:33 2013	Aug 12 11:33 2013	09-Aug-2013, 23:51:52
3	3	Aug 12 11:43 2013	Aug 12 11:43 2013	10-Aug-2013, 01:02:24
4	4	Aug 12 11:48 2013	Aug 12 11:47 2013	10-Aug-2013, 02:13:04
5	5	Aug 12 13:33 2013	Aug 12 13:33 2013	10-Aug-2013, 03:23:38
6	6	Aug 12 13:44 2013	Aug 12 13:44 2013	10-Aug-2013, 04:34:12

FID1C08FRONT081213.M Mon Aug 12 13:56:59 2013

Method Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
 Method File : FID1C08FRONT081213.M
 Title : C8 - C40 aliphatic
 Last Update : Mon Aug 12 13:56:00 2013
 Response Via : Initial Calibration

8/12/13
 JN

Calibration Files

1 =FID10072C.D 2 =FID10072D.D 3 =FID10072E.D
 4 =FID10072F.D 5 =FID10072G.D 6 =FID10072H.D

Compound	1	2	3	4	5	6	Avg	%RSD
-----ISTD-----								
1) I n-hexadecane-d34								
2) n-C8	0.942	0.978	0.967	0.962	0.985	0.839	0.945	5.74
3) n-C9	1.012	1.042	1.027	1.036	1.045	0.899	1.010	5.51
4) n-C10	1.105	1.117	1.102	1.115	1.116	0.966	1.087	5.48
5) n-C11	1.133	1.134	1.119	1.134	1.130	0.979	1.105	5.60
6) S n-dodecane-d26	1.053	1.052	1.043	1.081	1.045	0.921	1.033	5.47
7) n-C12	1.187	1.192	1.178	1.169	1.187	1.026	1.156	5.58
8) i-13	1.173	1.190	1.174	1.186	1.181	1.020	1.154	5.72
9) i-14	1.200	1.229	1.208	1.212	1.213	1.049	1.185	5.70
10) n-C13	1.173	1.190	1.174	1.186	1.181	1.020	1.154	5.72
11) i-15	1.243	1.234	1.214	1.218	1.217	1.052	1.196	5.99
12) n-C14	1.200	1.229	1.208	1.212	1.213	1.049	1.185	5.70
13) i-16	1.252	1.242	1.218	1.215	1.221	1.053	1.200	6.12
14) n-C15	1.244	1.234	1.214	1.218	1.217	1.052	1.196	5.99
15) n-C16	1.252	1.242	1.218	1.215	1.221	1.053	1.200	6.12
-----ISTD-----								
16) I 5a-androstane								
17) i-18	0.987	0.999	0.988	0.997	0.992	0.864	0.971	5.45
18) n-C17	1.022	1.017	1.008	1.005	1.012	0.881	0.991	5.45
19) Pristane	1.008	1.016	1.002	1.004	1.008	0.878	0.986	5.38
20) n-C18	0.987	0.999	0.988	0.997	0.992	0.864	0.971	5.45
21) Phytane	1.007	1.016	1.007	1.013	1.011	0.880	0.989	5.42
22) n-C19	0.980	0.994	0.983	0.990	0.987	0.858	0.965	5.49
23) S n-eicosane-d42	0.781	0.784	0.778	0.808	0.776	0.690	0.769	5.31
24) n-C20	0.983	0.995	0.985	0.992	0.987	0.857	0.967	5.57
25) n-C21	0.986	1.006	0.992	0.990	0.995	0.864	0.972	5.48
26) n-C22	0.987	1.005	0.992	0.997	0.992	0.860	0.972	5.67
27) n-C23	0.984	1.010	0.996	0.988	0.997	0.863	0.973	5.61
28) n-C24	0.988	1.010	0.996	0.985	0.994	0.860	0.972	5.70
29) n-C25	0.993	1.009	0.994	0.991	0.993	0.860	0.973	5.76
30) n-C26	0.984	1.008	0.995	0.997	0.993	0.859	0.973	5.77
31) n-C27	0.972	0.985	0.969	0.970	0.968	0.836	0.950	5.94
32) n-C28	0.979	0.999	0.985	0.984	0.983	0.849	0.963	5.86
33) n-C29	0.981	1.006	0.987	0.988	0.989	0.853	0.967	5.87
34) S n-triacontane...	0.770	0.767	0.759	0.781	0.755	0.662	0.749	5.82
35) n-C30	0.973	0.997	0.981	0.978	0.980	0.843	0.959	5.95
36) n-C31	0.947	0.984	0.969	0.969	0.968	0.831	0.945	6.04
37) n-C32	0.950	0.976	0.963	0.950	0.962	0.820	0.937	6.20
38) n-C33	0.922	0.955	0.944	0.941	0.938	0.793	0.916	6.66
39) n-C34	0.923	0.972	0.957	0.954	0.953	0.795	0.926	7.14
40) n-C35	0.898	0.951	0.937	0.938	0.935	0.765	0.904	7.77
41) n-C36	0.987	1.033	1.018	0.998	1.011	0.804	0.975	8.74
42) n-C37	0.915	0.937	0.923	0.926	0.920	0.720	0.890	9.42
43) n-C38	0.889	0.933	0.916	0.922	0.916	0.681	0.876	11.02
44) n-C39	0.856	0.893	0.883	0.888	0.884	0.632	0.839	12.19
45) n-C40	0.817	0.846	0.830	0.829	0.825	0.570	0.786	13.50
46) TPH	0.947	0.967	0.954	0.960	0.957	0.811	0.932	6.41
47) TRH1	0.947	0.967	0.954	0.960	0.957	0.811	0.932	6.41
48) TRH2	0.947	0.967	0.954	0.960	0.957	0.811	0.932	6.41
49) TRH3	0.947	0.967	0.954	0.960	0.959	0.811	0.933	6.43
50) TRH4	0.947	0.967	0.954	0.960	0.957	0.811	0.932	6.41
51) TRH5	0.947	0.967	0.954	0.960	0.957	0.811	0.932	6.41
52) TRH6	0.947	0.967	0.954	0.960	0.957	0.811	0.932	6.41

53)	GRO	0.947	0.967	0.954	0.960	0.957	0.811	0.932	6.41
54)	DRO	0.947	0.967	0.954	0.960	0.957	0.811	0.932	6.41
55)	RRO	0.947	0.967	0.954	0.960	0.957	0.811	0.932	6.41

(#) = Out of Range

FID1C08FRONT081213.M Mon Aug 12 13:56:11 2013

Area for TPH Calculations

Last Calibration Update Mon Aug 12 13:44:47 2013

Quant Method FID3C08FRONT081213.M

	Level 1 FID10072C.D	Level 2 FID10072D.D	Level 3 FID10072E.D	Level 4 FID10072F.D	Level 5 FID10072G.D	Level 6 FID10072H.D
n-C8	7835	60881	151774	249601	304134	623017
n-C9	8414	64822	161060	268916	322395	667371
n-C10	9188	69487	172851	289493	344565	716973
n-C11	9431	70609	175762	294236	349134	727385
n-C12	9688	72874	181575	303320	359829	747950
n-C13	9749	74167	184420	307904	365084	758593
n-C14	9915	75964	188356	314522	372247	773506
n-C15	10285	76336	189485	316090	373681	776888
n-C16	10307	76441	189036	315284	373193	773826
n-C17	10319	77023	191837	319083	377591	783800
Pristane	10209	77192	191288	318719	377227	783178
n-C18	10091	76668	190378	316692	375036	778062
Phytane	10270	77638	193432	321545	380960	789819
n-C19	10007	76134	189264	314213	372377	771195
n-C20	10062	76440	189971	315142	373335	773084
n-C21	9989	76391	189444	314258	372512	770938
n-C22	10109	77112	191215	316580	375185	775221
n-C23	9957	76609	189917	313847	372683	768898
n-C24	9983	76461	189620	312831	371158	765498
n-C25	10120	77015	190787	314703	373751	770909
n-C26	10077	77378	191989	316618	375732	774878
n-C27	9944	75498	186780	307905	365888	752035
n-C28	10003	76555	189697	312589	371331	763889
n-C29	10037	77143	190396	313804	373802	768107
n-C30	9909	76071	188277	310396	368399	755730
n-C31	9679	75408	186700	307667	365761	747566
n-C32	9583	73797	183063	301767	358608	728166
n-C33	9428	73205	181822	298748	354278	713661
n-C34	9422	74340	183904	302933	359337	713804
n-C35	9176	72905	180602	297795	353293	688923
n-C36	9883	77581	192250	316827	374347	709480
n-C37	9362	71885	177939	293962	347714	648312
n-C38	9104	71582	176698	292870	346254	613891
n-C39	8753	68413	170120	281825	333858	568788
n-C40	8331	64688	159630	263293	311044	512319
Average Area (use for TPH, TRPH, GRO, DRO, RRO)	9675	74077	183753	304457	361306	730162
Average of n-C38 & n-C40	8718	68135	168164	278082	328649	563105
n-C36/n-C20	0.98	1.01	1.01	1.01	1.00	0.92

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

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
 Data File : FID10072C.D
 Signal(s) : FID1A.CH
 Acq On : 09-Aug-2013, 22:41:20
 Operator : Meghan Dailey
 Sample : AL-WKC1-1.25-019
 Misc :
 ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e

Quant Time: Aug 12 11:24:57 2013

Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M

Quant Title : C8 - C40 aliphatic

QLast Update : Tue Aug 06 14:24:50 2013

Response via : Initial Calibration

Integrator: ChemStation

Volume Inj. :

Signal Phase :

Signal Info :

	Compound	R.T.	Response	Conc	Units

Internal Standards					
1) I	n-hexadecane-d34	13.015	332437	50.000	ug/mlm
16) I	5a-androstane	18.316	409424	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.712	8753	1.285	ug/mlm
23) S	n-eicosane-d42	17.704	8034	1.278	ug/mlm
34) S	n-triacontane-d62	29.630	7875	1.289	ug/mlm
Target Compounds					
2)	n-C8	3.566	7835	1.225	ug/mlm
3)	n-C9	4.886	8414	1.244	ug/mlm
4)	n-C10	6.300	9188	1.272	ug/mlm
5)	n-C11	7.656	9431	1.289	ug/mlm
7)	n-C12	8.918	9688	1.273	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mlm
9)	i-14	0.000	0	N.D.	ug/mlm
10)	n-C13	10.092	9749	1.282	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mlm
12)	n-C14	11.189	9915	1.267	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mlm
14)	n-C15	12.222	10285	1.297	ug/mlm
15)	n-C16	13.267	10307	1.288	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mlm
18)	n-C17	14.381	10319	1.298	ug/mlm
19)	Pristane	14.500	10209	1.290	ug/mlm
20)	n-C18	15.568	10091	1.284	ug/mlm
21)	Phytane	15.733	10270	1.282	ug/mlm
22)	n-C19	16.816	10007	1.274	ug/mlm
24)	n-C20	18.103	10062	1.276	ug/mlm
25)	n-C21	19.409	9989	1.256	ug/mlm
26)	n-C22	20.715	10109	1.268	ug/mlm
27)	n-C23	22.007	9957	1.243	ug/mlm
28)	n-C24	23.272	9983	1.249	ug/mlm
29)	n-C25	24.509	10120	1.266	ug/mlm
30)	n-C26	25.711	10077	1.258	ug/mlm
31)	n-C27	26.876	9944	1.275	ug/mlm
32)	n-C28	28.008	10002	1.266	ug/mlm
33)	n-C29	29.104	10037	1.266	ug/mlm
35)	n-C30	30.168	9909	1.264	ug/mlm
36)	n-C31	31.199	9679	1.258	ug/mlm
37)	n-C32	32.197	9583	1.264	ug/mlm
38)	n-C33	33.166	9428	1.276	ug/mlm
39)	n-C34	34.117	9422	1.255	ug/mlm
40)	n-C35	35.153	9176	1.248	ug/mlm

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
 Data File : FID10072C.D
 Signal(s) : FID1A.CH
 Acq On : 09-Aug-2013, 22:41:20
 Operator : Meghan Dailey
 Sample : AL-WKC1-1.25-019
 Misc :
 ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 12 11:24:57 2013
 Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Tue Aug 06 14:24:50 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.333	9883	1.250	ug/mlm
42)	n-C37	37.701	9362	1.298	ug/mlm
43)	n-C38	39.288	9104	1.248	ug/mlm
44)	n-C39	41.166	8753	1.259	ug/mlm
45)	n-C40	43.379	8331	1.289	ug/mlm
46)	TPH	0.000	0	N.D.	ug/ml
47)	TRH1	0.000	0	N.D.	ug/ml
48)	TRH2	0.000	0	N.D.	ug/ml
49)	TRH3	0.000	0	N.D.	ug/ml
50)	TRH4	0.000	0	N.D.	ug/ml
51)	TRH5	0.000	0	N.D.	ug/ml
52)	TRH6	0.000	0	N.D.	ug/ml
53)	GRO	0.000	0	N.D.	ug/ml
54)	DRO	0.000	0	N.D.	ug/ml
55)	RRO	0.000	0	N.D.	ug/ml

SemiQuant Compounds - Not Calibrated on this Instrument

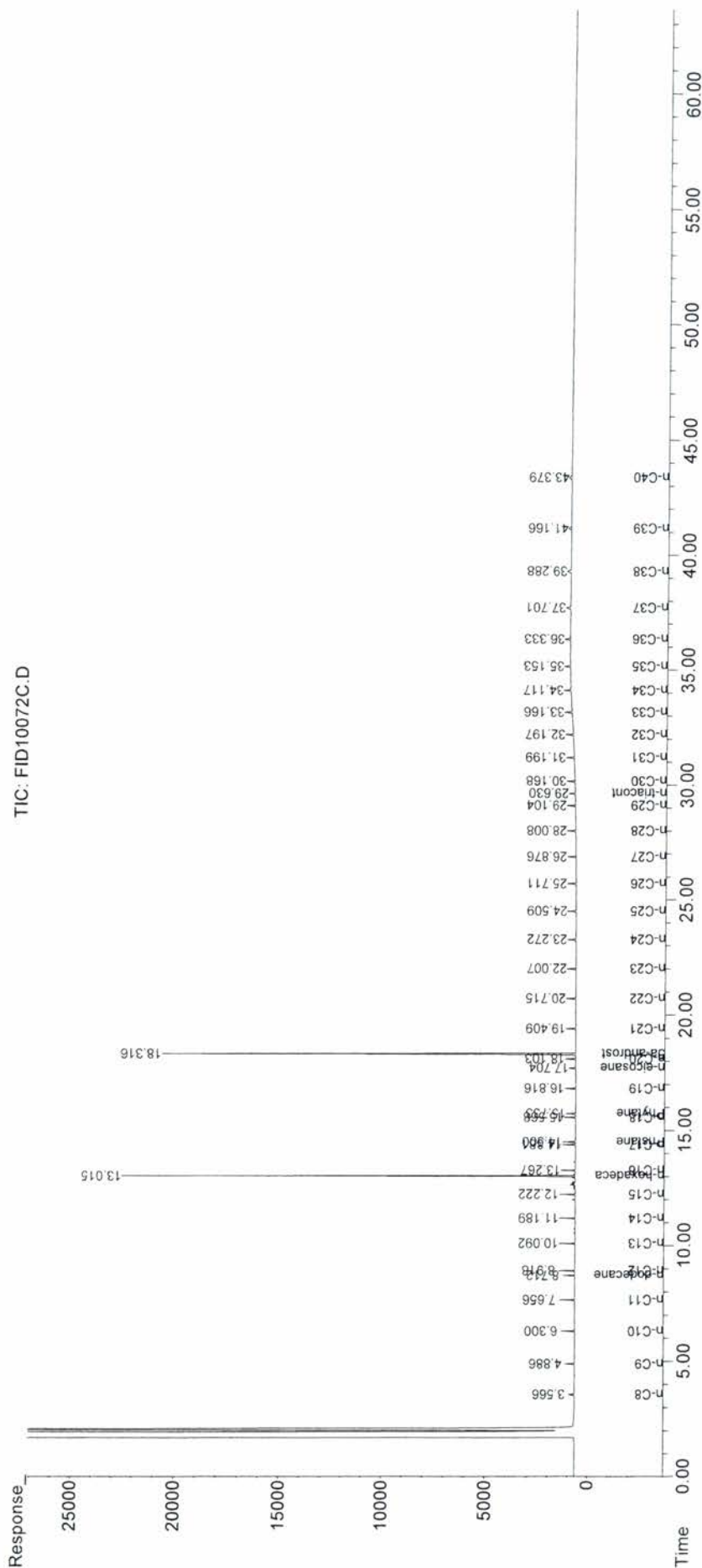
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
 Data File : FID10072C.D
 Signal(s) : FID1A.CH
 Acq On : 09-Aug-2013, 22:41:20
 Operator : Meghan Dailey
 Sample : AL-WKC1-1.25-019
 Misc :
 ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 12 11:24:57 2013
 Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Tue Aug 06 14:24:50 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :



Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
 Data File : FID10072D.D
 Signal(s) : FID1A.CH
 Acq On : 09-Aug-2013, 23:51:52
 Operator : Meghan Dailey
 Sample : AL-WKC2-10-019
 Misc :
 ALS Vial : 4 Sample Multiplier: 1

Integration File: autoint1.e

Quant Time: Aug 12 11:33:14 2013

Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M

Quant Title : C8 - C40 aliphatic

QLast Update : Mon Aug 12 11:25:14 2013

Response via : Initial Calibration

Integrator: ChemStation

Volume Inj. :

Signal Phase :

Signal Info :

	Compound	R.T.	Response	Conc	Units

Internal Standards					
1) I	n-hexadecane-d34	13.015	310911	50.000	ug/mlm
16) I	5a-androstane	18.314	383759	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.711	65434	10.240	ug/mlm
23) S	n-eicosane-d42	17.701	60457	10.266	ug/mlm
34) S	n-triacontane-d62	29.632	58890	10.244	ug/mlm
Target Compounds					
2)	n-C8	3.564	60881	10.232	ug/mlm
3)	n-C9	4.885	64822	10.250	ug/mlm
4)	n-C10	6.299	69487	10.262	ug/mlm
5)	n-C11	7.656	70609	10.300	ug/mlm
7)	n-C12	8.918	72874	10.196	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mlm
9)	i-14	0.000	0	N.D.	ug/mlm
10)	n-C13	10.092	74167	10.400	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mlm
12)	n-C14	11.190	75964	10.363	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mlm
14)	n-C15	12.222	76336	10.276	ug/mlm
15)	n-C16	13.267	76441	10.221	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mlm
18)	n-C17	14.381	77023	10.270	ug/mlm
19)	Pristane	14.500	77192	10.360	ug/mlm
20)	n-C18	15.568	76668	10.388	ug/mlm
21)	Phytane	15.733	77638	10.330	ug/mlm
22)	n-C19	16.815	76134	10.337	ug/mlm
24)	n-C20	18.102	76440	10.324	ug/mlm
25)	n-C21	19.408	76391	10.247	ug/mlm
26)	n-C22	20.715	77112	10.324	ug/mlm
27)	n-C23	22.006	76609	10.236	ug/mlm
28)	n-C24	23.274	76461	10.216	ug/mlm
29)	n-C25	24.509	77015	10.268	ug/mlm
30)	n-C26	25.710	77378	10.319	ug/mlm
31)	n-C27	26.877	75498	10.318	ug/mlm
32)	n-C28	28.009	76555	10.327	ug/mlm
33)	n-C29	29.106	77143	10.378	ug/mlm
35)	n-C30	30.168	76071	10.347	ug/mlm
36)	n-C31	31.199	75408	10.434	ug/mlm
37)	n-C32	32.197	73797	10.320	ug/mlm
38)	n-C33	33.167	73205	10.503	ug/mlm
39)	n-C34	34.120	74340	10.558	ug/mlm
40)	n-C35	35.153	72905	10.579	ug/mlm

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
 Data File : FID10072D.D
 Signal(s) : FID1A.CH
 Acq On : 09-Aug-2013, 23:51:52
 Operator : Meghan Dailey
 Sample : AL-WKC2-10-019
 Misc :
 ALS Vial : 4 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 12 11:33:14 2013
 Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 11:25:14 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.339	77581	10.408	ug/mlm
42)	n-C37	37.697	71885	10.543	ug/mlm
43)	n-C38	39.296	71582	10.553	ug/mlm
44)	n-C39	41.167	68413	10.467	ug/mlm
45)	n-C40	43.373	64688	10.555	ug/mlm
46)	TPH	0.000	0	N.D.	ug/ml
47)	TRH1	0.000	0	N.D.	ug/ml
48)	TRH2	0.000	0	N.D.	ug/ml
49)	TRH3	0.000	0	N.D.	ug/ml
50)	TRH4	0.000	0	N.D.	ug/ml
51)	TRH5	0.000	0	N.D.	ug/ml
52)	TRH6	0.000	0	N.D.	ug/ml
53)	GRO	0.000	0	N.D.	ug/ml
54)	DRO	0.000	0	N.D.	ug/ml
55)	RRO	0.000	0	N.D.	ug/ml

SemiQuant Compounds - Not Calibrated on this Instrument

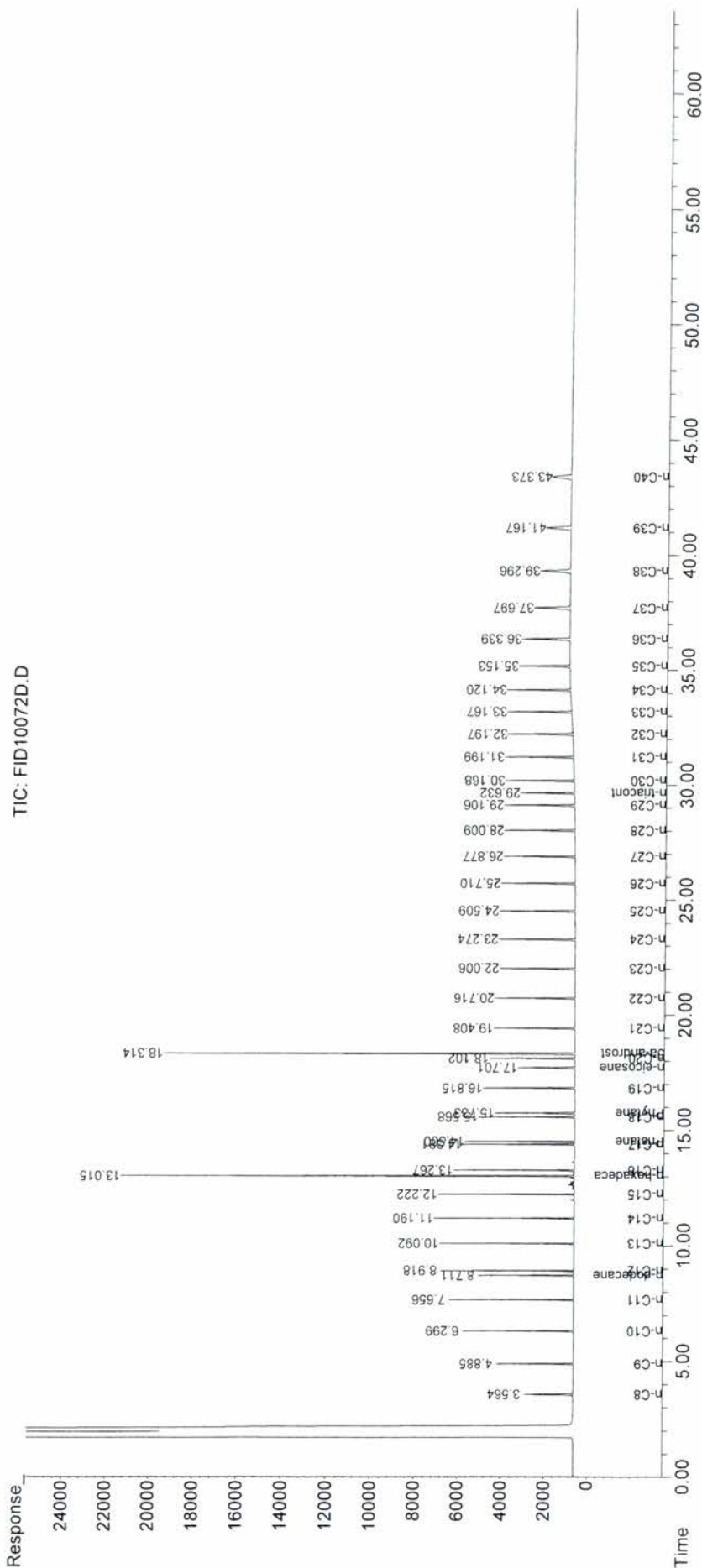
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072D.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 23:51:52
Operator : Meghan Dailey
Sample : AL-WKC2-10-019
Misc :
ALS Vial : 4 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 11:33:14 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 11:25:14 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
 Data File : FID10072E.D
 Signal(s) : FID1A.CH
 Acq On : 10-Aug-2013, 01:02:24
 Operator : Meghan Dailey
 Sample : AL-WKC3-25-019
 Misc :
 ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e

Quant Time: Aug 12 11:43:10 2013

Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M

Quant Title : C8 - C40 aliphatic

QLast Update : Mon Aug 12 11:33:33 2013

Response via : Initial Calibration

Integrator: ChemStation

Volume Inj. :

Signal Phase :

Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	13.014	313640	50.000	ug/mlm
16) I	5a-androstane	18.313	385796	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.712	163594	25.320	ug/mlm
23) S	n-eicosane-d42	17.702	150894	25.470	ug/mlm
34) S	n-triacontane-d62	29.631	146435	25.333	ug/mlm
Target Compounds					
2)	n-C8	3.565	151774	25.327	ug/mlm
3)	n-C9	4.886	161060	25.244	ug/mlm
4)	n-C10	6.300	172851	25.283	ug/mlm
5)	n-C11	7.656	175762	25.366	ug/mlm
7)	n-C12	8.919	181575	25.114	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mlm
9)	i-14	0.000	0	N.D.	ug/mlm
10)	n-C13	10.093	184420	25.561	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mlm
12)	n-C14	11.190	188356	25.397	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mlm
14)	n-C15	12.223	189485	25.253	ug/mlm
15)	n-C16	13.268	189036	25.033	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mlm
18)	n-C17	14.382	191837	25.359	ug/mlm
19)	Pristane	14.501	191288	25.435	ug/mlm
20)	n-C18	15.569	190378	25.599	ug/mlm
21)	Phytane	15.735	193432	25.555	ug/mlm
22)	n-C19	16.816	189264	25.533	ug/mlm
24)	n-C20	18.104	189971	25.522	ug/mlm
25)	n-C21	19.411	189444	25.273	ug/mlm
26)	n-C22	20.716	191215	25.473	ug/mlm
27)	n-C23	22.008	189917	25.260	ug/mlm
28)	n-C24	23.275	189620	25.218	ug/mlm
29)	n-C25	24.511	190787	25.324	ug/mlm
30)	n-C26	25.713	191989	25.494	ug/mlm
31)	n-C27	26.879	186780	25.401	ug/mlm
32)	n-C28	28.010	189697	25.470	ug/mlm
33)	n-C29	29.106	190396	25.471	ug/mlm
35)	n-C30	30.171	188277	25.457	ug/mlm
36)	n-C31	31.199	186700	25.666	ug/mlm
37)	n-C32	32.199	183063	25.438	ug/mlm
38)	n-C33	33.168	181822	25.883	ug/mlm
39)	n-C34	34.119	183904	25.896	ug/mlm
40)	n-C35	35.154	180602	25.981	ug/mlm

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
 Data File : FID10072E.D
 Signal(s) : FID1A.CH
 Acq On : 10-Aug-2013, 01:02:24
 Operator : Meghan Dailey
 Sample : AL-WKC3-25-019
 Misc :
 ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 12 11:43:10 2013
 Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 11:33:33 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

	Compound	R.T.	Response	Conc Units
41)	n-C36	36.338	192250	25.551 ug/mlm
42)	n-C37	37.707	177939	25.841 ug/mlm
43)	n-C38	39.299	176698	25.836 ug/mlm
44)	n-C39	41.179	170120	25.849 ug/mlm
45)	n-C40	43.383	159630	25.797 ug/mlm
46)	TPH	0.000	0	N.D. ug/mlm
47)	TRH1	0.000	0	N.D. ug/mlm
48)	TRH2	0.000	0	N.D. ug/mlm
49)	TRH3	0.000	0	N.D. ug/mlm
50)	TRH4	0.000	0	N.D. ug/mlm
51)	TRH5	0.000	0	N.D. ug/mlm
52)	TRH6	0.000	0	N.D. ug/mlm
53)	GRO	0.000	0	N.D. ug/mlm
54)	DRO	0.000	0	N.D. ug/mlm
55)	RRO	0.000	0	N.D. ug/mlm

SemiQuant Compounds - Not Calibrated on this Instrument

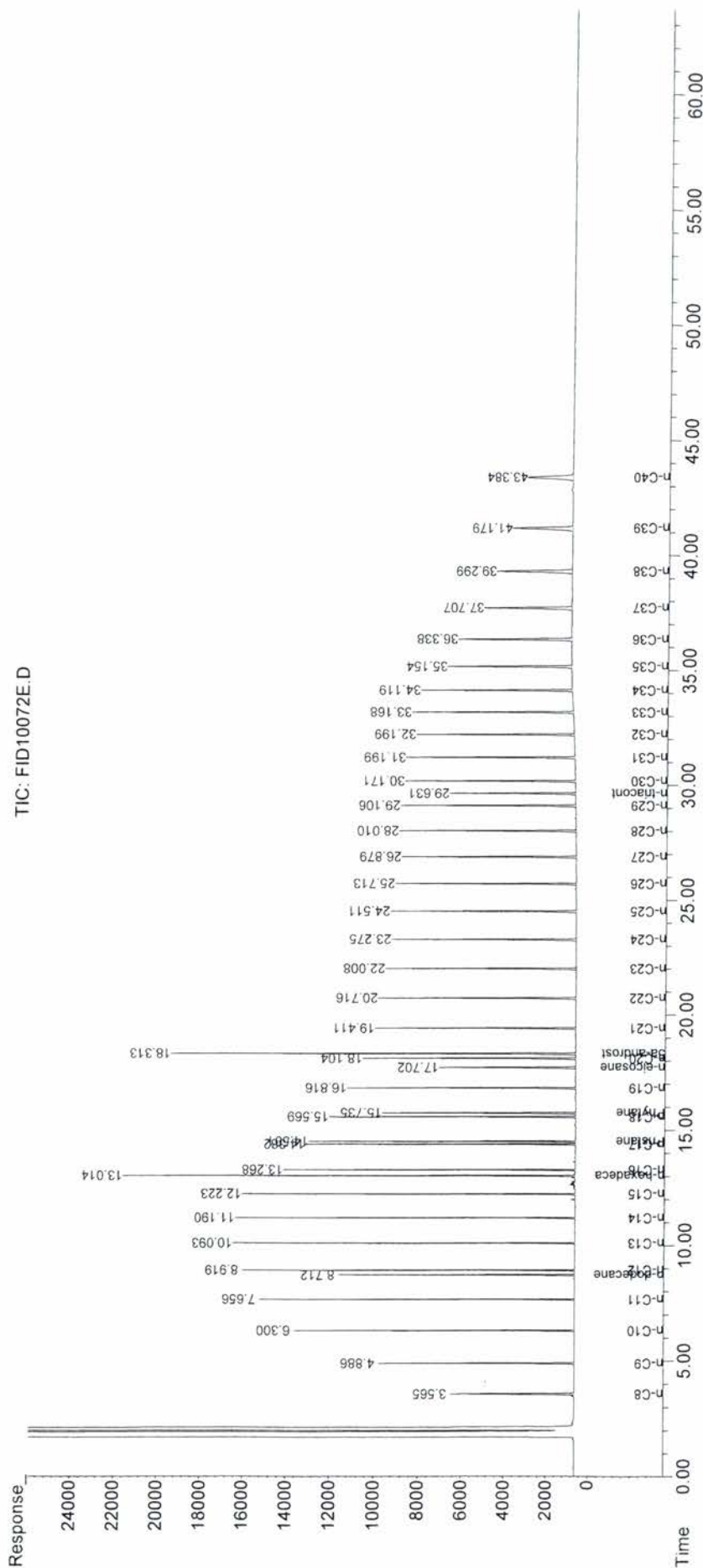
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072E.D
Signal(s) : FID1A.CH
Acq On : 10-Aug-2013, 01:02:24
Operator : Meghan Dailey
Sample : AL-WKC3-25-019
Misc :
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 11:43:10 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
Qlast Update : Mon Aug 12 11:33:33 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
 Data File : FID10072F.D
 Signal(s) : FID1A.CH
 Acq On : 10-Aug-2013, 02:13:04
 Operator : Meghan Dailey
 Sample : AL-WKC4-40-019
 Misc :
 ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e

Quant Time: Aug 12 11:47:57 2013

Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M

Quant Title : C8 - C40 aliphatic

QLast Update : Mon Aug 12 11:43:23 2013

Response via : Initial Calibration

Integrator: ChemStation

Volume Inj. :

Signal Phase :

Signal Info :

	Compound	R.T.	Response	Conc	Units

Internal Standards					
1) I	n-hexadecane-d34	13.014	324181	50.000	ug/mlm
16) I	5a-androstane	18.313	397190	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.714	280475	41.969	ug/mlm
23) S	n-eicosane-d42	17.706	258223	42.322	ug/mlm
34) S	n-triacontane-d62	29.636	248031	41.661	ug/mlm
Target Compounds					
2)	n-C8	3.565	249601	40.298	ug/mlm
3)	n-C9	4.887	268916	40.818	ug/mlm
4)	n-C10	6.301	289493	40.994	ug/mlm
5)	n-C11	7.657	294236	41.084	ug/mlm
7)	n-C12	8.921	303320	40.553	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mlm
9)	i-14	0.000	0	N.D.	ug/mlm
10)	n-C13	10.094	307904	41.245	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mlm
12)	n-C14	11.192	314522	41.002	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mlm
14)	n-C15	12.225	316090	40.753	ug/mlm
15)	n-C16	13.271	315284	40.442	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mlm
18)	n-C17	14.384	319083	40.859	ug/mlm
19)	Pristane	14.503	318719	41.049	ug/mlm
20)	n-C18	15.571	316692	41.294	ug/mlm
21)	Phytane	15.736	321545	41.187	ug/mlm
22)	n-C19	16.819	314213	41.130	ug/mlm
24)	n-C20	18.106	315142	41.109	ug/mlm
25)	n-C21	19.414	314258	40.733	ug/mlm
26)	n-C22	20.720	316580	40.984	ug/mlm
27)	n-C23	22.010	313847	40.576	ug/mlm
28)	n-C24	23.278	312831	40.439	ug/mlm
29)	n-C25	24.514	314703	40.614	ug/mlm
30)	n-C26	25.716	316618	40.877	ug/mlm
31)	n-C27	26.880	307905	40.705	ug/mlm
32)	n-C28	28.012	312589	40.789	ug/mlm
33)	n-C29	29.109	313804	40.791	ug/mlm
35)	n-C30	30.172	310396	40.743	ug/mlm
36)	n-C31	31.204	307667	41.029	ug/mlm
37)	n-C32	32.203	301767	40.641	ug/mlm
38)	n-C33	33.171	298748	41.154	ug/mlm
39)	n-C34	34.125	302933	41.272	ug/mlm
40)	n-C35	35.160	297795	41.442	ug/mlm

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
 Data File : FID10072F.D
 Signal(s) : FID1A.CH
 Acq On : 10-Aug-2013, 02:13:04
 Operator : Meghan Dailey
 Sample : AL-WKC4-40-019
 Misc :
 ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 12 11:47:57 2013
 Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 11:43:23 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.343	316827	40.709	ug/mlm
42)	n-C37	37.709	293962	41.283	ug/mlm
43)	n-C38	39.303	292870	41.482	ug/mlm
44)	n-C39	41.178	281825	41.451	ug/mlm
45)	n-C40	43.399	263293	41.164	ug/mlm
46)	TPH	0.000	0	N.D.	ug/ml
47)	TRH1	0.000	0	N.D.	ug/ml
48)	TRH2	0.000	0	N.D.	ug/ml
49)	TRH3	0.000	0	N.D.	ug/ml
50)	TRH4	0.000	0	N.D.	ug/ml
51)	TRH5	0.000	0	N.D.	ug/ml
52)	TRH6	0.000	0	N.D.	ug/ml
53)	GRO	0.000	0	N.D.	ug/ml
54)	DRO	0.000	0	N.D.	ug/ml
55)	RRO	0.000	0	N.D.	ug/ml

SemiQuant Compounds - Not Calibrated on this Instrument

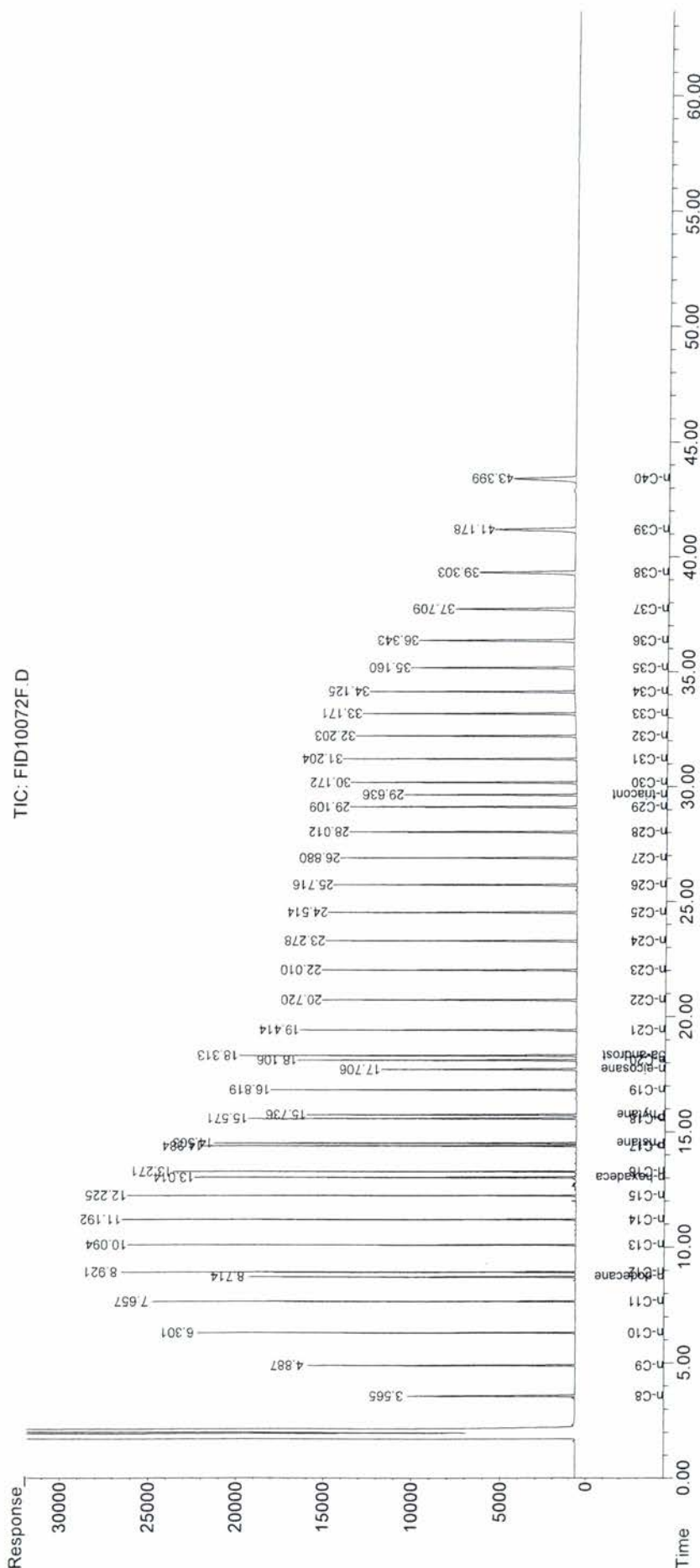
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
 Data File : FID10072F.D
 Signal(s) : FID1A.CH
 Acq On : 10-Aug-2013, 02:13:04
 Operator : Meghan Dailey
 Sample : AL-WKC4-40-019
 Misc :
 ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 12 11:47:57 2013
 Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 11:43:23 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :



Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
 Data File : FID10072G.D
 Signal(s) : FID1A.CH
 Acq On : 10-Aug-2013, 03:23:38
 Operator : Meghan Dailey
 Sample : AL-WKC5-50-019
 Misc :
 ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 12 13:33:18 2013
 Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 11:48:17 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I n-hexadecane-d34	13.013	308613	50.000 ug/mlm
16) I 5a-androstane	18.313	378201	50.072 ug/mlm
System Monitoring Compounds			
6) S n-dodecane-d26	8.713	322525	50.682 ug/mlm
23) S n-eicosane-d42	17.706	294905	50.741 ug/mlm
34) S n-triacontane-d62	29.635	285310	50.396 ug/mlm
Target Compounds			
2) n-C8	3.565	304134	51.981 ug/mlm
3) n-C9	4.886	322395	51.633 ug/mlm
4) n-C10	6.300	344565	51.353 ug/mlm
5) n-C11	7.657	349134	51.238 ug/mlm
7) n-C12	8.920	359829	50.512 ug/mlm
8) i-13	0.000	0	N.D. ug/mlm
9) i-14	0.000	0	N.D. ug/mlm
10) n-C13	10.094	365084	51.349 ug/mlm
11) i-15	0.000	0	N.D. ug/mlm
12) n-C14	11.191	372247	50.962 ug/mlm
13) i-16	0.000	0	N.D. ug/mlm
14) n-C15	12.225	373681	50.626 ug/mlm
15) n-C16	13.271	373193	50.339 ug/mlm
17) i-18	0.000	0	N.D. ug/mlm
18) n-C17	14.385	377591	50.678 ug/mlm
19) Pristane	14.504	377227	50.915 ug/mlm
20) n-C18	15.573	375036	51.288 ug/mlm
21) Phytane	15.738	380960	51.170 ug/mlm
22) n-C19	16.820	372377	51.157 ug/mlm
24) n-C20	18.109	373335	51.145 ug/mlm
25) n-C21	19.415	372512	50.713 ug/mlm
26) n-C22	20.722	375185	51.025 ug/mlm
27) n-C23	22.012	372683	50.637 ug/mlm
28) n-C24	23.279	371158	50.432 ug/mlm
29) n-C25	24.513	373751	50.721 ug/mlm
30) n-C26	25.717	375732	51.009 ug/mlm
31) n-C27	26.881	365888	50.874 ug/mlm
32) n-C28	28.014	371331	50.960 ug/mlm
33) n-C29	29.111	373802	51.123 ug/mlm
35) n-C30	30.173	368399	50.846 ug/mlm
36) n-C31	31.203	365761	51.294 ug/mlm
37) n-C32	32.203	358608	50.749 ug/mlm
38) n-C33	33.171	354278	51.286 ug/mlm
39) n-C34	34.125	359337	51.413 ug/mlm
40) n-C35	35.161	353293	51.635 ug/mlm

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
 Data File : FID10072G.D
 Signal(s) : FID1A.CH
 Acq On : 10-Aug-2013, 03:23:38
 Operator : Meghan Dailey
 Sample : AL-WKC5-50-019
 Misc :
 ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 12 13:33:18 2013
 Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 11:48:17 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.346	374347	50.492	ug/mlm
42)	n-C37	37.711	347714	51.269	ug/mlm
43)	n-C38	39.305	346254	51.496	ug/mlm
44)	n-C39	41.183	333858	51.579	ug/mlm
45)	n-C40	43.394	311044	51.030	ug/mlm
46)	TPH	0.000	0	N.D.	ug/ml
47)	TRH1	0.000	0	N.D.	ug/ml
48)	TRH2	0.000	0	N.D.	ug/ml
49)	TRH3	0.000	0	N.D.	ug/ml
50)	TRH4	0.000	0	N.D.	ug/ml
51)	TRH5	0.000	0	N.D.	ug/ml
52)	TRH6	0.000	0	N.D.	ug/ml
53)	GRO	0.000	0	N.D.	ug/ml
54)	DRO	0.000	0	N.D.	ug/ml
55)	RRO	0.000	0	N.D.	ug/ml

SemiQuant Compounds - Not Calibrated on this Instrument

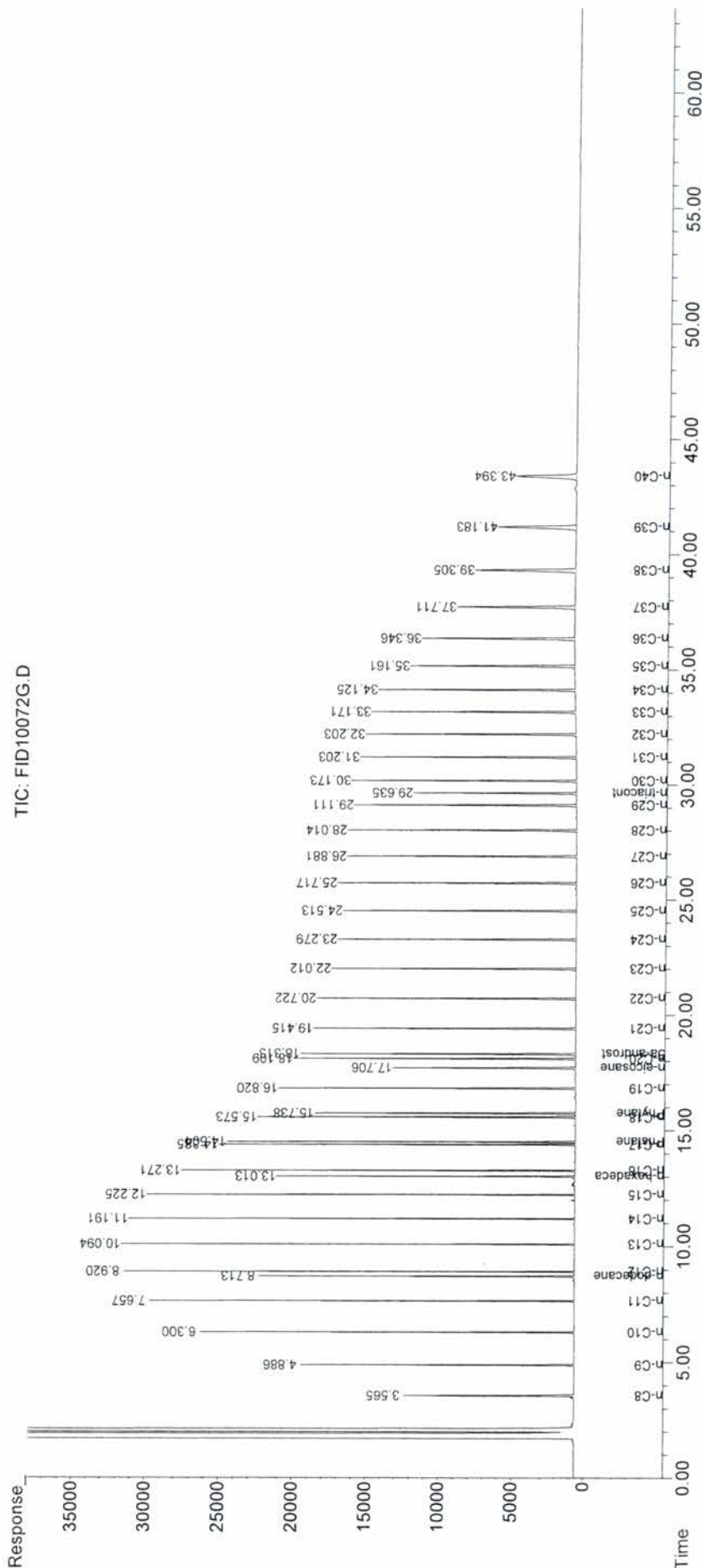
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
 Data File : FID10072G.D
 Signal(s) : FID1A.CH
 Acq On : 10-Aug-2013, 03:23:38
 Operator : Meghan Dailey
 Sample : AL-WKC5-50-019
 Misc :
 ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 12 13:33:18 2013
 Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 11:48:17 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :



Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072H.D
Signal(s) : FID1A.CH
Acq On : 10-Aug-2013, 04:34:12
Operator : Meghan Dailey
Sample : AL-WKC6-100-019
Misc :
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e

Quant Time: Aug 12 13:44:37 2013

Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M

Quant Title : C8 - C40 aliphatic

QLast Update : Mon Aug 12 13:33:35 2013

Response via : Initial Calibration

Integrator: ChemStation

Volume Inj. :

Signal Phase :

Signal Info :

	Compound	R.T.	Response	Conc	Units

Internal Standards					
1) I	n-hexadecane-d34	13.014	371024	50.000	ug/mlm
16) I	5a-androstane	18.315	450671	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.717	683310	89.210	ug/mlm
23) S	n-eicosane-d42	17.713	624705	90.262	ug/mlm
34) S	n-triacontane-d62	29.645	596520	88.508	ug/mlm
Target Compounds					
2)	n-C8	3.567	623017	88.572	ug/mlm
3)	n-C9	4.889	667371	88.911	ug/mlm
4)	n-C10	6.304	716973	88.847	ug/mlm
5)	n-C11	7.661	727385	88.730	ug/mlm
7)	n-C12	8.925	747950	87.212	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mlm
9)	i-14	0.000	0	N.D.	ug/mlm
10)	n-C13	10.099	758593	88.631	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mlm
12)	n-C14	11.197	773506	87.998	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mlm
14)	n-C15	12.230	776888	87.527	ug/mlm
15)	n-C16	13.276	773826	86.825	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mlm
18)	n-C17	14.392	783800	88.088	ug/mlm
19)	Pristane	14.511	783178	88.468	ug/mlm
20)	n-C18	15.579	778062	89.167	ug/mlm
21)	Phytane	15.745	789819	88.877	ug/mlm
22)	n-C19	16.829	771195	88.849	ug/mlm
24)	n-C20	18.119	773084	88.901	ug/mlm
25)	n-C21	19.425	770938	88.135	ug/mlm
26)	n-C22	20.732	775221	88.585	ug/mlm
27)	n-C23	22.024	768898	87.775	ug/mlm
28)	n-C24	23.291	765498	87.434	ug/mlm
29)	n-C25	24.527	770909	87.957	ug/mlm
30)	n-C26	25.732	774878	88.449	ug/mlm
31)	n-C27	26.895	752035	87.892	ug/mlm
32)	n-C28	28.027	763889	88.097	ug/mlm
33)	n-C29	29.124	768107	88.249	ug/mlm
35)	n-C30	30.187	755730	87.622	ug/mlm
36)	n-C31	31.218	747566	88.005	ug/mlm
37)	n-C32	32.215	728166	86.441	ug/mlm
38)	n-C33	33.185	713661	86.629	ug/mlm
39)	n-C34	34.136	713804	85.582	ug/mlm
40)	n-C35	35.175	688923	84.364	ug/mlm

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072H.D
Signal(s) : FID1A.CH
Acq On : 10-Aug-2013, 04:34:12
Operator : Meghan Dailey
Sample : AL-WKC6-100-019
Misc :
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 13:44:37 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:33:35 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
41)	n-C36	36.360	709480	80.205 ug/mlm
42)	n-C37	37.727	648312	80.132 ug/mlm
43)	n-C38	39.330	613891	76.553 ug/mlm
44)	n-C39	41.198	568788	73.680 ug/mlm
45)	n-C40	43.419	512319	70.511 ug/mlm
46)	TPH	0.000	0	N.D. ug/mlm
47)	TRH1	0.000	0	N.D. ug/mlm
48)	TRH2	0.000	0	N.D. ug/mlm
49)	TRH3	0.000	0	N.D. ug/mlm
50)	TRH4	0.000	0	N.D. ug/mlm
51)	TRH5	0.000	0	N.D. ug/mlm
52)	TRH6	0.000	0	N.D. ug/mlm
53)	GRO	0.000	0	N.D. ug/mlm
54)	DRO	0.000	0	N.D. ug/mlm
55)	RRO	0.000	0	N.D. ug/mlm

SemiQuant Compounds - Not Calibrated on this Instrument

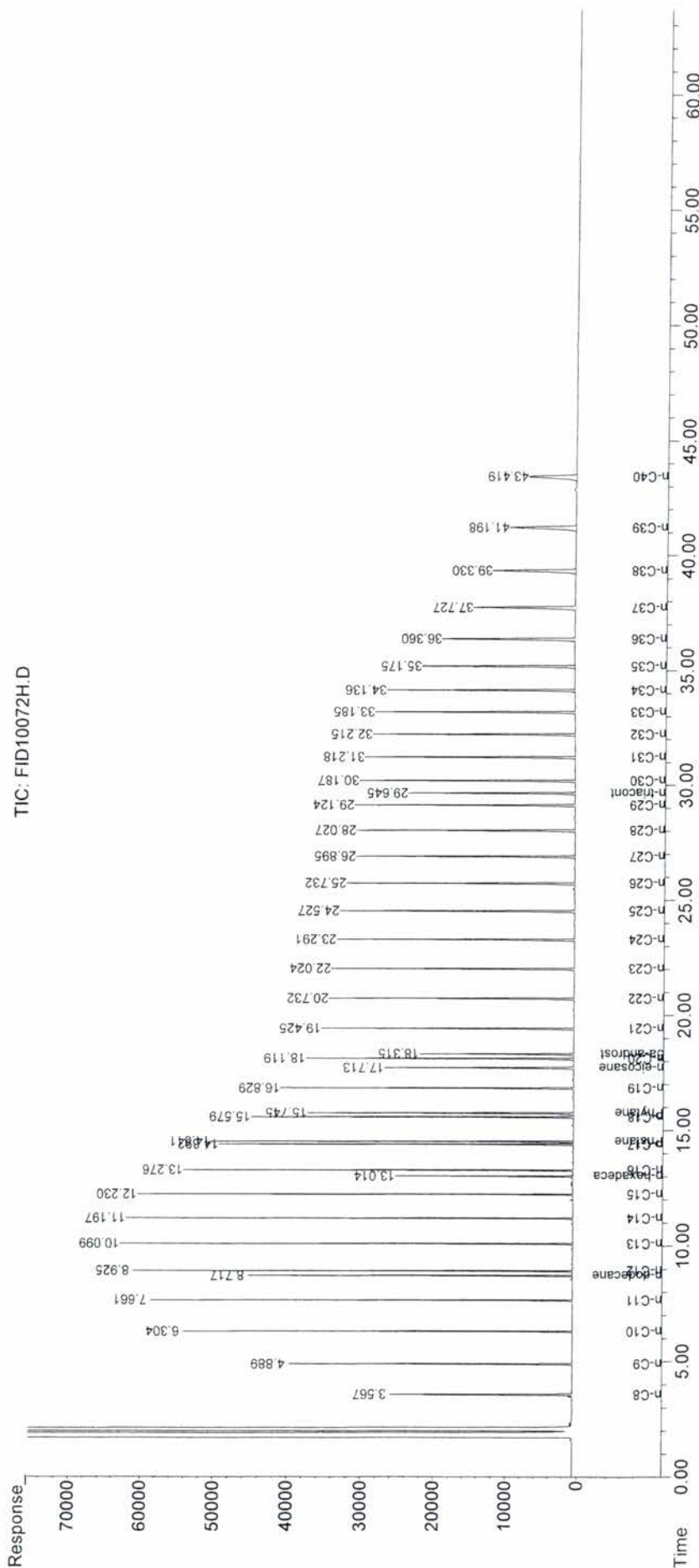
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072H.D
Signal(s) : FID1A.CH
Acq On : 10-Aug-2013, 04:34:12
Operator : Meghan Dailey
Sample : AL-WKC6-100-019
Misc :
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 13:44:37 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 13:33:35 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
 Data File : FID10072I.D
 Signal(s) : FID1A.CH
 Acq On : 10-Aug-2013, 05:44:45
 Operator : Meghan Dailey
 Sample : AL-WKICV-25-002
 Misc :
 ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 12 14:02:34 2013
 Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

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

	Compound	AvgRF	CCRF	%Dev	Area%	Dev (Min)
1 I	n-hexadecane-d34	1.000	1.000	0.0	92	0.00
2	n-C8	0.945	1.000	-5.8	95	0.00
3	n-C9	1.010	1.084	-7.3	97	0.00
4	n-C10	1.087	1.141	-5.0	95	0.00
5	n-C11	1.105	1.185	-7.2	98	0.00
6 S	n-dodecane-d26	1.033	1.032	0.1	91	0.00
7	n-C12	1.156	1.230	-6.4	96	0.00
10	n-C13	1.154	1.226	-6.2	96	0.00
12	n-C14	1.185	1.245	-5.1	95	0.00
14	n-C15	1.196	1.264	-5.7	96	0.00
15	n-C16	1.200	1.276	-6.3	97	0.00
16 I	5a-androstane	1.000	1.000	0.0	92	0.00
18	n-C17	0.991	1.040	-4.9	95	0.00
19	Pristane	0.986	1.025	-4.0	94	0.00
20	n-C18	0.971	1.026	-5.7	95	0.00
21	Phytane	0.989	1.024	-3.5	93	0.00
22	n-C19	0.965	1.033	-7.0	96	0.00
23 S	n-eicosane-d42	0.769	0.774	-0.7	91	0.00
24	n-C20	0.967	1.012	-4.7	94	0.00
25	n-C21	0.972	1.042	-7.2	96	0.00
26	n-C22	0.972	1.022	-5.1	95	0.00
27	n-C23	0.973	1.023	-5.1	94	0.00
28	n-C24	0.972	1.017	-4.6	94	0.00
29	n-C25	0.973	0.929	4.5	86	0.00
30	n-C26	0.973	1.015	-4.3	94	0.00
31	n-C27	0.950	1.010	-6.3	96	0.00
32	n-C28	0.963	1.007	-4.6	94	0.00
33	n-C29	0.967	0.999	-3.3	93	0.00
34 S	n-triacontane-d62	0.749	0.744	0.7	90	0.00
35	n-C30	0.959	1.004	-4.7	94	0.00
36	n-C31	0.945	0.970	-2.6	92	0.00
37	n-C32	0.937	0.982	-4.8	94	0.00
38	n-C33	0.916	0.974	-6.3	95	0.00
39	n-C34	0.926	1.006	-8.6	96	0.00
40	n-C35	0.904	0.946	-4.6	93	0.00
41	n-C36	0.975	1.032	-5.8	93	0.00
42	n-C37	0.890	0.929	-4.4	92	0.00
43	n-C38	0.876	0.930	-6.2	93	0.00

44	n-C39	0.839	0.926	-10.4	96	0.00
45	n-C40	0.786	0.877	-11.6	97	0.00

Evaluate Continuing Calibration Report - Not Found

8	i-13	0.019	0.000	100.0#	0#	-9.11#
9	i-14	0.019	0.000	100.0#	0#	-9.81#
11	i-15	0.019	0.000	100.0#	0#	-10.97#
13	i-16	0.020	0.000	100.0#	0#	-11.87#
17	i-18	0.019	0.000	100.0#	0#	-13.84#
46	TPH	0.019	0.000	100.0#	0#	-29.72#
47	TRH1	0.019	0.000	100.0#	0#	-7.93#
48	TRH2	0.019	0.000	100.0#	0#	-16.29#
49	TRH3	0.019	0.000	100.0#	0#	-23.92#
50	TRH4	0.019	0.000	100.0#	0#	-29.06#
51	TRH5	0.019	0.000	100.0#	0#	-34.15#
52	TRH6	0.019	0.000	100.0#	0#	-45.88#
53	GRO	0.019	0.000	100.0#	0#	-5.39#
54	DRO	0.019	0.000	100.0#	0#	-14.64#
55	RRO	0.019	0.000	100.0#	0#	-33.77#

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

FID1C08FRONT081213.M Mon Aug 12 14:02:53 2013

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
 Data File : FID10072I.D
 Signal(s) : FID1A.CH
 Acq On : 10-Aug-2013, 05:44:45
 Operator : Meghan Dailey
 Sample : AL-WKICV-25-002
 Misc :
 ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 12 14:02:34 2013
 Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound		R.T.	Response	Conc	Units

Internal Standards					
1) I	n-hexadecane-d34	13.014	289116	50.000	ug/mlm
16) I	5a-androstane	18.310	354018	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.712	149214	24.989	ug/mlm
23) S	n-eicosane-d42	17.701	137668	25.307	ug/mlm
34) S	n-triacontane-d62	29.630	131603	24.853	ug/mlm
Target Compounds					
2)	n-C8	3.563	144644	26.460	ug/mlm
3)	n-C9	4.885	156643	26.813	ug/mlm
4)	n-C10	6.299	164955	26.239	ug/mlm
5)	n-C11	7.656	171437	26.832	ug/mlm
7)	n-C12	8.919	174739	26.134	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mlm
9)	i-14	0.000	0	N.D.	ug/mlm
10)	n-C13	10.092	177559	26.605	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mlm
12)	n-C14	11.190	178927	26.109	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mlm
14)	n-C15	12.223	181812	26.283	ug/mlm
15)	n-C16	13.268	182670	26.322	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mlm
18)	n-C17	14.382	181623	25.925	ug/mlm
19)	Pristane	14.500	179573	25.761	ug/mlm
20)	n-C18	15.567	181526	26.439	ug/mlm
21)	Phytane	15.733	180548	25.822	ug/mlm
22)	n-C19	16.815	182375	26.724	ug/mlm
24)	n-C20	18.102	179169	26.217	ug/mlm
25)	n-C21	19.409	182554	26.558	ug/mlm
26)	n-C22	20.715	180837	26.306	ug/mlm
27)	n-C23	22.006	179049	26.025	ug/mlm
28)	n-C24	23.272	177592	25.835	ug/mlm
29)	n-C25	24.509	163638	23.778	ug/mlm
30)	n-C26	25.710	179627	26.117	ug/mlm
31)	n-C27	26.876	178663	26.599	ug/mlm
32)	n-C28	28.007	177966	26.134	ug/mlm
33)	n-C29	29.102	176801	25.853	ug/mlm
35)	n-C30	30.166	176735	26.077	ug/mlm
36)	n-C31	31.195	171441	25.671	ug/mlm
37)	n-C32	32.196	171314	25.868	ug/mlm
38)	n-C33	33.164	172109	26.588	ug/mlm
39)	n-C34	34.116	177445	27.113	ug/mlm
40)	n-C35	35.150	167325	26.175	ug/mlm

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
Data File : FID10072I.D
Signal(s) : FID1A.CH
Acq On : 10-Aug-2013, 05:44:45
Operator : Meghan Dailey
Sample : AL-WKICV-25-002
Misc :
ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e

Quant Time: Aug 12 14:02:34 2013

Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M

Quant Title : C8 - C40 aliphatic

QLast Update : Mon Aug 12 13:56:00 2013

Response via : Initial Calibration

Integrator: ChemStation

Volume Inj. :

Signal Phase :

Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.333	178686	25.914	ug/mlm
42)	n-C37	37.695	164276	26.103	ug/mlm
43)	n-C38	39.289	164601	26.569	ug/mlm
44)	n-C39	41.160	163677	27.586	ug/mlm
45)	n-C40	43.376	154699	27.824	ug/mlm
46)	TPH	0.000	0	N.D.	ug/ml
47)	TRH1	0.000	0	N.D.	ug/ml
48)	TRH2	0.000	0	N.D.	ug/ml
49)	TRH3	0.000	0	N.D.	ug/ml
50)	TRH4	0.000	0	N.D.	ug/ml
51)	TRH5	0.000	0	N.D.	ug/ml
52)	TRH6	0.000	0	N.D.	ug/ml
53)	GRO	0.000	0	N.D.	ug/ml
54)	DRO	0.000	0	N.D.	ug/ml
55)	RRO	0.000	0	N.D.	ug/ml

SemiQuant Compounds - Not Calibrated on this Instrument

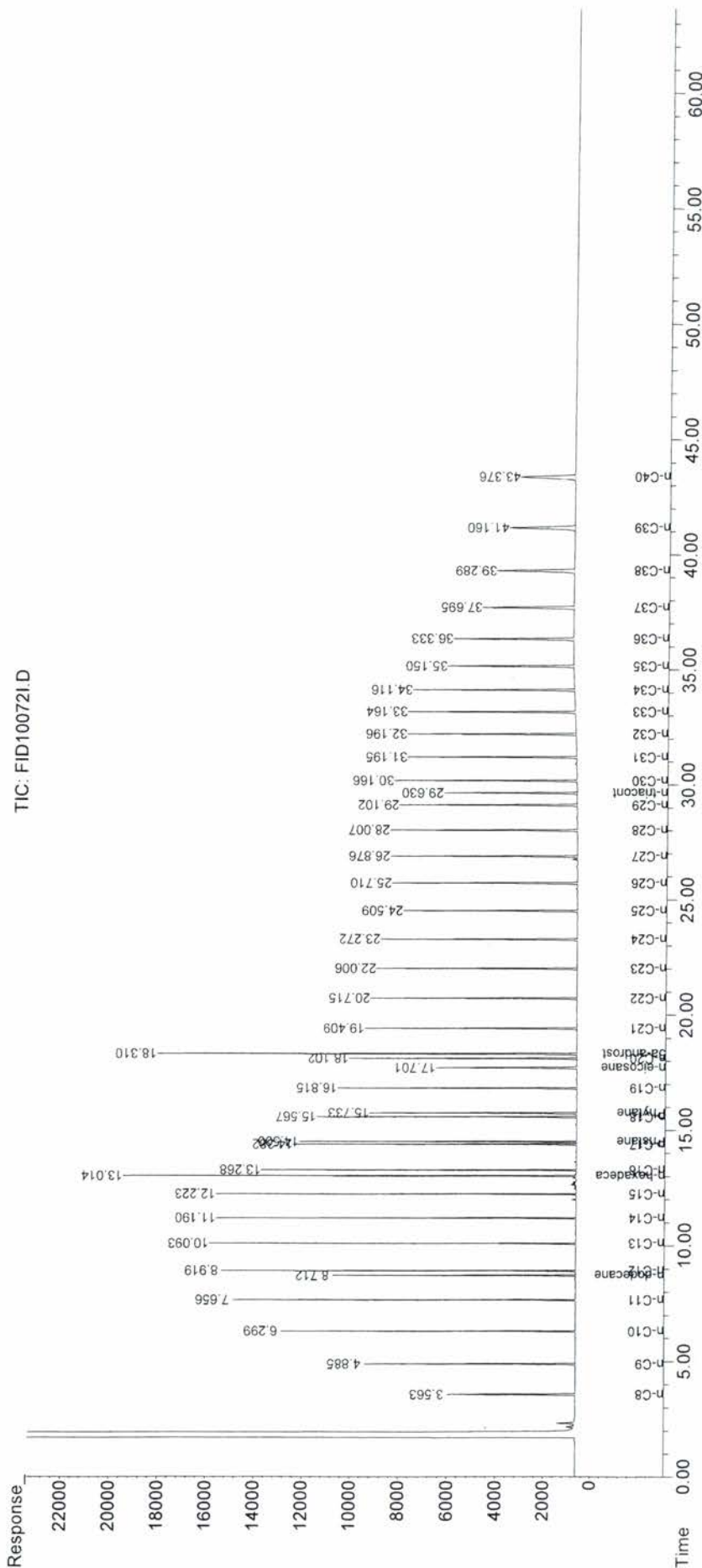
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
 Data File : FID10072I.D
 Signal(s) : FID1A.CH
 Acq On : 10-Aug-2013, 05:44:45
 Operator : Meghan Dailey
 Sample : AL-WKICV-25-002
 Misc :
 ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 12 14:02:34 2013
 Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :



Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
 Data File : FID10072J.D
 Signal(s) : FID1A.CH
 Acq On : 10-Aug-2013, 06:55:19
 Operator : Meghan Dailey
 Sample : AL-WKCC-25-024
 Misc :
 ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 12 14:10:29 2013
 Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

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

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1 I	n-hexadecane-d34	1.000	1.000	0.0	88	0.00
2	n-C8	0.945	0.981	-3.8	90	0.00
3	n-C9	1.010	1.032	-2.2	89	0.00
4	n-C10	1.087	1.100	-1.2	88	0.00
5	n-C11	1.105	1.117	-1.1	88	0.00
6 S	n-dodecane-d26	1.033	1.041	-0.8	88	0.00
7	n-C12	1.156	1.176	-1.7	88	0.00
10	n-C13	1.154	1.173	-1.6	88	0.00
12	n-C14	1.185	1.209	-2.0	88	0.00
14	n-C15	1.196	1.212	-1.3	88	0.00
15	n-C16	1.200	1.217	-1.4	88	0.00
16 I	5a-androstane	1.000	1.000	0.0	88	-0.01
18	n-C17	0.991	1.009	-1.8	88	0.00
19	Pristane	0.986	1.007	-2.1	88	0.00
20	n-C18	0.971	0.990	-2.0	88	0.00
21	Phytane	0.989	1.009	-2.0	88	0.00
22	n-C19	0.965	0.984	-2.0	88	0.00
23 S	n-eicosane-d42	0.769	0.780	-1.4	88	0.00
24	n-C20	0.967	0.984	-1.8	88	0.00
25	n-C21	0.972	0.991	-2.0	87	0.00
26	n-C22	0.972	0.987	-1.5	87	0.00
27	n-C23	0.973	0.990	-1.7	87	0.00
28	n-C24	0.972	0.986	-1.4	87	0.00
29	n-C25	0.973	0.985	-1.2	87	0.00
30	n-C26	0.973	0.986	-1.3	87	0.00
31	n-C27	0.950	0.960	-1.1	87	0.00
32	n-C28	0.963	0.976	-1.3	87	0.00
33	n-C29	0.967	0.980	-1.3	87	0.00
34 S	n-triacontane-d62	0.749	0.751	-0.3	87	-0.01
35	n-C30	0.959	0.974	-1.6	87	0.00
36	n-C31	0.945	0.963	-1.9	87	0.00
37	n-C32	0.937	0.958	-2.2	87	0.00
38	n-C33	0.916	0.936	-2.2	87	0.00
39	n-C34	0.926	0.949	-2.5	87	0.00
40	n-C35	0.904	0.926	-2.4	87	0.00
41	n-C36	0.975	0.991	-1.6	85	0.00
42	n-C37	0.890	0.883	0.8	84	0.00
43	n-C38	0.876	0.862	1.6	82	0.00

44	n-C39	0.839	0.810	3.5	80	-0.02
45	n-C40	0.786	0.745	5.2	79	-0.02

Evaluate Continuing Calibration Report - Not Found

8	i-13	0.019	0.000	100.0#	0#	-9.11#
9	i-14	0.019	0.000	100.0#	0#	-9.81#
11	i-15	0.019	0.000	100.0#	0#	-10.97#
13	i-16	0.020	0.000	100.0#	0#	-11.87#
17	i-18	0.019	0.000	100.0#	0#	-13.84#
46	TPH	0.019	0.000	100.0#	0#	-29.72#
47	TRH1	0.019	0.000	100.0#	0#	-7.93#
48	TRH2	0.019	0.000	100.0#	0#	-16.29#
49	TRH3	0.019	0.000	100.0#	0#	-23.92#
50	TRH4	0.019	0.000	100.0#	0#	-29.06#
51	TRH5	0.019	0.000	100.0#	0#	-34.15#
52	TRH6	0.019	0.000	100.0#	0#	-45.88#
53	GRO	0.019	0.000	100.0#	0#	-5.39#
54	DRO	0.019	0.000	100.0#	0#	-14.64#
55	RRO	0.019	0.000	100.0#	0#	-33.77#

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

FID1C08FRONT081213.M Mon Aug 12 14:10:34 2013

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
 Data File : FID10072J.D
 Signal(s) : FID1A.CH
 Acq On : 10-Aug-2013, 06:55:19
 Operator : Meghan Dailey
 Sample : AL-WKCC-25-024
 Misc :
 ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 12 14:10:29 2013
 Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

	Compound	R.T.	Response	Conc Units
41)	n-C36	36.330	163820	24.886 ug/mlm
42)	n-C37	37.693	149081	24.813 ug/mlm
43)	n-C38	39.283	145612	24.620 ug/mlm
44)	n-C39	41.145	136754	24.143 ug/mlm
45)	n-C40	43.363	125383	23.622 ug/mlm
46)	TPH	0.000	0	N.D. ug/mlm
47)	TRH1	0.000	0	N.D. ug/mlm
48)	TRH2	0.000	0	N.D. ug/mlm
49)	TRH3	0.000	0	N.D. ug/mlm
50)	TRH4	0.000	0	N.D. ug/mlm
51)	TRH5	0.000	0	N.D. ug/mlm
52)	TRH6	0.000	0	N.D. ug/mlm
53)	GRO	0.000	0	N.D. ug/mlm
54)	DRO	0.000	0	N.D. ug/mlm
55)	RRO	0.000	0	N.D. ug/mlm

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 1\FID10072\
 Data File : FID10072J.D
 Signal(s) : FID1A.CH
 Acq On : 10-Aug-2013, 06:55:19
 Operator : Meghan Dailey
 Sample : AL-WKCC-25-024
 Misc :
 ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 12 14:10:29 2013
 Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

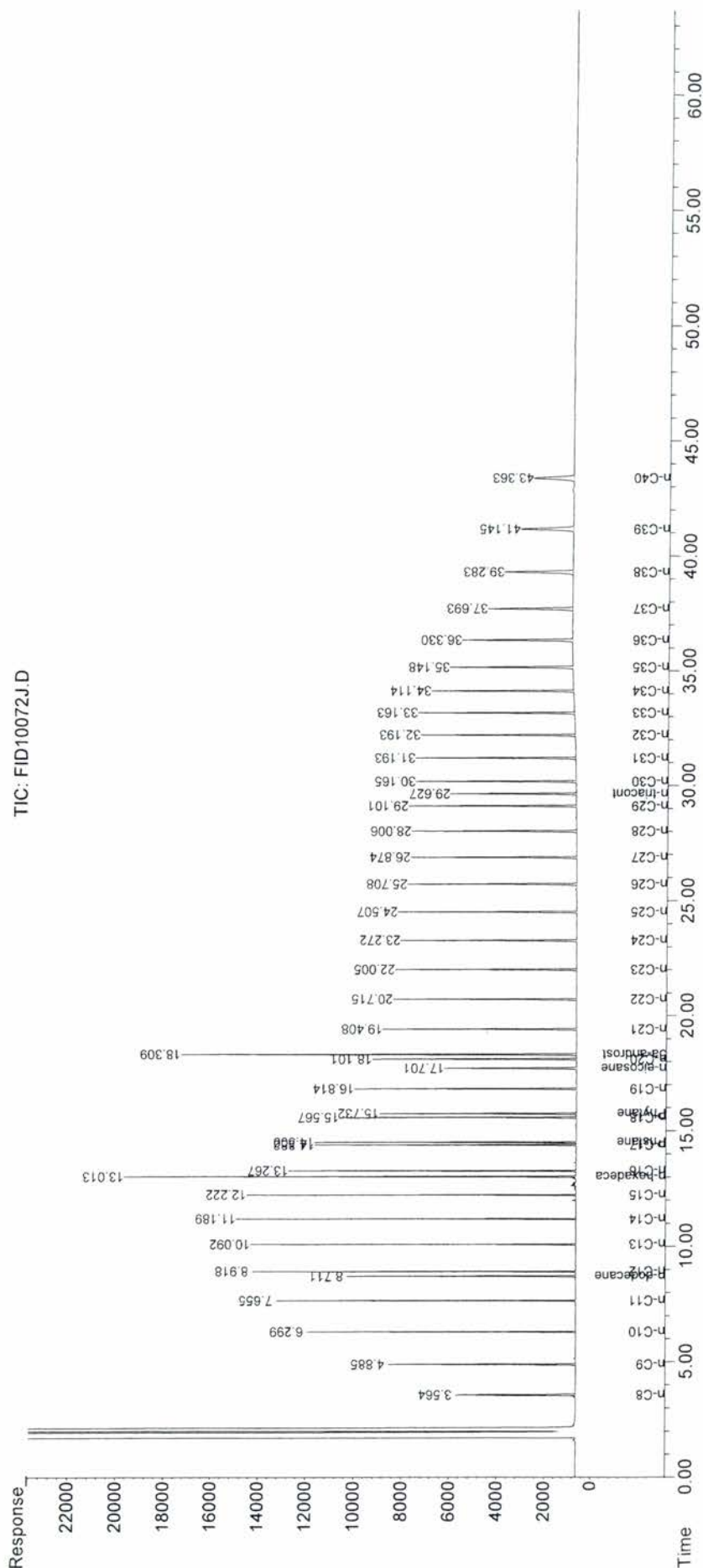
Compound		R.T.	Response	Conc Units	

Internal Standards					
1) I	n-hexadecane-d34	13.013	276690	50.000	ug/mlm
16) I	5a-androstane	18.309	337971	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.711	143990	25.197	ug/mlm
23) S	n-eicosane-d42	17.701	132448	25.503	ug/mlm
34) S	n-triacontane-d62	29.627	126882	25.099	ug/mlm
Target Compounds					
2)	n-C8	3.564	135873	25.972	ug/mlm
3)	n-C9	4.885	142761	25.534	ug/mlm
4)	n-C10	6.299	152216	25.300	ug/mlm
5)	n-C11	7.655	154745	25.308	ug/mlm
7)	n-C12	8.918	159875	24.985	ug/mlm
8)	i-13	0.000	0	N.D.	ug/ml
9)	i-14	0.000	0	N.D.	ug/ml
10)	n-C13	10.092	162507	25.443	ug/mlm
11)	i-15	0.000	0	N.D.	ug/ml
12)	n-C14	11.189	166198	25.341	ug/mlm
13)	i-16	0.000	0	N.D.	ug/ml
14)	n-C15	12.222	166931	25.215	ug/mlm
15)	n-C16	13.267	166720	25.103	ug/mlm
17)	i-18	0.000	0	N.D.	ug/ml
18)	n-C17	14.382	168277	25.160	ug/mlm
19)	Pristane	14.500	168359	25.299	ug/mlm
20)	n-C18	15.567	167209	25.510	ug/mlm
21)	Phytane	15.732	169926	25.457	ug/mlm
22)	n-C19	16.814	165950	25.472	ug/mlm
24)	n-C20	18.101	166362	25.499	ug/mlm
25)	n-C21	19.408	165690	25.249	ug/mlm
26)	n-C22	20.715	166816	25.419	ug/mlm
27)	n-C23	22.005	165433	25.188	ug/mlm
28)	n-C24	23.272	164510	25.068	ug/mlm
29)	n-C25	24.507	165567	25.200	ug/mlm
30)	n-C26	25.708	166623	25.377	ug/mlm
31)	n-C27	26.874	162011	25.265	ug/mlm
32)	n-C28	28.006	164691	25.333	ug/mlm
33)	n-C29	29.101	165542	25.356	ug/mlm
35)	n-C30	30.165	163747	25.308	ug/mlm
36)	n-C31	31.193	162567	25.498	ug/mlm
37)	n-C32	32.193	159570	25.239	ug/mlm
38)	n-C33	33.163	157898	25.551	ug/mlm
39)	n-C34	34.114	159870	25.588	ug/mlm
40)	n-C35	35.148	156251	25.604	ug/mlm

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\
 Data File : FID10072J.D
 Signal(s) : FID1A.CH
 Acq On : 10-Aug-2013, 06:55:19
 Operator : Meghan Dailey
 Sample : AL-WKCC-25-024
 Misc :
 ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Aug 12 14:10:29 2013
 Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10072\FID1C08FRONT081213.M
 Quant Title : C8 - C40 aliphatic
 QLast Update : Mon Aug 12 13:56:00 2013
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :



Aliphatic Mass Discrimination Ratio

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
FID10072C.D	AL-WKC1-1.25-019	10062	9883	0.98	
FID10072D.D	AL-WKC2-10-019	76440	77581	1.01	
FID10072E.D	AL-WKC3-25-019	189971	192250	1.01	
FID10072F.D	AL-WKC4-40-019	315142	316827	1.01	
FID10072G.D	AL-WKC5-50-019	373335	374347	1.00	
FID10072H.D	AL-WKC6-100-019	773084	709480	0.92	
FID10072I.D	AL-WKICV-25-002	179169	178686	1.00	
FID10072J.D	AL-WKCC-25-024	166362	163820	0.98	
FID10084B.D	AL-WKCC-25-024	181188	174970	0.97	
FID10084G.D	AL-WKCC-25-024	192137	183951	0.96	

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

Aliphatic Internal Standard Area Data

File Name	Sample Name	Internal Standard 1 n-hexadecane-d34			Internal Standard 2 5α-androstane		
		Response (Area)	50% (Area)	200% (Area)	Response (Area)	50% (Area)	200% (Area)
FID10072E.D	AL-WKCC-25-019	313640	156820	627280	385796	192898	771592
FID10072I.D	AL-WKICV-25-002	289116	144558	578232	354018	177009	708036
FID10072J.D	AL-WKCC-25-024	276690	138345	553380	337971	168986	675942
FID10084B.D	AL-WKCC-25-024	298580	149290	597160	366884	183442	733768
FID10084C.D	AL-SRM2779-20-01	323744			449837		
FID10084F.D	AL-WKPem-001	315323			397076		
ENV3089A.D	Procedural Blank	278130			341778		
ENV3089B.D	Blank Spike	292709			357126		
ENV3089C.D	Blank Spike Duplicate	308917			378822		
ARC1878.D	SED-DA-EB-09-081513	296454			363046		
ARC1922.D	SED-DA-EB-10-081613	284530			350418		
FID10084G.D	AL-WKCC-25-024	318008	159004	636016	388609	194305	777218

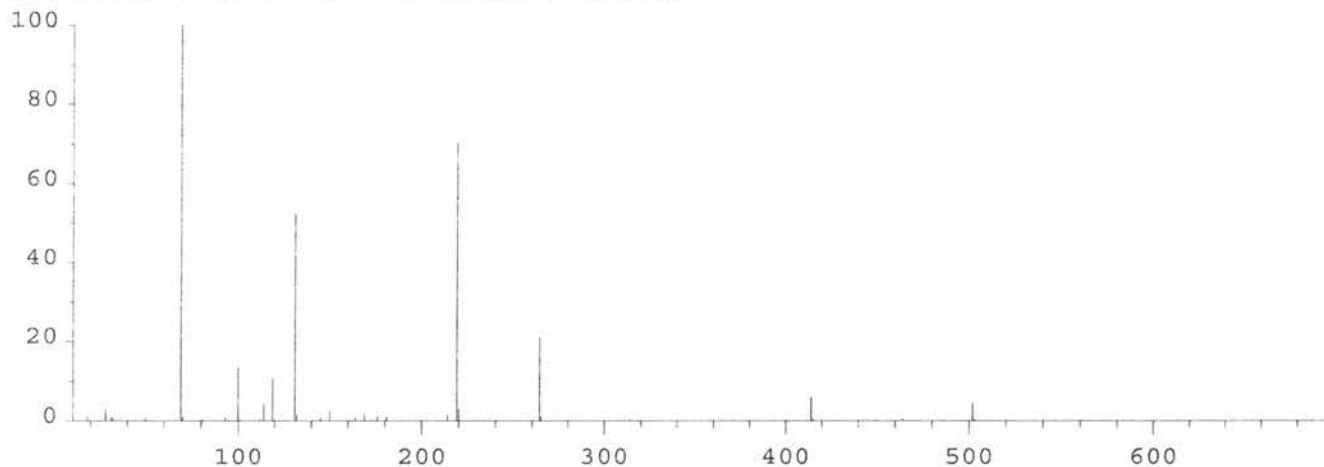
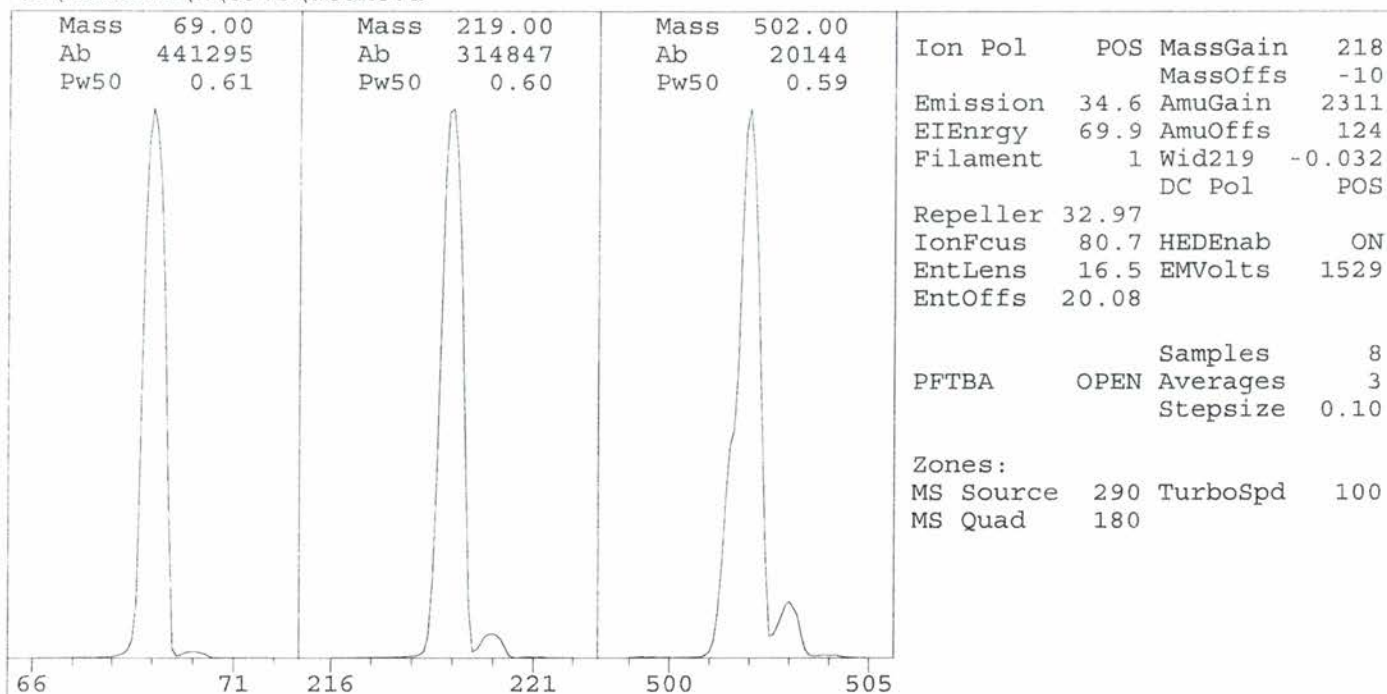
**Polycyclic Aromatic Hydrocarbon
Initial Calibration Data
and
Initial Calibration Verification Data**

**PAH ICAL
AR 60149.M**

**GC/MS 6
(PAH-2012)**

Fri Sep 13 11:22:34 2013
C:\MSDCHEM\1\5973\atune.u

Instrument: GCMS6



Air/Water Check: H2O~1.31% N2~3.02% O2~0.79% CO2~0.29% N2/H2O~230.18%

Column Flow: Front: 1.324 Back: 0 ml/min. Interface Temp: GCCF 4,0

Ramp Criteria:

Ion Focus Maximum 90 volts using ion 502; EM Gain 53123
Repeller Maximum 35 volts using ion 219;

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

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

MS60149
YM 260

Method Path : F:\MS60149\
 Method File : AR60149.M
 Title : PAH Calibration Table-2013A
 Last Update : Mon Sep 16 22:11:38 2013
 Response Via : Initial Calibration

Calibration Files

1 =MS60149B.D 2 =MS60149C.D 3 =MS60149D.D 4 =MS60149E.D 5 =MS60149F.D
 6 =MS60149G.D

Compound		1	2	3	4	5	6	Avg	%RSD

1) I	Fluorene-d10	-----ISTD-----							
2) S	Naphthalene-d8	1.818	1.616	1.511	1.484	1.491	1.479	1.567	8.51
3) T	cis/trans Decalin	0.260	0.286	0.273	0.254	0.257	0.253	0.264	4.98
4) un	C1-Decalins	0.260	0.286	0.273	0.254	0.257	0.253	0.264	4.98
5) un	C2-Decalins	0.260	0.286	0.273	0.254	0.257	0.253	0.264	4.98
6) un	C3-Decalins	0.260	0.286	0.273	0.254	0.257	0.253	0.264	4.98
7) un	C4-Decalins	0.260	0.286	0.273	0.254	0.257	0.253	0.264	4.98
8) T	Naphthalene	2.122	1.739	1.600	1.585	1.583	1.588	1.703	12.56
9) T	2-Methylnaphth...	1.401	1.158	1.079	1.076	1.068	1.095	1.146	11.26
10) T	1-Methylnaphth...	1.276	1.132	1.038	1.025	1.019	1.049	1.090	9.17
11) T	2,6-Dimethylna...	1.288	1.055	0.976	1.006	1.031	1.003	1.060	10.83
12) T	1,6,7-Trimethy...	1.313	1.074	0.999	1.047	1.074	0.982	1.082	11.07
13) un	C2-Naphthalenes	2.122	1.739	1.600	1.585	1.583	1.588	1.703	12.56
14) un	C3-Naphthalenes	2.122	1.739	1.600	1.585	1.583	1.588	1.703	12.56
15) un	C4-Naphthalenes	2.122	1.739	1.600	1.585	1.583	1.588	1.703	12.56
16) T	Benzothiophene	1.606	1.395	1.289	1.276	1.291	1.297	1.359	9.45
17) un	C1-Benzothioph...	1.606	1.395	1.289	1.276	1.291	1.297	1.359	9.45
18) un	C2-Benzothioph...	1.606	1.395	1.289	1.276	1.291	1.297	1.359	9.45
19) un	C3-Benzothioph...	1.606	1.395	1.289	1.276	1.291	1.297	1.359	9.45
20) un	C4-Benzothioph...	1.606	1.395	1.289	1.276	1.291	1.297	1.359	9.45
21) S	Acenaphthene-d10	1.195	0.994	0.931	0.964	0.982	0.938	1.001	9.84
22) T	Biphenyl	1.843	1.528	1.407	1.445	1.476	1.422	1.520	10.79
23) T	Acenaphthylene	2.123	1.841	1.715	1.724	1.757	1.849	1.835	8.29
24) T	Acenaphthene	1.322	1.117	1.037	1.063	1.063	1.050	1.109	9.75
25) T	Dibenzofuran	1.895	1.618	1.488	1.504	1.555	1.590	1.608	9.25
26) T	Fluorene	1.618	1.395	1.278	1.251	1.231	1.430	1.367	10.75
27) T	1-Methylfluorene	1.024	0.860	0.829	0.884	0.886	0.693	0.863	12.36
28) un	C1-Fluorenes	1.618	1.395	1.278	1.251	1.231	1.430	1.367	10.75
29) un	C2-Fluorenes	1.618	1.395	1.278	1.251	1.231	1.430	1.367	10.75
30) un	C3-Fluorenes	1.618	1.395	1.278	1.251	1.231	1.430	1.367	10.75

31) I	Pyrene-d10	-----ISTD-----							
32) S	Phenanthrene-d10	1.115	0.957	0.926	0.970	0.959	0.809	0.956	10.25
33) T	Carbazole	0.899	0.739	0.672	0.641	0.685	0.962	0.766	17.31
34) T	Dibenzothiophene	1.254	1.068	1.011	1.030	1.046	1.044	1.076	8.32
35) T	4-Methyldibenz...	0.763	0.613	0.562	0.561	0.579	0.778	0.643	15.68
36) un	2/3-Methyldibe...	0.763	0.613	0.562	0.561	0.579	0.778	0.643	15.68
37) un	1-Methyldibenz...	0.763	0.613	0.562	0.561	0.579	0.778	0.643	15.68
38) un	C2-Dibenzothio...	1.254	1.068	1.011	1.030	1.046	1.044	1.076	8.32
39) un	C3-Dibenzothio...	1.254	1.068	1.011	1.030	1.046	1.044	1.076	8.32
40) un	C4-Dibenzothio...	1.254	1.068	1.011	1.030	1.046	1.044	1.076	8.32
41) T	Phenanthrene	1.080	0.901	0.880	0.941	0.934	0.839	0.929	8.89
42) T	Anthracene	0.959	0.841	0.816	0.883	0.872	0.819	0.865	6.18
43) un	3-Methylphenan...	1.032	0.886	0.815	0.828	0.848	0.859	0.878	9.07
44) un	2-Methylphenan...	1.032	0.886	0.815	0.828	0.848	0.859	0.878	9.07
45) un	2-Methylanthra...	1.032	0.886	0.815	0.828	0.848	0.859	0.878	9.07
46) un	4/9-Methylphen...	1.032	0.886	0.815	0.828	0.848	0.859	0.878	9.07
47) T	1-Methylphenan...	1.032	0.886	0.815	0.828	0.848	0.859	0.878	9.07
48) T	3,6-Dimethylph...	0.783	0.670	0.645	0.704	0.697	0.597	0.683	9.16
49) T	Retene	0.537	0.439	0.409	0.419	0.420	0.403	0.438	11.46
50) un	C2-Phenanthren...	1.080	0.901	0.880	0.941	0.934	0.839	0.929	8.89
51) un	C3-Phenanthren...	1.080	0.901	0.880	0.941	0.934	0.839	0.929	8.89
52) un	C4-Phenanthren...	1.080	0.901	0.880	0.941	0.934	0.839	0.929	8.89
53) T	Naphthobenzoth...	1.905	1.529	1.416	1.451	1.486	1.225	1.502	14.88
54) un	C1-Naphthobenz...	1.905	1.529	1.416	1.451	1.486	1.225	1.502	14.88

Method Path : F:\MS60149\

Method File : AR60149.M

Title : PAH Calibration Table-2013A

55)	un	C2-Naphthobenz...	1.905	1.529	1.416	1.451	1.486	1.225	1.502	14.88
56)	un	C3-Naphthobenz...	1.905	1.529	1.416	1.451	1.486	1.225	1.502	14.88
57)	un	C4-Naphthobenz...	1.905	1.529	1.416	1.451	1.486	1.225	1.502	14.88
58)	T	Fluoranthene	1.264	1.094	1.047	1.112	1.105	1.026	1.108	7.55
59)	T	Pyrene	1.863	1.486	1.364	1.376	1.398	1.363	1.475	13.25
60)	T	2-Methylfluora...	1.203	0.968	0.894	0.900	0.927	0.903	0.966	12.36
61)	T	Benzo(b)fluorene	0.716	0.729	0.659	0.658	0.686	0.935	0.730	14.31
62)	un	C1-Fluoranthen...	1.264	1.094	1.047	1.112	1.105	1.026	1.108	7.55
63)	un	C2-Fluoranthen...	1.264	1.094	1.047	1.112	1.105	1.026	1.108	7.55
64)	un	C3-Fluoranthen...	1.264	1.094	1.047	1.112	1.105	1.026	1.108	7.55
65)	un	C4-Fluoranthen...	1.264	1.094	1.047	1.112	1.105	1.026	1.108	7.55
66)	S	Chrysene-d12	1.519	1.350	1.274	1.250	1.239	0.846	1.246	17.81
67)	T	Benz(a)anthracene	1.840	1.488	1.352	1.377	1.373	1.067	1.416	17.70
68)	T	Chrysene/Triph...	1.451	1.259	1.216	1.160	1.161	1.044	1.215	11.24
69)	un	C1-Chrysenes	1.451	1.259	1.216	1.160	1.161	1.044	1.215	11.24
70)	un	C2-Chrysenes	1.451	1.259	1.216	1.160	1.161	1.044	1.215	11.24
71)	un	C3-Chrysenes	1.451	1.259	1.216	1.160	1.161	1.044	1.215	11.24
72)	un	C4-Chrysenes	1.451	1.259	1.216	1.160	1.161	1.044	1.215	11.24
-----ISTD-----										
73)	I	Benzo(a)pyrene-d12								
74)	un	C29-Hopane	0.454	0.462	0.419	0.418	0.419	0.361	0.422	8.49
75)	un	18a-Oleanane	0.454	0.462	0.419	0.418	0.419	0.361	0.422	8.49
76)	T	C30-Hopane	0.454	0.462	0.419	0.418	0.419	0.361	0.422	8.49
77)	T	Benzo(b)fluora...	1.535	1.269	1.154	1.214	1.269	1.310	1.292	10.13
78)	T	Benzo(k,j)flu...	1.721	1.438	1.362	1.422	1.487	1.026	1.409	15.98
79)	un	Benzo(a)fluora...	1.721	1.438	1.362	1.422	1.487	1.026	1.409	15.98
80)	T	Benzo(e)pyrene	1.652	1.458	1.362	1.356	1.404	1.173	1.401	11.15
81)	T	Benzo(a)pyrene	1.592	1.361	1.264	1.336	1.407	1.070	1.338	12.81
82)	T	Indeno(1,2,3-c...	1.890	1.607	1.517	1.553	1.604	1.497	1.611	8.92
83)	T	Dibenzo(a,h)an...	1.456	1.283	1.191	1.233	1.292	1.195	1.275	7.72
84)	un	C1-Dibenzo(a,h...	1.456	1.283	1.191	1.233	1.292	1.195	1.275	7.72
85)	un	C2-Dibenzo(a,h...	1.456	1.283	1.191	1.233	1.292	1.195	1.275	7.72
86)	un	C3-Dibenzo(a,h...	1.456	1.283	1.191	1.233	1.292	1.195	1.275	7.72
87)	T	Benzo(g,h,i)pe...	1.666	1.449	1.352	1.377	1.444	1.284	1.429	9.22
88)	S	Perylene-d12	1.452	1.133	1.057	1.082	1.152	1.088	1.161	12.67
89)	T	Perylene	1.633	1.418	1.327	1.370	1.458	1.207	1.402	10.15
90)	S	5(b)H-Cholane	0.376	0.326	0.304	0.313	0.325	0.260	0.317	11.89
91)	un	C20-TAS	1.979	1.688	1.539	1.550	1.586	1.603	1.658	10.02
92)	un	C21-TAS	1.979	1.688	1.539	1.550	1.586	1.603	1.658	10.02
93)	un	C26(20S)-TAS	1.979	1.688	1.539	1.550	1.586	1.603	1.658	10.02
94)	T	C26(20R)/C27(2...	1.979	1.688	1.539	1.550	1.586	1.603	1.658	10.02
95)	un	C28(20S)-TAS	1.979	1.688	1.539	1.550	1.586	1.603	1.658	10.02
96)	un	C27(20R)-TAS	1.979	1.688	1.539	1.550	1.586	1.603	1.658	10.02
97)	un	C28(20R)-TAS	1.979	1.688	1.539	1.550	1.586	1.603	1.658	10.02

(#) = Out of Range

Data Path : F:\MS60149\
 Data File : MS60149B.D
 Acq On : 13 Sep 2013 7:20 pm
 Operator : MAG
 Sample : AR-WKC1-020-030
 Misc :
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 16 22:08:16 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 19:25:23 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Fluorene-d10	21.372	176	182142m	251.05		0.00
31) Pyrene-d10	29.641	212	400106m	250.63		0.00
73) Benzo(a)pyrene-d12	38.459	264	479860m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.737	136	26389m	24.84		0.00
21) Acenaphthene-d10	19.589	164	17354m	24.90		0.00
32) Phenanthrene-d10	24.722	188	35641m	24.40		0.00
66) Chrysene-d12	33.842	240	48502m	32.33		-0.04
88) Perylene-d12	38.770	264	55691m	23.85		0.00
90) 5(b)H-Cholane	34.268	217	14431m	21.61		0.00
Target Compounds						
3) cis/trans Decalin	11.118	138	3732m	28.81		Qvalue
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.793	128	30787m	25.25		
9) 2-Methylnaphthalene	16.050	142	20348m	25.36		
10) 1-Methylnaphthalene	16.384	142	18492m	24.25		
11) 2,6-Dimethylnaphthalene	18.140	156	18687m	25.28		
12) 1,6,7-Trimethylnaphtha...	21.010	170	19056m	25.26		
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.	d	
16) Benzothiophene	13.960	134	23164m	24.41		
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	26502m	24.77		
23) Acenaphthylene	19.115	152	30554m	23.66		
24) Acenaphthene	19.700	154	19225m	24.81		
25) Dibenzofuran	20.286	168	27357m	24.27		
26) Fluorene	21.484	166	23532m	24.51		
27) 1-Methylfluorene	23.475	180	14968m	24.73		
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	25.553	167	28430m	21.96		
34) Dibenzothiophene	24.376	184	39487m	24.13		
35) 4-Methyldibenzothiophene	25.900	198	24559m	33.82		
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.791	178	34158m	24.47		
42) Anthracene	24.964	178	30704m	22.27		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : F:\MS60149\
 Data File : MS60149B.D
 Acq On : 13 Sep 2013 7:20 pm
 Operator : MAG
 Sample : AR-WKC1-020-030
 Misc :
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 16 22:08:16 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 19:25:23 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-Methylantracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	26.939	192	32603m	24.01		
48) 3,6-Dimethylphenanthrene	28.013	206	25019m	29.94		
49) Retene	30.715	234	15328m	23.02		
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	32.988	234	61205m	43.56		
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.913	202	40397m	22166.89		
59) Pyrene	29.710	202	59475m	26.46		
60) 2-Methylfluoranthene	30.472	216	38682m	26.36		
61) Benzo(b)fluorene	31.096	216	23055m	1950.69		
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	33.803	228	58618m	26.49		
68) Chrysene/Triphenylene	33.919	228	46061m	35.38		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.884	191	17416m	19.23		
77) Benzo(b)fluoranthene	37.373	252	58955m	20.73		
78) Benzo(k,j)fluoranthene	37.450	252	65736m	20.57		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.343	252	63093m	22.22		
81) Benzo(a)pyrene	38.537	252	60918m	22.34		
82) Indeno(1,2,3-c,d)pyrene	43.252	276	71246m	21.03		
83) Dibenzo(a,h)anthracene	43.326	278	55336m	20.42		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.654	276	63315m	21.26		
89) Perylene	38.847	252	62674m	21.67		
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	39.507	231	75878m	21.68		
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 : F:\MS60149\
Data File : MS60149B.D
Acq On : 13 Sep 2013 7:20 pm
Operator : MAG
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

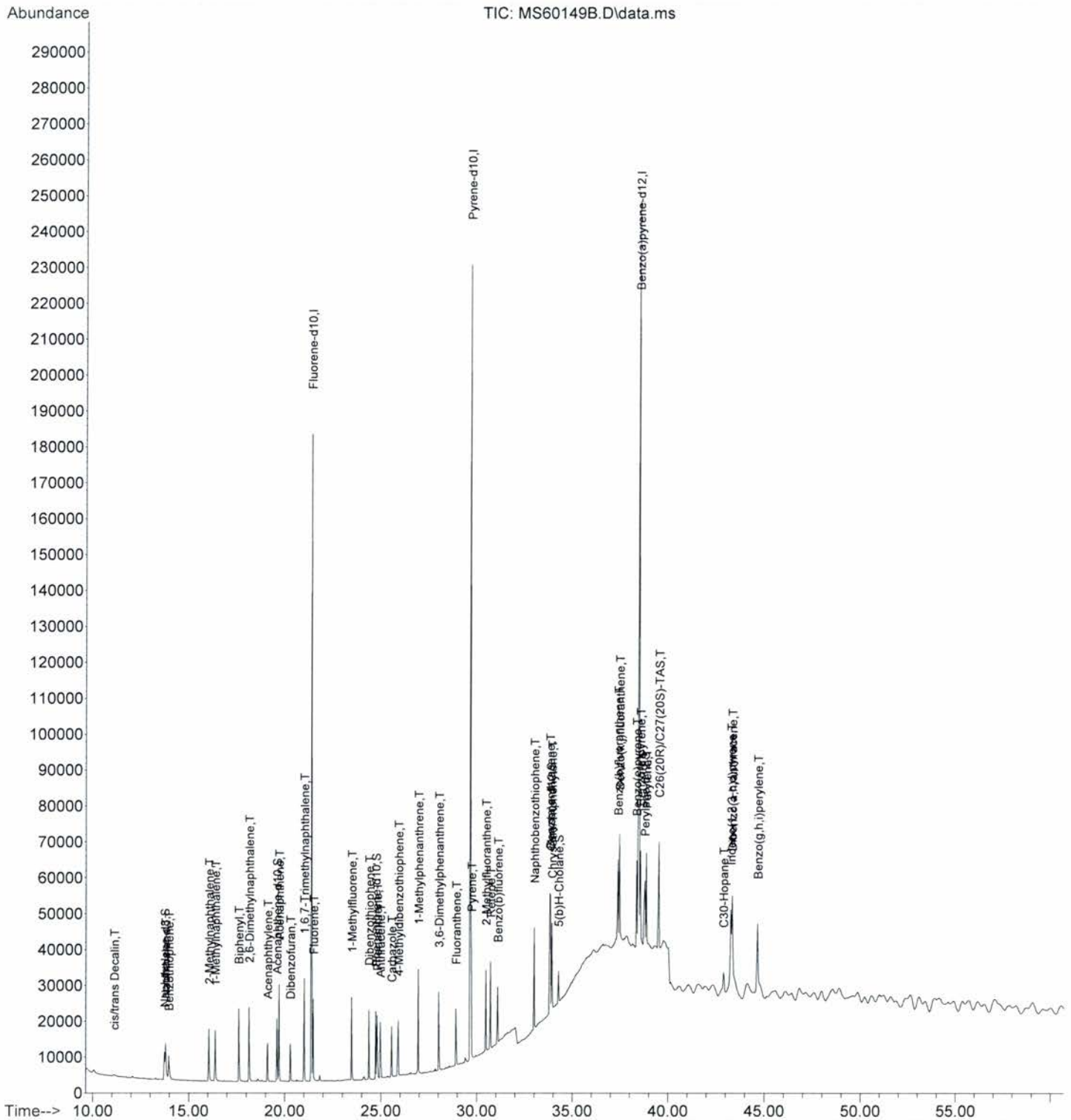
Quant Time: Sep 16 22:08:16 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 19:25:23 2013
Response via : Initial Calibration

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

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

Data Path : F:\MS60149\
 Data File : MS60149B.D
 Acq On : 13 Sep 2013 7:20 pm
 Operator : MAG
 Sample : AR-WKC1-020-030
 Misc :
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 16 22:08:16 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 19:25:23 2013
 Response via : Initial Calibration



Data Path : F:\MS60149\
 Data File : MS60149C.D
 Acq On : 13 Sep 2013 8:30 pm
 Operator : MAG
 Sample : AR-WKC2-100-030
 Misc :
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 16 22:10:16 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 19:32:04 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Fluorene-d10	21.369	176	184648m	251.05		0.00
31) Pyrene-d10	29.641	212	408859m	250.63		0.00
73) Benzo(a)pyrene-d12	38.459	264	456439m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.734	136	118939m	110.17		0.00
21) Acenaphthene-d10	19.586	164	73157m	103.21		0.00
32) Phenanthrene-d10	24.722	188	156174m	104.91		0.00
66) Chrysene-d12	33.841	240	220209m	112.32		0.00
88) Perylene-d12	38.769	264	206578m	97.13		0.00
90) 5(b)H-Cholane	34.268	217	59494m	101.31		0.00
Target Compounds						
						Qvalue
3) cis/trans Decalin	11.114	138	20796m	141.46		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.789	128	127923m	103.41		
9) 2-Methylnaphthalene	16.047	142	85259m	104.30		
10) 1-Methylnaphthalene	16.381	142	83202m	107.67		
11) 2,6-Dimethylnaphthalene	18.137	156	77562m	103.07		
12) 1,6,7-Trimethylnaphtha...	21.007	170	79020m	102.88		
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.		
16) Benzothiophene	13.957	134	101992m	105.64		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.607	154	111386m	102.55		
23) Acenaphthylene	19.112	152	134342m	102.71		
24) Acenaphthene	19.697	154	82328m	104.62		
25) Dibenzofuran	20.310	168	118404m	103.55		
26) Fluorene	21.480	166	102781m	105.95		
27) 1-Methylfluorene	23.475	180	63761m	103.90		
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	25.553	167	119458m	90.11		
34) Dibenzothiophene	24.375	184	171855m	102.64		
35) 4-Methyldibenzothiophene	25.900	198	100837m	106.70		
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.791	178	145662m	101.43		
42) Anthracene	24.964	178	137539m	98.94		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : F:\MS60149\
 Data File : MS60149C.D
 Acq On : 13 Sep 2013 8:30 pm
 Operator : MAG
 Sample : AR-WKC2-100-030
 Misc :
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 16 22:10:16 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 19:32:04 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	26.939	192	143023m	104.09		
48) 3,6-Dimethylphenanthrene	28.013	206	109451m	103.01		
49) Retene	30.714	234	64031m	94.11		
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	32.987	234	250954m	129.12		
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.913	202	178569m	525.53		
59) Pyrene	29.710	202	242496m	105.25		
60) 2-Methylfluoranthene	30.472	216	159076m	106.02		
61) Benzo(b)fluorene	31.096	216	119957m	449.73		
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.		
67) Benz(a)anthracene	33.802	228	242248m	106.27		
68) Chrysene/Triphenylene	33.919	228	204208m	118.98		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.883	191	84278m	107.88		
77) Benzo(b)fluoranthene	37.372	252	231814m	89.88		
78) Benzo(k,j)fluoranthene	37.450	252	261102m	90.49		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.343	252	264855m	103.91		
81) Benzo(a)pyrene	38.537	252	247675m	101.72		
82) Indeno(1,2,3-c,d)pyrene	43.252	276	288069m	96.81		
83) Dibenzo(a,h)anthracene	43.326	278	231853m	98.06		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.654	276	261836m	99.42		
89) Perylene	38.847	252	258897m	100.92		
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	39.507	231	307849m	98.90		
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Data Path : F:\MS60149\
Data File : MS60149C.D
Acq On : 13 Sep 2013 8:30 pm
Operator : MAG
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

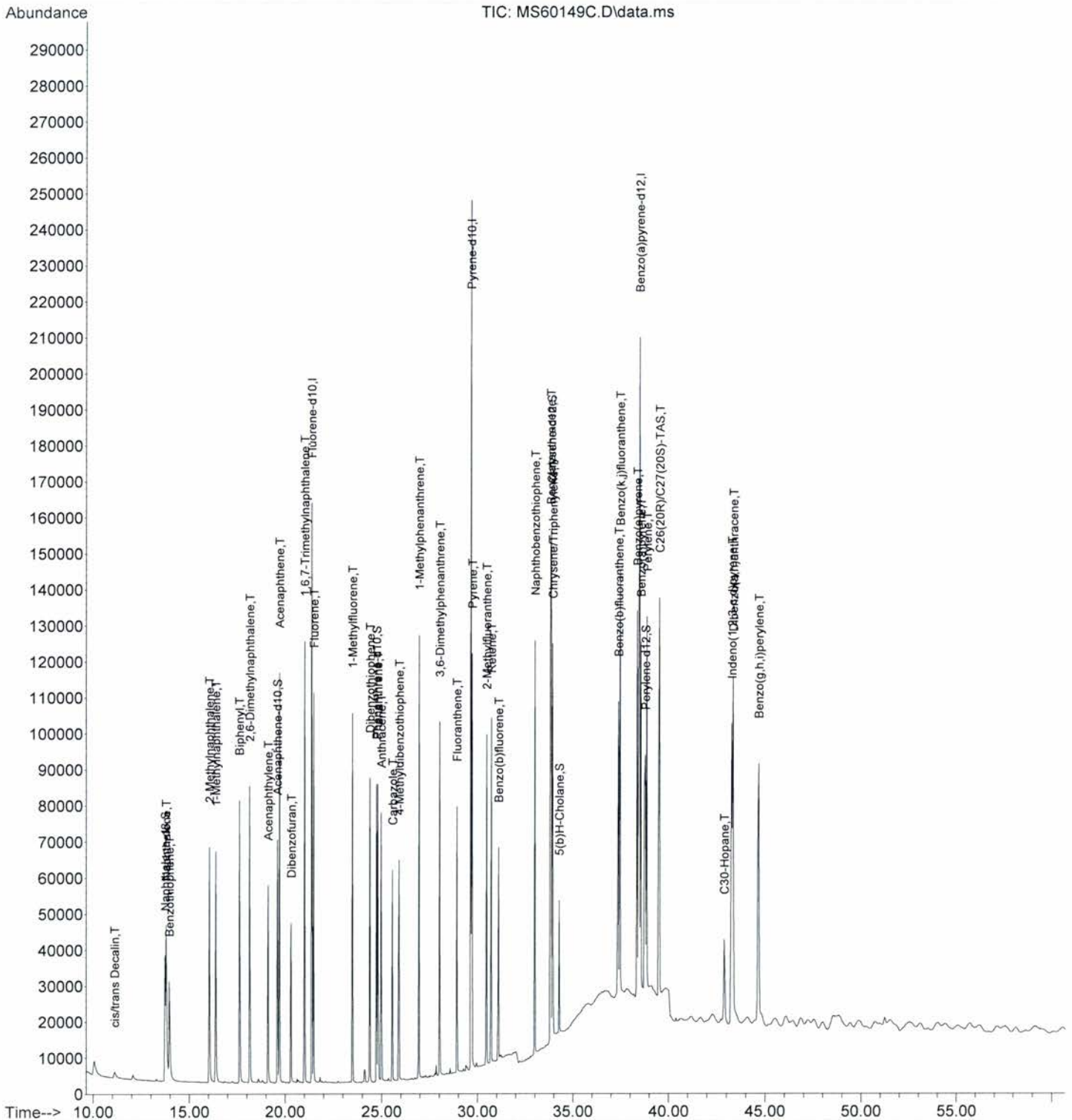
Quant Time: Sep 16 22:10:16 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 19:32:04 2013
Response via : Initial Calibration

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

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

Data Path : F:\MS60149\
Data File : MS60149C.D
Acq On : 13 Sep 2013 8:30 pm
Operator : MAG
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 16 22:10:16 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 19:32:04 2013
Response via : Initial Calibration



Data Path : F:\MS60149\
 Data File : MS60149D.D
 Acq On : 13 Sep 2013 9:40 pm
 Operator : MAG
 Sample : AR-WKC3-250-030
 Misc :
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 16 22:10:40 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 19:53:12 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Fluorene-d10	21.369	176	189624m	251.05		0.00
31) Pyrene-d10	29.641	212	408562m	250.63		0.00
73) Benzo(a)pyrene-d12	38.459	264	451179m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.734	136	285404m	255.74		0.00
21) Acenaphthene-d10	19.586	164	175866m	241.49		0.00
32) Phenanthrene-d10	24.722	188	377616m	253.48		0.00
66) Chrysene-d12	33.841	240	519272m	264.60		0.00
88) Perylene-d12	38.769	264	476127m	226.29		0.00
90) 5(b)H-Cholane	34.268	217	136786m	237.03		0.00
Target Compounds						
					Qvalue	
3) cis/trans Decalin	11.114	138	51072m	338.31		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.789	128	302100m	238.65		
9) 2-Methylnaphthalene	16.047	142	203944m	243.17		
10) 1-Methylnaphthalene	16.381	142	195863m	246.16		
11) 2,6-Dimethylnaphthalene	18.137	156	184373m	238.18		
12) 1,6,7-Trimethylnaphtha...	21.007	170	188636m	239.33		
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.		
16) Benzothiophene	13.957	134	242009m	243.44		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.607	154	263262m	236.12		
23) Acenaphthylene	19.112	152	321297m	239.10		
24) Acenaphthene	19.697	154	196214m	242.93		
25) Dibenzofuran	20.310	168	279582m	237.93		
26) Fluorene	21.480	166	241810m	242.82		
27) 1-Methylfluorene	23.475	180	157702m	250.45		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.553	167	271527m	204.65		
34) Dibenzothiophene	24.376	184	406390m	242.59		
35) 4-Methyldibenzothiophene	25.900	198	231056m	208.99		
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	24.791	178	355601m	246.91		
42) Anthracene	24.964	178	333589m	241.55		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : F:\MS60149\
 Data File : MS60149D.D
 Acq On : 13 Sep 2013 9:40 pm
 Operator : MAG
 Sample : AR-WKC3-250-030
 Misc :
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 16 22:10:40 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 19:53:12 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	26.939	192	328301m	238.86		
48) 3,6-Dimethylphenanthrene	28.013	206	263229m	247.62		
49) Retene	30.715	234	148969m	218.28		
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	32.987	234	580735m	247.73		
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.913	202	427127m	681.11		
59) Pyrene	29.710	202	556023m	241.30		
60) 2-Methylfluoranthene	30.472	216	366839m	244.06		
61) Benzo(b)fluorene	31.096	216	271004m	590.36		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.		
67) Benz(a)anthracene	33.802	228	549725m	240.54		
68) Chrysene/Triphenylene	33.919	228	492498m	240.71		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.883	191	188593m	244.56		
77) Benzo(b)fluoranthene	37.372	252	520937m	202.48		
78) Benzo(k,j)fluoranthene	37.450	252	611153m	212.96		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.343	252	611091m	241.83		
81) Benzo(a)pyrene	38.537	252	568599m	235.61		
82) Indeno(1,2,3-c,d)pyrene	43.252	276	671883m	229.06		
83) Dibenzo(a,h)anthracene	43.325	278	531848m	227.70		
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	44.653	276	603670m	232.31		
89) Perylene	38.847	252	598626m	235.92		
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	39.507	231	693482m	225.48		
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 : F:\MS60149\
Data File : MS60149D.D
Acq On : 13 Sep 2013 9:40 pm
Operator : MAG
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

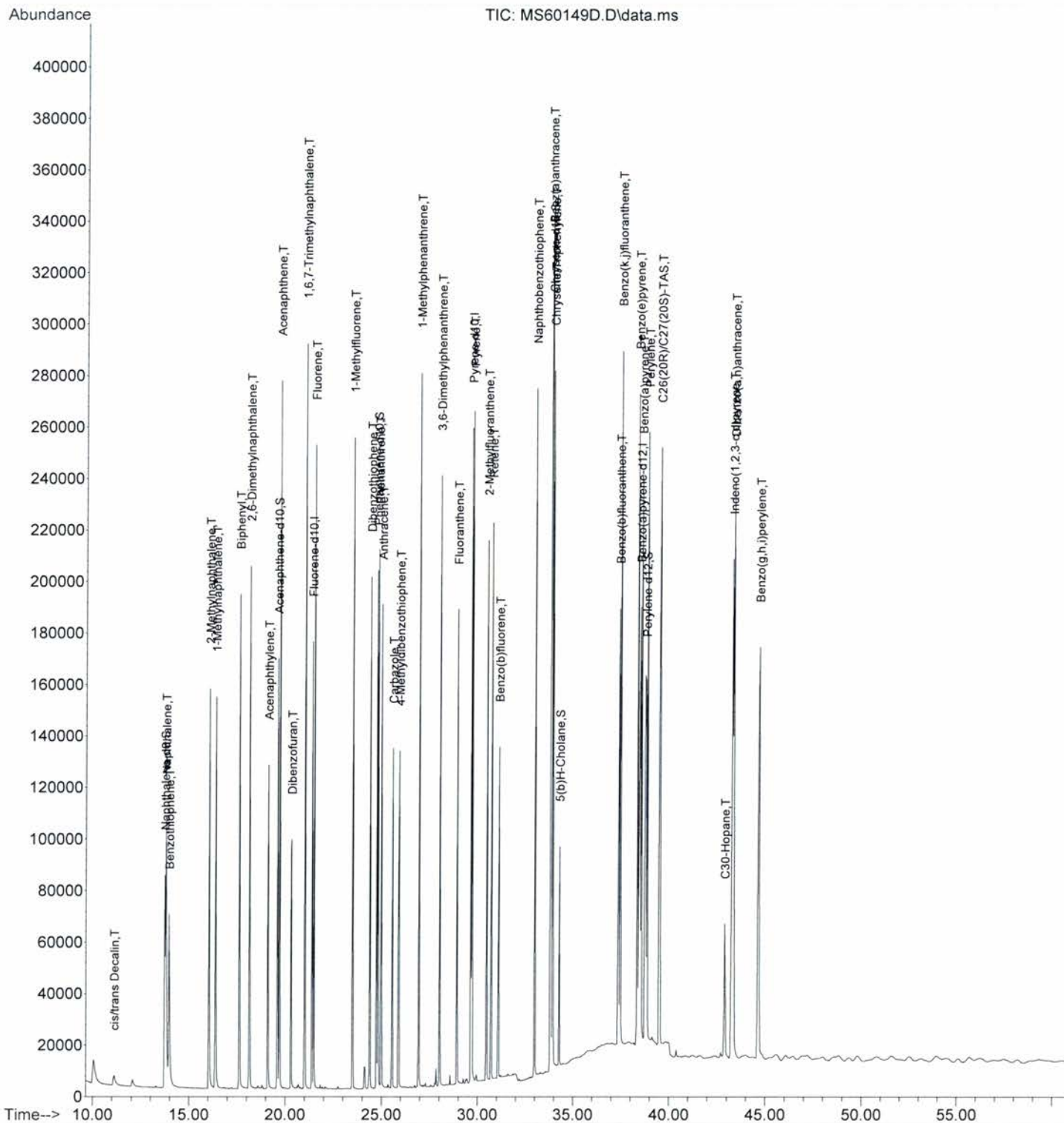
Quant Time: Sep 16 22:10:40 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 19:53:12 2013
Response via : Initial Calibration

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

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

Data Path : F:\MS60149\
Data File : MS60149D.D
Acq On : 13 Sep 2013 9:40 pm
Operator : MAG
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 16 22:10:40 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 19:53:12 2013
Response via : Initial Calibration



Data Path : F:\MS60149\
 Data File : MS60149E.D
 Acq On : 13 Sep 2013 10:49 pm
 Operator : MAG
 Sample : AR-WKC4-500-030
 Misc :
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 16 22:11:00 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 20:42:39 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Fluorene-d10	21.371	176	196919m	251.05		0.00
31) Pyrene-d10	29.641	212	417988m	250.63		0.00
73) Benzo(a)pyrene-d12	38.458	264	452913m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.735	136	582496m	499.25		0.00
21) Acenaphthene-d10	19.587	164	378298m	500.13		0.00
32) Phenanthrene-d10	24.723	188	809534m	530.63		0.00
66) Chrysene-d12	33.840	240	1042285m	518.77		0.00
88) Perylene-d12	38.768	264	979183m	463.62		0.00
90) 5(b)H-Cholane	34.267	217	282743m	489.59		0.00
Target Compounds						
						Qvalue
3) cis/trans Decalin	11.116	138	98345m	581.23		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.791	128	621588m	474.72		
9) 2-Methylnaphthalene	16.048	142	422342m	485.53		
10) 1-Methylnaphthalene	16.383	142	401594m	486.02		
11) 2,6-Dimethylnaphthalene	18.138	156	394623m	491.29		
12) 1,6,7-Trimethylnaphtha...	21.008	170	410708m	501.92		
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	13.958	134	497448m	481.64		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.609	154	561519m	485.93		
23) Acenaphthylene	19.086	152	670875m	481.28		
24) Acenaphthene	19.699	154	417585m	497.96		
25) Dibenzofuran	20.284	168	587001m	481.16		
26) Fluorene	21.482	166	491463m	475.30		
27) 1-Methylfluorene	23.476	180	349395m	534.82		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.554	167	529499m	389.75		
34) Dibenzothiophene	24.376	184	846725m	493.41		
35) 4-Methyldibenzothiophene	25.900	198	472048m	432.92		
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	24.792	178	777933m	526.54		
42) Anthracene	24.965	178	738864m	526.71		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : F:\MS60149\
 Data File : MS60149E.D
 Acq On : 13 Sep 2013 10:49 pm
 Operator : MAG
 Sample : AR-WKC4-500-030
 Misc :
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 16 22:11:00 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 20:42:39 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-Methylantracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	26.939	192	682740m	485.08		
48) 3,6-Dimethylphenanthrene	28.013	206	587667m	539.75		
49) Retene	30.715	234	312500m	446.80		
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	32.986	234	1217887m	507.34		
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	28.914	202	928566m	1014.48		
59) Pyrene	29.711	202	1147633m	486.43		
60) 2-Methylfluoranthene	30.473	216	755591m	490.44		
61) Benzo(b)fluorene	31.096	216	553219m	865.01		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.801	228	1145564m	488.23		
68) Chrysene/Triphenylene	33.917	228	961224m	465.95		
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	42.882	191	377796m	489.42		
77) Benzo(b)fluoranthene	37.371	252	1100016m	421.69		
78) Benzo(k,j)fluoranthene	37.449	252	1280818m	440.10		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.341	252	1222015m	481.19		
81) Benzo(a)pyrene	38.535	252	1205929m	497.45		
82) Indeno(1,2,3-c,d)pyrene	43.251	276	1380665m	469.47		
83) Dibenzo(a,h)anthracene	43.325	278	1105437m	472.97		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.652	276	1234527m	473.91		
89) Perylene	38.846	252	1240420m	486.75		
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	39.505	231	1402581m	455.26		
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 : F:\MS60149\
Data File : MS60149E.D
Acq On : 13 Sep 2013 10:49 pm
Operator : MAG
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

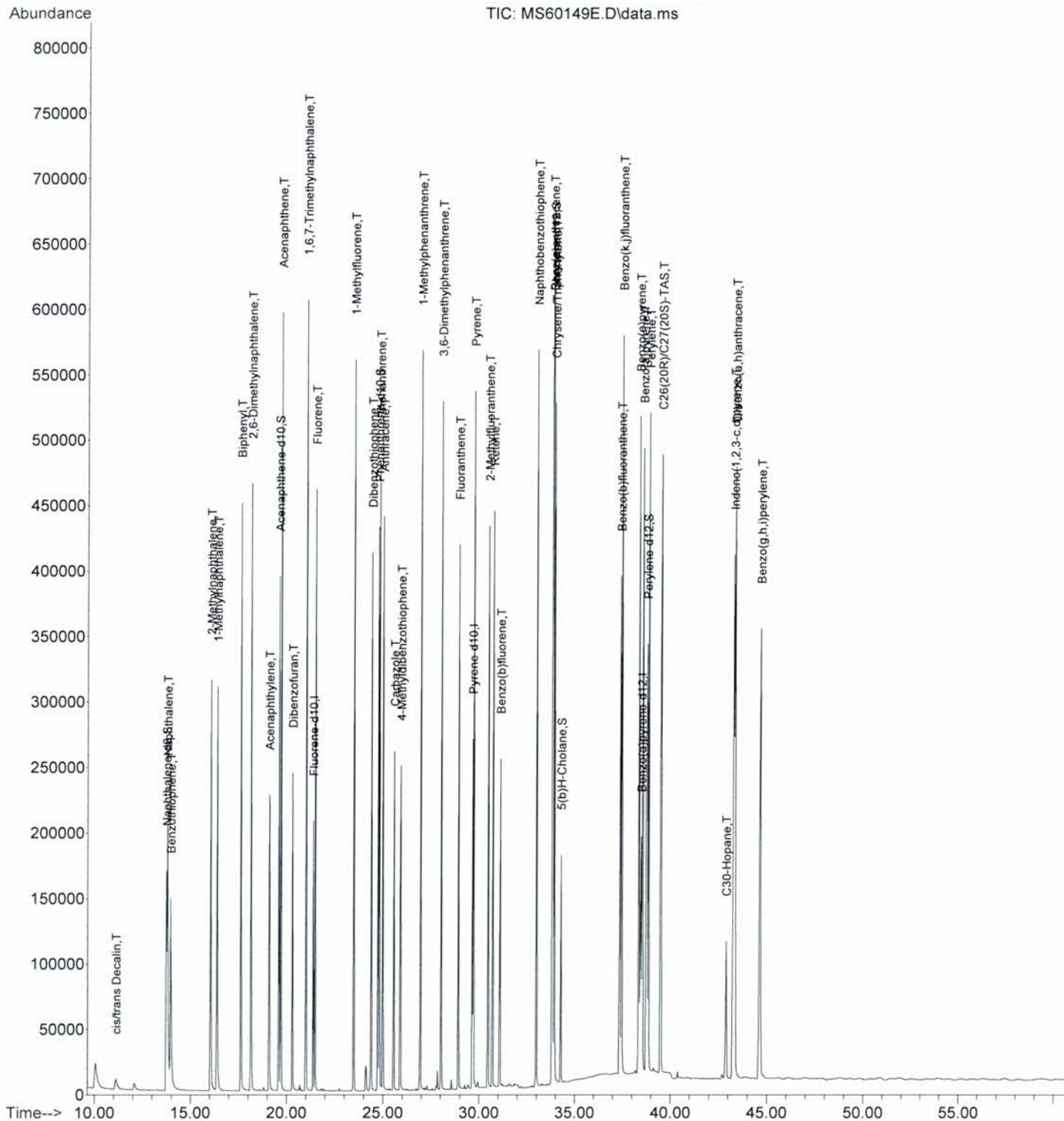
Quant Time: Sep 16 22:11:00 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 20:42:39 2013
Response via : Initial Calibration

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

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

Data Path : F:\MS60149\
Data File : MS60149E.D
Acq On : 13 Sep 2013 10:49 pm
Operator : MAG
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 16 22:11:00 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 20:42:39 2013
Response via : Initial Calibration



Data Path : F:\MS60149\
 Data File : MS60149F.D
 Acq On : 13 Sep 2013 11:59 pm
 Operator : MAG
 Sample : AR-WKC5-1000-030
 Misc :
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 16 22:11:32 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 20:59:08 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Fluorene-d10	21.373	176	197324m	251.05		0.00
31) Pyrene-d10	29.641	212	417005m	250.63		0.00
73) Benzo(a)pyrene-d12	38.457	264	439746m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.737	136	1172697m	998.26		0.00
21) Acenaphthene-d10	19.589	164	772104m	1017.82		0.00
32) Phenanthrene-d10	24.722	188	1597478m	1047.91		0.00
66) Chrysene-d12	33.840	240	2062307m	1028.60		0.00
88) Perylene-d12	38.768	264	2024534m	988.67		0.00
90) 5(b)H-Cholane	34.266	217	570623m	1019.41		0.00
Target Compounds						
						Qvalue
3) cis/trans Decalin	11.090	138	199513m	1110.47		
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	13.793	128	1244572m	953.32		
9) 2-Methylnaphthalene	16.050	142	840570m	964.95		
10) 1-Methylnaphthalene	16.385	142	799853m	966.41		
11) 2,6-Dimethylnaphthalene	18.140	156	810562m	1007.20		
12) 1,6,7-Trimethylnaphtha...	21.010	170	843895m	1028.83		
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	13.960	134	1008383m	975.76		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.611	154	1149960m	994.30		
23) Acenaphthylene	19.088	152	1370229m	982.21		
24) Acenaphthene	19.701	154	837194m	995.78		
25) Dibenzofuran	20.286	168	1216495m	996.86		
26) Fluorene	21.484	166	969288m	934.88		
27) 1-Methylfluorene	23.475	180	701978m	1072.44		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.554	167	1128738m	832.47		
34) Dibenzothiophene	24.376	184	1716304m	1001.55		
35) 4-Methyldibenzothiophene	25.900	198	971247m	930.08		
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	24.792	178	1540714m	1043.40		
42) Anthracene	24.965	178	1455210m	1046.86		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : F:\MS60149\
 Data File : MS60149F.D
 Acq On : 13 Sep 2013 11:59 pm
 Operator : MAG
 Sample : AR-WKC5-1000-030
 Misc :
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 16 22:11:32 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 20:59:08 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-Methylantracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	26.939	192	1396021m	993.76		
48) 3,6-Dimethylphenanthrene	28.013	206	1160340m	1067.64		
49) Retene	30.715	234	624317m	893.72		
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	32.986	234	2487384m	1038.19		
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	28.914	202	1840061m	1533.72		
59) Pyrene	29.710	202	2326125m	988.00		
60) 2-Methylfluoranthene	30.472	216	1553525m	1009.76		
61) Benzo(b)fluorene	31.096	216	1151216m	1429.87		
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	33.801	228	2279499m	972.01		
68) Chrysene/Triphenylene	33.917	228	1920114m	952.69		
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	42.883	191	736709m	986.50		
77) Benzo(b)fluoranthene	37.371	252	2234020m	874.60		
78) Benzo(k,j)fluoranthene	37.448	252	2601493m	912.57		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.341	252	2456818m	996.48		
81) Benzo(a)pyrene	38.535	252	2466671m	1047.98		
82) Indeno(1,2,3-c,d)pyrene	43.252	276	2770556m	972.55		
83) Dibenzo(a,h)anthracene	43.326	278	2249577m	994.21		
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	44.653	276	2513955m	995.80		
89) Perylene	38.846	252	2564048m	1036.98		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.505	231	2786871m	939.37		
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 : F:\MS60149\
Data File : MS60149F.D
Acq On : 13 Sep 2013 11:59 pm
Operator : MAG
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

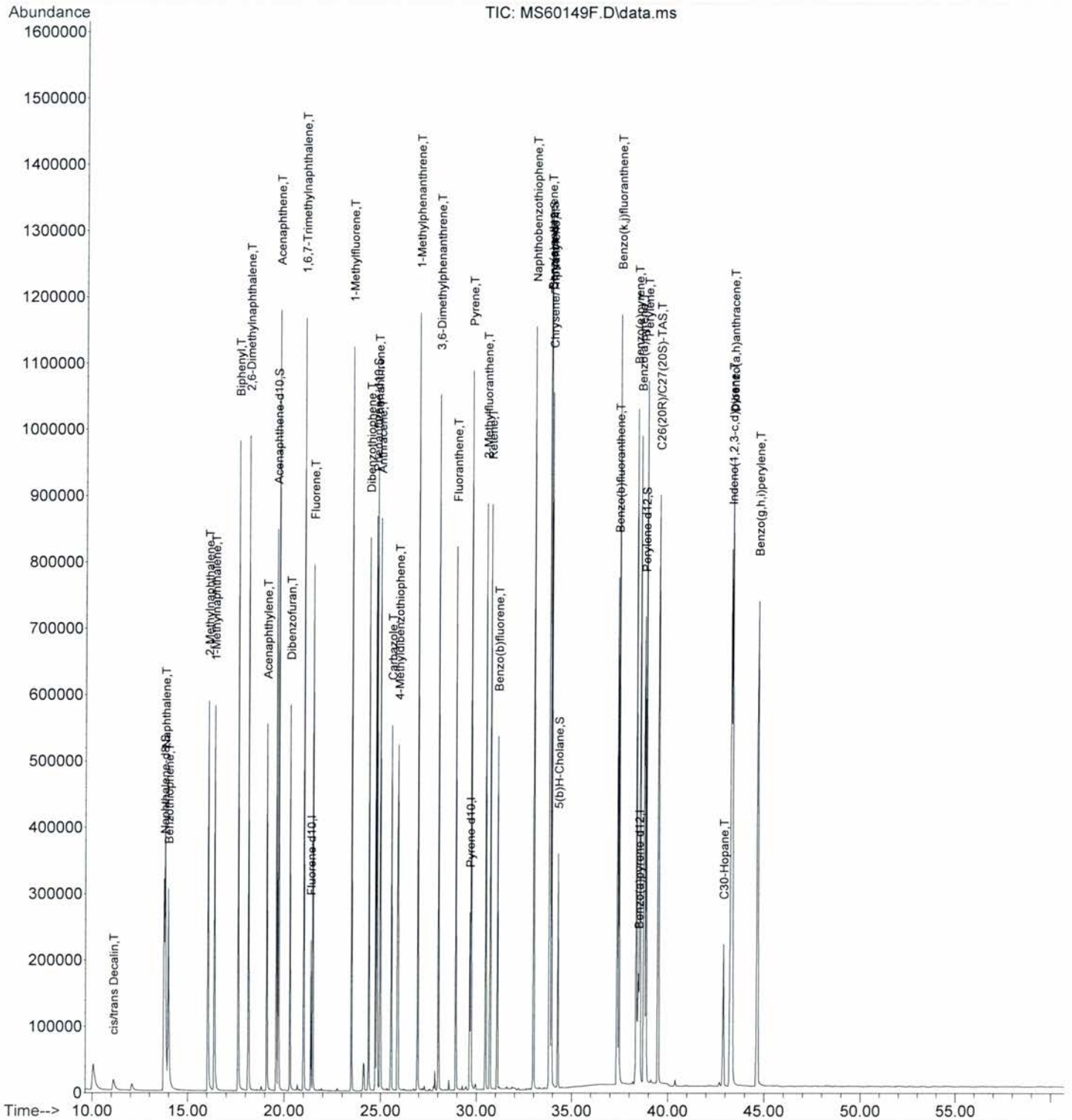
Quant Time: Sep 16 22:11:32 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 20:59:08 2013
Response via : Initial Calibration

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

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

Data Path : F:\MS60149\
 Data File : MS60149F.D
 Acq On : 13 Sep 2013 11:59 pm
 Operator : MAG
 Sample : AR-WKC5-1000-030
 Misc :
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 16 22:11:32 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 20:59:08 2013
 Response via : Initial Calibration



Data Path : F:\MS60149\
 Data File : MS60149G.D
 Acq On : 14 Sep 2013 1:09 am
 Operator : MAG
 Sample : AR-WKC6-5000-030
 Misc :
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 16 22:05:24 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 21:06:50 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.369	176	198949m	251.05		0.00
31) Pyrene-d10	29.641	212	409182m	250.63		0.00
73) Benzo(a)pyrene-d12	38.459	264	514317m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.734	136	5862340m	4919.63		0.00
21) Acenaphthene-d10	19.586	164	3717695m	4859.51		0.00
32) Phenanthrene-d10	24.722	188	6611054m	4422.02		0.00
66) Chrysene-d12	33.880	240	6903983m	3505.93		0.04
88) Perylene-d12	38.769	264	11182697m	4675.84		0.00
90) 5(b)H-Cholane	34.268	217	2671725m	4088.84		0.00
Target Compounds						
3) cis/trans Decalin	11.087	138	992672m	5182.15		Qvalue
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.790	128	6293207m	4804.66		
9) 2-Methylnaphthalene	16.047	142	4341385m	4946.16		
10) 1-Methylnaphthalene	16.381	142	4151232m	4976.10		
11) 2,6-Dimethylnaphthalene	18.137	156	3975582m	4900.45		
12) 1,6,7-Trimethylnaphtha...	21.007	170	3892389m	4704.70		
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.	d	
16) Benzothiophene	13.957	134	5109423m	4903.57		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.607	154	5582320m	4792.81		
23) Acenaphthylene	19.112	152	7267789m	5170.70		
24) Acenaphthene	19.697	154	4169814m	4916.59		
25) Dibenzofuran	20.310	168	6269478m	5091.98		
26) Fluorene	21.481	166	5678702m	5430.88		
27) 1-Methylfluorene	23.475	180	2767731m	4193.67		
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	25.553	167	7785741m	5845.54		
34) Dibenzothiophene	24.375	184	8402226m	4988.89		
35) 4-Methyldibenzothiophene	25.900	198	6404574m	6434.77		
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	24.826	178	6787003m	4671.64		
42) Anthracene	24.999	178	6705217m	4949.05		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : F:\MS60149\
 Data File : MS60149G.D
 Acq On : 14 Sep 2013 1:09 am
 Operator : MAG
 Sample : AR-WKC6-5000-030
 Misc :
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 16 22:05:24 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 21:06:50 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	26.939	192	6932025m	5025.31		
48) 3,6-Dimethylphenanthrene	28.012	206	4878746m	4569.13		
49) Retene	30.714	234	2938607m	4280.29		
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	32.987	234	10064605m	4275.89		
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	28.948	202	8385121m	5755.51		
59) Pyrene	29.710	202	11122755m	4811.67		
60) 2-Methylfluoranthene	30.472	216	7420782m	4907.10		
61) Benzo(b)fluorene	31.095	216	7704368m	8014.17		
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	33.802	228	8692412m	3769.00		
68) Chrysene/Triphenylene	33.957	228	8467412m	4359.54		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.920	191	3708594m	4265.14		
77) Benzo(b)fluoranthene	37.372	252	13481863m	4473.92		
78) Benzo(k,j)fluoranthene	37.450	252	10499432m	3125.47		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.381	252	11999878m	4163.04		
81) Benzo(a)pyrene	38.536	252	10972758m	3986.28		
82) Indeno(1,2,3-c,d)pyrene	43.289	276	15121992m	4552.76		
83) Dibenzo(a,h)anthracene	43.363	278	12168504m	4613.83		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.690	276	13068204m	4435.72		
89) Perylene	38.886	252	12415637m	4297.12		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.507	231	16467079m	4788.27		
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	

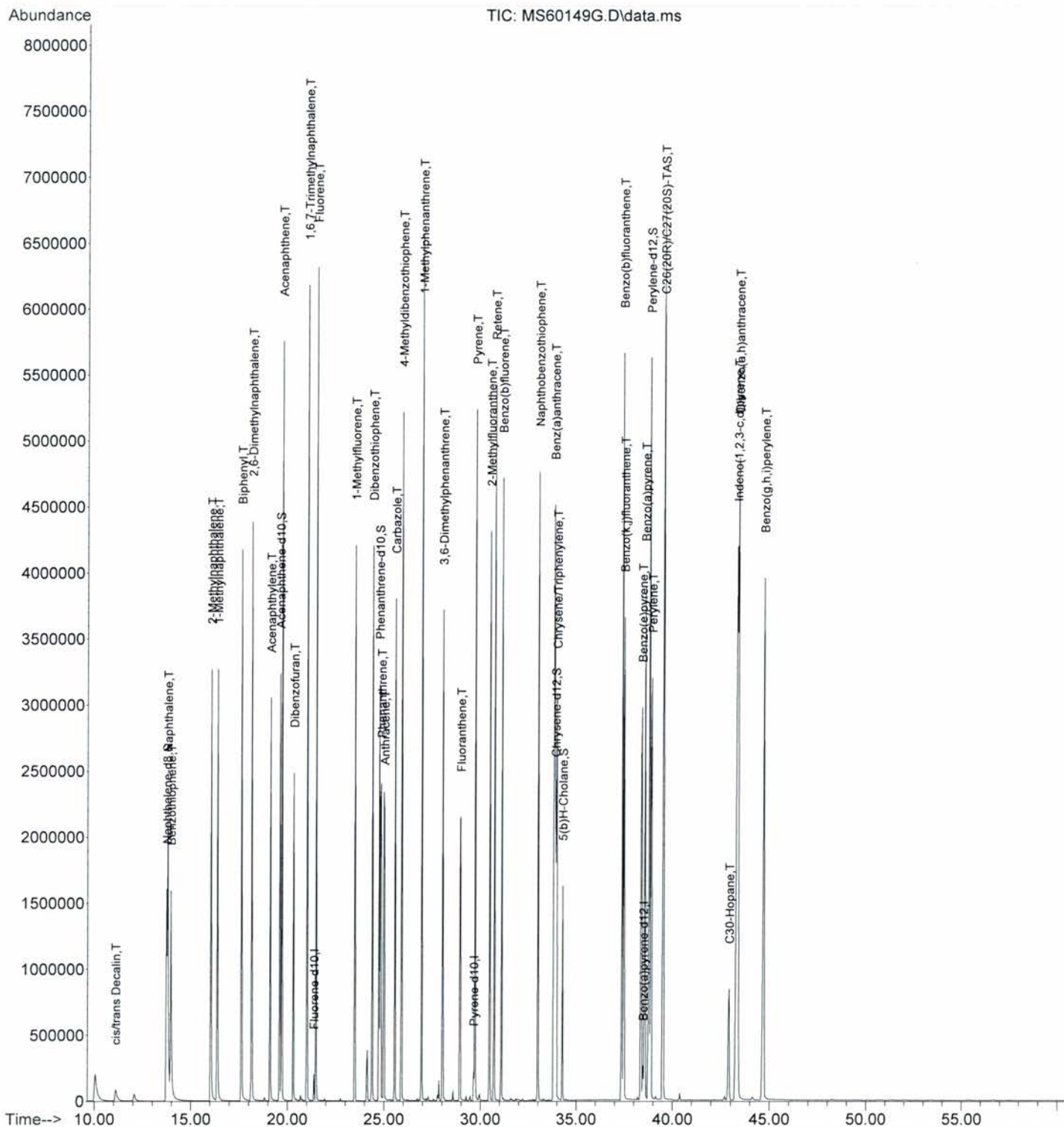
Data Path : F:\MS60149\
Data File : MS60149G.D
Acq On : 14 Sep 2013 1:09 am
Operator : MAG
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 16 22:05:24 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 21:06:50 2013
Response via : Initial Calibration

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

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

Quant Time: Sep 16 22:05:24 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 21:06:50 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : F:\MS60149\
 Data File : MS60149I.D
 Acq On : 14 Sep 2013 3:29 am
 Operator : MAG
 Sample : AR-WKICV-250-004
 Misc :
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 16 22:41:50 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 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	119	0.00
2 S	Naphthalene-d8	1.567	1.382	11.8	109	0.00
3 T	cis/trans Decalin	0.264	0.297	-12.5	129	0.00
4 un	C1-Decalins	0.264	0.000	100.0#	0#	-12.23#
5 un	C2-Decalins	0.264	0.000	100.0#	0#	-14.74#
6 un	C3-Decalins	0.264	0.000	100.0#	0#	-16.16#
7 un	C4-Decalins	0.264	0.000	100.0#	0#	-18.61#
8 T	Naphthalene	1.703	1.770	-3.9	131	0.00
9 T	2-Methylnaphthalene	1.146	1.244	-8.6	137	0.00
10 T	1-Methylnaphthalene	1.090	1.178	-8.1	135	0.00
11 T	2,6-Dimethylnaphthalene	1.060	1.125	-6.1	137	0.00
12 T	1,6,7-Trimethylnaphthalene	1.082	1.236	-14.2	147	0.00
13 un	C2-Naphthalenes	1.703	0.000	100.0#	0#	-18.14#
14 un	C3-Naphthalenes	1.703	0.000	100.0#	0#	-20.31#
15 un	C4-Naphthalenes	1.703	0.000	100.0#	0#	-21.68#
16 T	Benzothiophene	1.359	1.468	-8.0	135	0.00
17 un	C1-Benzothiophenes	1.359	0.000	100.0#	0#	-15.46#
18 un	C2-Benzothiophenes	1.359	0.000	100.0#	0#	-18.61#
19 un	C3-Benzothiophenes	1.359	0.000	100.0#	0#	-20.23#
20 un	C4-Benzothiophenes	1.359	0.000	100.0#	0#	-22.18#
21 S	Acenaphthene-d10	1.001	0.888	11.3	113	0.00
22 T	Biphenyl	1.520	1.650	-8.6	139	0.00
23 T	Acenaphthylene	1.835	1.957	-6.6	135	0.00
24 T	Acenaphthene	1.109	1.191	-7.4	136	0.00
25 T	Dibenzofuran	1.608	1.757	-9.3	140	0.00
26 T	Fluorene	1.367	1.382	-1.1	128	0.00
27 T	1-Methylfluorene	0.863	0.000	100.0#	0#	-23.48#
28 un	C1-Fluorenes	1.367	0.000	100.0#	0#	-23.47#
29 un	C2-Fluorenes	1.367	0.000	100.0#	0#	-25.90#
30 un	C3-Fluorenes	1.367	0.000	100.0#	0#	-26.42#
31 I	Pyrene-d10	1.000	1.000	0.0	126	0.00
32 S	Phenanthrene-d10	0.956	0.838	12.3	114	0.00
33 T	Carbazole	0.766	0.750	2.1	141	0.00
34 T	Dibenzothiophene	1.076	1.068	0.7	134	0.00
35 T	4-Methyldibenzothiophene	0.643	0.000	100.0#	0#	-25.90#
36 un	2/3-Methyldibenzothiophene	0.643	0.000	100.0#	0#	-26.18#
37 un	1-Methyldibenzothiophene	0.643	0.000	100.0#	0#	-26.52#
38 un	C2-Dibenzothiophenes	1.076	0.000	100.0#	0#	-27.29#
39 un	C3-Dibenzothiophenes	1.076	0.000	100.0#	0#	-28.81#
40 un	C4-Dibenzothiophenes	1.076	0.000	100.0#	0#	-30.30#
41 T	Phenanthrene	0.929	1.021	-9.9	147	0.00
42 T	Anthracene	0.865	0.944	-9.1	146	0.00
43 un	3-Methylphenanthrene	0.878	0.000	100.0#	0#	-26.73#
44 un	2-Methylphenanthrene	0.878	0.000	100.0#	0#	-26.73#
45 un	2-Methylanthracene	0.878	0.000	100.0#	0#	-26.94#
46 un	4/9-Methylphenanthrene	0.878	0.000	100.0#	0#	-26.73#
47 T	1-Methylphenanthrene	0.878	0.824	6.2	128	0.00

Evaluate Continuing Calibration Report

Data Path : F:\MS60149\
 Data File : MS60149I.D
 Acq On : 14 Sep 2013 3:29 am
 Operator : MAG
 Sample : AR-WKICV-250-004
 Misc :
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 16 22:41:50 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
48 T	3,6-Dimethylphenanthrene	0.683	0.000	100.0#	0#	-28.01#
49 T	Retene	0.438	0.000	100.0#	0#	-30.71#
50 un	C2-Phenanthrenes/Anthracene	0.929	0.000	100.0#	0#	-28.57#
51 un	C3-Phenanthrenes/Anthracene	0.929	0.000	100.0#	0#	-28.84#
52 un	C4-Phenanthrenes/Anthracene	0.929	0.000	100.0#	0#	-31.79#
53 T	Naphthobenzothiophene	1.502	0.000	100.0#	0#	-32.99#
54 un	C1-Naphthobenzothiophenes	1.502	0.000	100.0#	0#	-34.31#
55 un	C2-Naphthobenzothiophenes	1.502	0.000	100.0#	0#	-35.86#
56 un	C3-Naphthobenzothiophenes	1.502	0.000	100.0#	0#	-37.49#
57 un	C4-Naphthobenzothiophenes	1.502	0.000	100.0#	0#	-38.89#
58 T	Fluoranthene	1.108	1.235	-11.5	149	0.00
59 T	Pyrene	1.475	1.380	6.4	128	0.00
60 T	2-Methylfluoranthene	0.966	0.000	100.0#	0#	-30.47#
61 T	Benzo(b)fluorene	0.730	0.000	100.0#	0#	-31.10#
62 un	C1-Fluoranthenes/Pyrenes	1.108	0.000	100.0#	0#	-30.47#
63 un	C2-Fluoranthenes/Pyrenes	1.108	0.000	100.0#	0#	-32.52#
64 un	C3-Fluoranthenes/Pyrenes	1.108	0.000	100.0#	0#	-34.27#
65 un	C4-Fluoranthenes/Pyrenes	1.108	0.000	100.0#	0#	-34.03#
66 S	Chrysene-d12	1.246	1.168	6.3	116	0.00
67 T	Benz(a)anthracene	1.416	1.496	-5.6	140	0.00
68 T	Chrysene/Triphenylene	1.215	1.434	-18.0	149	0.00
69 un	C1-Chrysenes	1.215	0.000	100.0#	0#	-35.63#
70 un	C2-Chrysenes	1.215	0.000	100.0#	0#	-36.44#
71 un	C3-Chrysenes	1.215	0.000	100.0#	0#	-38.15#
72 un	C4-Chrysenes	1.215	0.000	100.0#	0#	-39.55#
73 I	Benzo(a)pyrene-d12	1.000	1.000	0.0	103	0.00
74 un	C29-Hopane	0.422	0.000	100.0#	0#	-41.26#
75 un	18a-Oleanane	0.422	0.000	100.0#	0#	-42.15#
76 T	C30-Hopane	0.422	0.000	100.0#	0#	-42.88#
77 T	Benzo(b)fluoranthene	1.292	1.476	-14.2	132	0.00
78 T	Benzo(k,j)fluoranthene	1.409	1.622	-15.1	123	0.00
79 un	Benzo(a)fluoranthene	1.409	0.000	100.0#	0#	-37.37#
80 T	Benzo(e)pyrene	1.401	1.636	-16.8	124	0.00
81 T	Benzo(a)pyrene	1.338	1.508	-12.7	123	0.00
82 T	Indeno(1,2,3-c,d)pyrene	1.611	1.904	-18.2	130	0.00
83 T	Dibenzo(a,h)anthracene	1.275	1.483	-16.3	129	0.00
84 un	C1-Dibenzo(a,h)anthracenes	1.275	0.000	100.0#	0#	-49.37#
85 un	C2-Dibenzo(a,h)anthracenes	1.275	0.000	100.0#	0#	-51.44#
86 un	C3-Dibenzo(a,h)anthracenes	1.275	0.000	100.0#	0#	-50.78#
87 T	Benzo(g,h,i)perylene	1.429	1.684	-17.8	129	-0.04
88 S	Perylene-d12	1.161	1.067	8.1	104	-0.04
89 T	Perylene	1.402	1.587	-13.2	124	0.00
90 S	5(b)H-Cholane	0.317	0.318	-0.3	108	0.00
91 un	C20-TAS	1.658	0.000	100.0#	0#	-33.30#
92 un	C21-TAS	1.658	0.000	100.0#	0#	-34.27#
93 un	C26(20S)-TAS	1.658	0.000	100.0#	0#	-38.77#
94 T	C26(20R)/C27(20S)-TAS	1.658	0.000	100.0#	0#	-39.51#

Evaluate Continuing Calibration Report

Data Path : F:\MS60149\
 Data File : MS60149I.D
 Acq On : 14 Sep 2013 3:29 am
 Operator : MAG
 Sample : AR-WKICV-250-004
 Misc :
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 16 22:41:50 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

	Compound	AvgRF	CCRF	%Dev Area%	Dev(min)
95 un	C28(20S)-TAS	1.658	0.000	100.0#	0# -40.08#
96 un	C27(20R)-TAS	1.658	0.000	100.0#	0# -40.74#
97 un	C28(20R)-TAS	1.658	0.000	100.0#	0# -41.67#

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data Path : F:\MS60149\
 Data File : MS60149I.D
 Acq On : 14 Sep 2013 3:29 am
 Operator : MAG
 Sample : AR-WKICV-250-004
 Misc :
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 16 22:41:50 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Fluorene-d10	21.371	176	225051m	251.05		0.00
31) Pyrene-d10	29.641	212	516642m	250.63		0.00
73) Benzo(a)pyrene-d12	38.458	264	466192m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.736	136	309816m	220.62		0.00
21) Acenaphthene-d10	19.588	164	199151m	222.04		0.00
32) Phenanthrene-d10	24.722	188	432039m	219.21		0.00
66) Chrysene-d12	33.840	240	601928m	234.31		0.00
88) Perylene-d12	38.729	264	496903m	229.86		-0.04
90) 5(b)H-Cholane	34.267	217	148202m	250.81		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.089	138	65914m	278.71		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.792	128	396650m	259.83		
9) 2-Methylnaphthalene	16.049	142	278995m	271.55		
10) 1-Methylnaphthalene	16.383	142	263842m	270.08		
11) 2,6-Dimethylnaphthalene	18.139	156	252230m	265.46		
12) 1,6,7-Trimethylnaphtha...	21.009	170	276945m	285.62		
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	13.959	134	326991m	268.39		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.609	154	366549m	268.99		
23) Acenaphthylene	19.086	152	435034m	264.47		
24) Acenaphthene	19.699	154	267465m	269.11		
25) Dibenzofuran	20.285	168	391798m	271.73		
26) Fluorene	21.483	166	310367m	253.25		
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	25.554	167	383140m	242.57		
34) Dibenzothiophene	24.376	184	542822m	244.81		
35) 4-Methyldibenzothiophene	0.000		0	N.D.	d	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.792	178	521288m	272.12		
42) Anthracene	24.965	178	488205m	273.81		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : F:\MS60149\
 Data File : MS60149I.D
 Acq On : 14 Sep 2013 3:29 am
 Operator : MAG
 Sample : AR-WKICV-250-004
 Misc :
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 16 22:41:50 2013
 Quant Method : C:\GCMS6\MS60149\AR60149.M
 Quant Title : PAH Calibration Table-2013A
 QLast Update : Mon Sep 16 22:11:38 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	26.939	192	420130m	232.11		
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.914	202	636928m	278.87		
59) Pyrene	29.710	202	711177m	233.89		
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	33.801	228	769359m	263.59		
68) Chrysene/Triphenylene	33.917	228	734508m	293.24		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	37.371	252	688581m	286.26		
78) Benzo(k,j)fluoranthene	37.449	252	752326m	286.65		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.341	252	758869m	290.87		
81) Benzo(a)pyrene	38.535	252	700614m	281.08		
82) Indeno(1,2,3-c,d)pyrene	43.251	276	871627m	290.43		
83) Dibenzo(a,h)anthracene	43.324	278	684435m	288.20		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.615	276	776817m	291.96		
89) Perylene	38.846	252	739655m	283.21		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Data Path : F:\MS60149\
Data File : MS60149I.D
Acq On : 14 Sep 2013 3:29 am
Operator : MAG
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

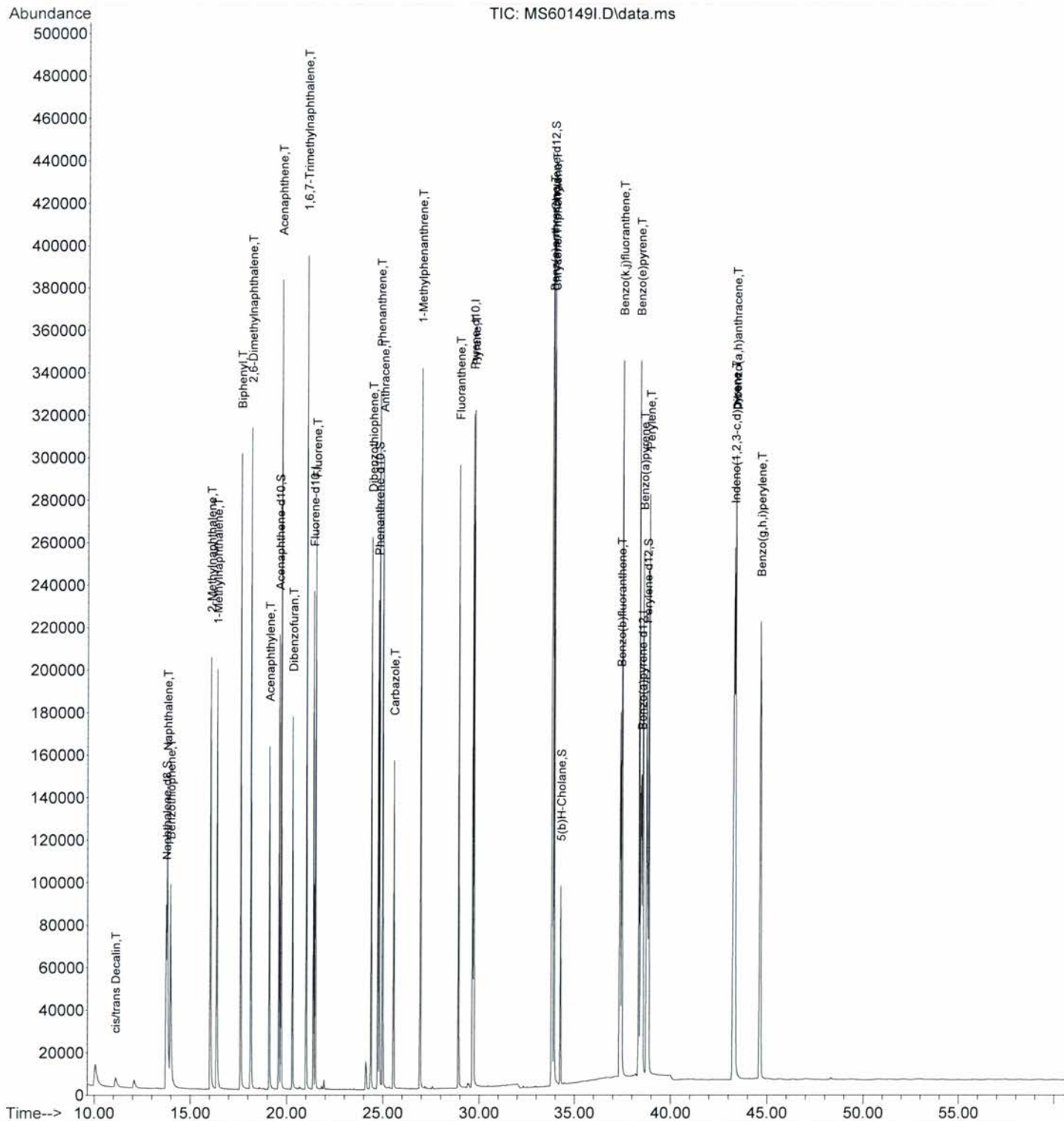
Quant Time: Sep 16 22:41:50 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration

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

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

Data Path : F:\MS60149\
Data File : MS60149I.D
Acq On : 14 Sep 2013 3:29 am
Operator : MAG
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 16 22:41:50 2013
Quant Method : C:\GCMS6\MS60149\AR60149.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Sep 16 22:11:38 2013
Response via : Initial Calibration



PAH Mass Discrimination Ratio

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Mass Discrimination Sheet

File Name	Sample Name	Benzo(g,h,i)perylene Concentration (ng/mL)	Phenanthrene Concentration (ng/mL)	Benzo(g,h,i)perylene/ Phenanthrene ratio	Q
MS60149B.D	AR-WKC1-020-030	21.3	24.5	0.87	
MS60149C.D	AR-WKC2-100-030	99.4	101.4	0.98	
MS60149D.D	AR-WKC3-250-030	232	247	0.94	
MS60149E.D	AR-WKC4-500-030	474	527	0.90	
MS60149F.D	AR-WKC5-1000-030	996	1043	0.95	
MS60149G.D	AR-WKC6-5000-030	4436	4672	0.95	
MS60149I.D	AR-WKICV-250-004	292	272	1.07	
MS60149J.D	AR-WKCC-250-038	244	260	0.94	
MS60149L.D	AR-WKCC-250-038	236	271	0.87	
MS60149M.D	AR-WKCC-250-038	235	269	0.87	

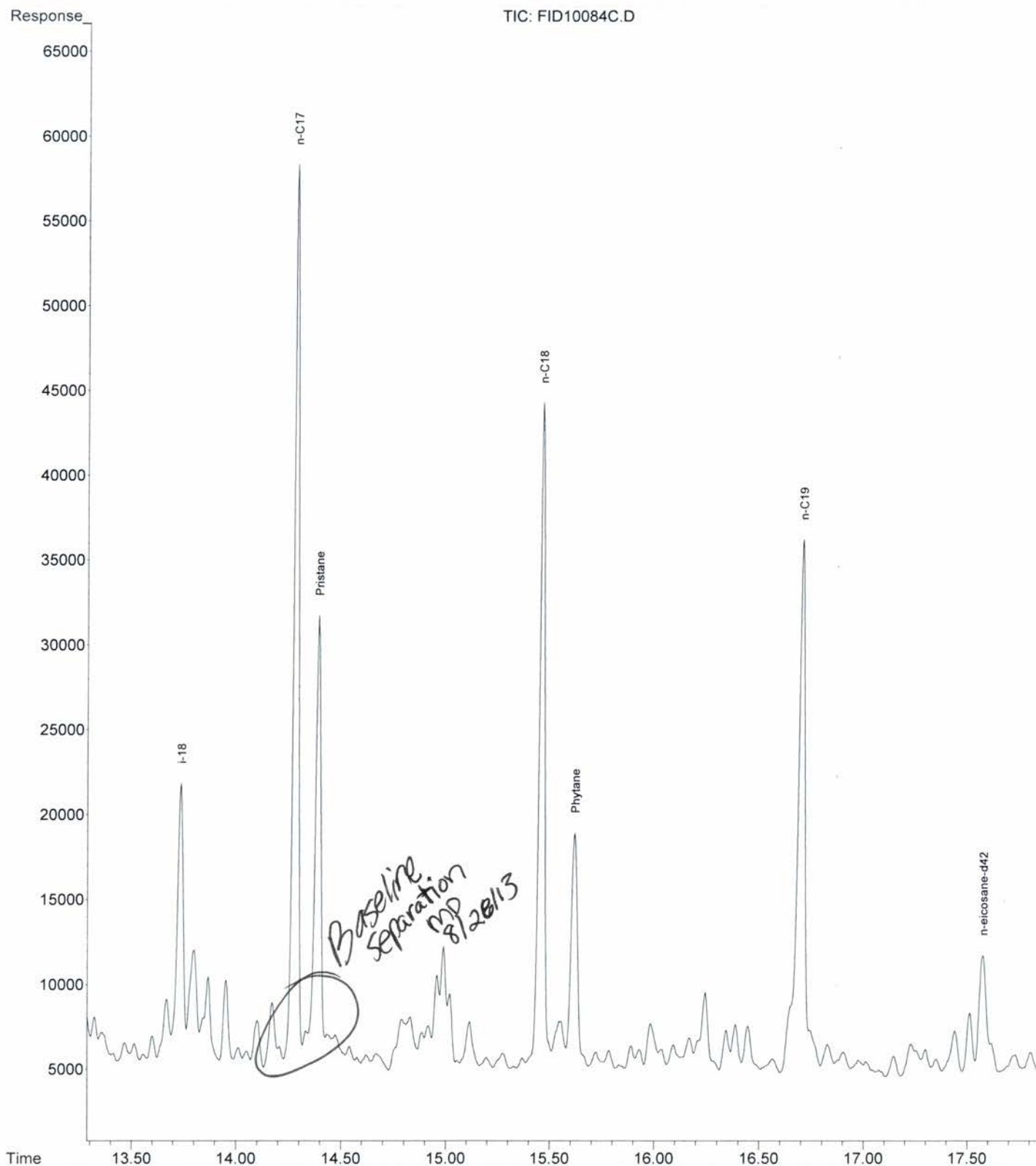
Qualifiers (Q): Ratio of Benzo(g,h,i)perylene to Phenanthrene needs to be ≥ 0.70

PAH Internal Standard Area Data

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)
MS60149D.D	AR-WKCC-250-030	189624	94812	379248	408562	204281	817124	451179	225590	902358
MS60149I.D	AR-WKICV-250-004	225051			516642			466192		
MS60149J.D	AR-WKCC-250-038	170634	85317	341268	335655	167828	671310	363129	181565	726258
ENV3089B.D	Blank Spike	159719			363920			351784		
ENV3089C.D	Blank Spike Dupl.	173634			384578			356779		
ENV3089D.D	MS (WS-024DA(mid depth)081313 MS/MSD)	163540			385774			312281		
ENV3089E.D	MSD (WS-024DA(mid depth)081313 MS/MSD)	180735			410541			360509		
ARC1878.D	SED-DA-EB-09-081513	170741			411479			352453		
ARC1880.D	SO-DA-EB-06-081513	169016			406532			338359		
ARC1905.D	WS-025DA(mid depth)081513	181820			396395			279861		
MS60149L.D	AR-WKCC-250-038	185212	92606	370424	380230	190115	760460	343594	171797	687188
ARC1906.D	WS-026DA(mid depth)081513	172753			403059			287134		
ARC1908.D	WS-027DA(mid depth)081513	179391			402955			296829		
ARC1916.D	WS-022DA(surface)081313	182398			446134			261474		
ARC1918.D	WS-023DA(surface)081313	182179			421760			267236		
ARC1920.D	WS-DUP-01DA-081513	178916			434571			365501		
ARC1922.D	SED-DA-EB-10-081613	163443			391794			330742		
MS60149M.D	AR-WKCC-250-038	191477	95739	382954	390253	195127	780506	365406	182703	730812

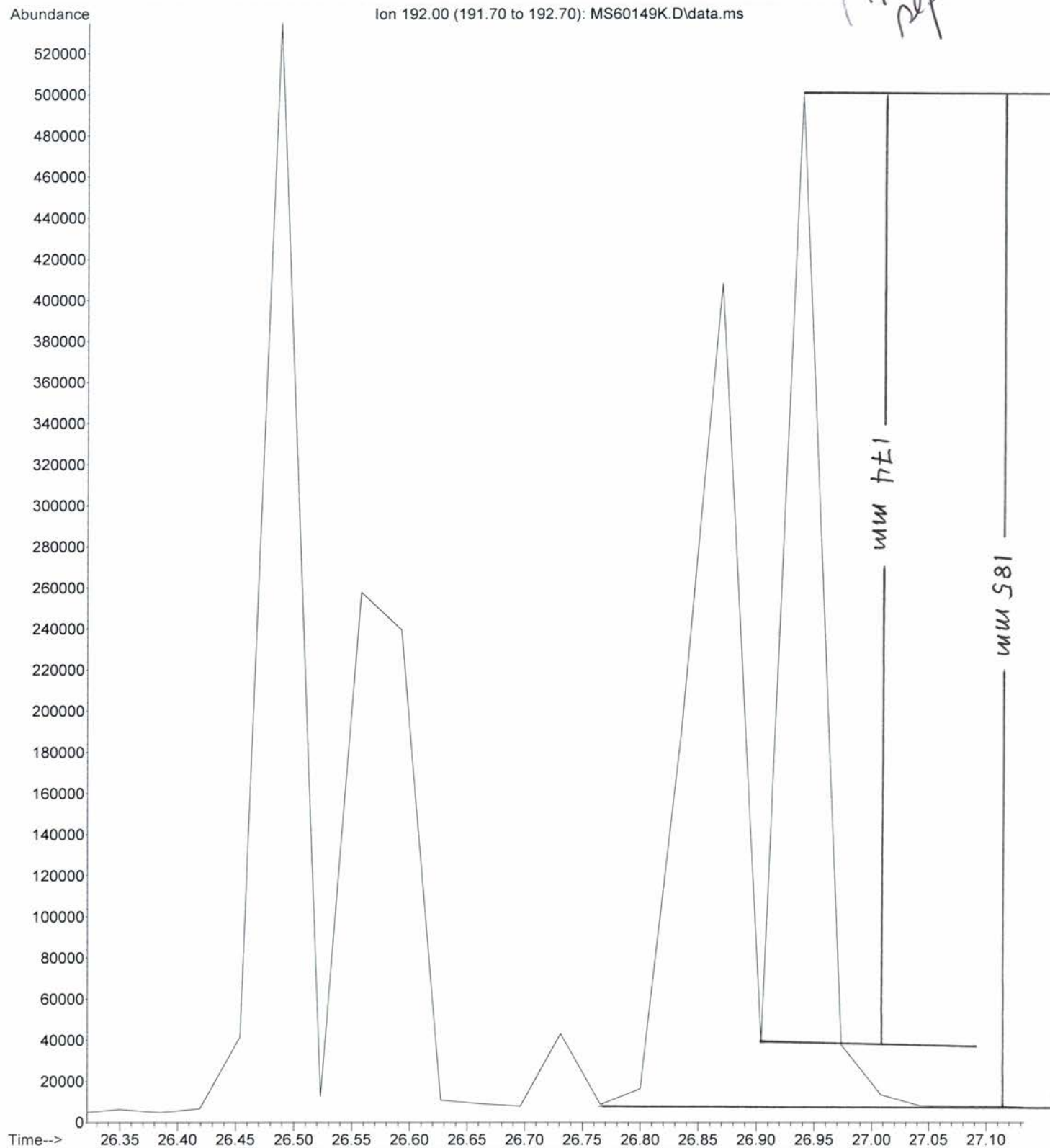
SRM-2779 Reference Oil
Aliphatic and PAH
Resolution Checks

File :P:\2013\J13034\Aliphatics\ENV 3089\FID10084\FID10084C.D
Operator : Meghan Dailey
Acquired : 26-Aug-2013, 21:35:08 using AcqMethod ALIFRONT.M
Instrument : HP5890
Sample Name: AL-SRM2779-20-01
Misc Info :
Vial Number: 3



File : F:\MS60149\MS60149K.D
Operator : MAG
Acquired : 14 Sep 2013 5:48 am using AcqMethod PAH-2012.M
Instrument : GCMS6
Sample Name: AR-SRM2779-WK-4.0-002
Misc Info :
Vial Number: 11

94% separation



Supporting Documents

Shipping, Sample Receiving, and Project Initiation Documents

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/16/13 SDG#: 13081601

Sender: Arcadis- mayflower AK

1. Number of Shipping Containers: 2 Arcadis: Ryan Lewis

Comments: 1 of 2, large blue cooler

2. Airbill Present? ☒ Yes ☐ No Shipping Company: Fed Ex
Airbill Number: 7958 1365 5828 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!

5. General Sample Conditions:
Frozen ☒ Cool ☐ Unrefrigerated
Dry Ice ☐ Blue Ice ☒ Ice Temperature/Comments: 1.4°C / temp blank 1.9°C (T6)

6. List of Broken Containers:
None

7. Number of Samples Expected: 2 coolers Number of Samples Received:

8. Problems/Discrepancies:
None Cooler 1:
19 soil/seeds

9. Resolutions:
N/A

10. Checked in by: Amanda Brewster Date: 8/16/13

large
blue cooler

Ice type: wet ice
Cooler temp: 1.4
Temp blank: 1.9
Thermometer: 6
Custody seal:

sdg 13081601
Cooler 1 of 2



ORIGIN ID:MPJA (978) 693-3446
B & B LABORATORIES
14391 S DOWLING RD STE B
COLLEGE STATION, TX 778453473
UNITED STATES US

SHIP DATE: 15AUG13
ACTWT: 88.2 LB MAN
CAD: /POS1400
DIMS: 24x13x13 IN
BILL SENDER

TO B & B LAB
B & B LABS
14391 B SOUTH DOWLING RD
COLLEGE STATION TX 77845

(978) 693-3446
PO:

REF:

DEPT:



FedEx
Express



2 of 2
MP# 7958 1365 5828
C881
Mstr# 8022 2781 5803

FRI - 16 AUG 10:30A
PRIORITY OVERNIGHT

XH CLLA

77845
TX--US IAH



B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/16/13 SDG#: 13081601

Sender: Arcadis- mayflower AR

1. Number of Shipping Containers: 2 Arcadis: Ryan Lewis

Comments: 2 of 2, large blue cooler

2. Airbill Present? ☒ Yes ☐ No

Shipping Company: Fed Ex

Airbill Number:

8022 2781 5803

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

as 8/16/13

Comments

COC in cooler 1

5. General Sample Conditions:

Frozen

☒ Cool

Unrefrigerated

Dry Ice

Blue Ice

☒ Ice

Temperature/Comments:

2.4°C / temp blank 2.0°C (Tb)

6. List of Broken Containers:

<u>None</u>

7. Number of Samples Expected: 2 coolers

Number of Samples Received:

8. Problems/Discrepancies:

None

[Cooler 2:
4 ea) water
4 ea) seeds

9. Resolutions:

N/A

10. Checked in by: Amanda Bnewlth Date: 8/16/13

Ice type: wet ice
Cooler temp: 2.4
Temp blank: 2.0
Thermometer: 6
Custody seal:

sdg 13081601
Cooler 2 of 2



FedEx
Tracking
Number 8022 2781 5803

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	
Dept./Floor/Suite/Room	
City	
State ZIP	

HOLD Weekday
 FedEx location address
 REQUIRED. NOT available for
 FedEx First Overnight.

☐ **HOLD Saturday**
 FedEx location address
 REQUIRED. Availability ONLY for
 FedEx Priority Overnight and
 FedEx 2Day to select locations.

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Use this line for the HOLD location address or for continuation of your shipping address.

Express Package Service		*To meet deadlines.	Packages up to 150 lbs. <i>For packages over 120 lbs., rate the same FedEx Express Freight US Airbill</i>	
NOTE: Service order has changed. Please select carefully.				
Next Business Day		2 or 3 Business Days		
☐ FedEx First Overnight <i>Fastest next business morning delivery to select locations. Priority shipments will be delivered via Monday unless SATURDAY Delivery is selected.</i>	☐ FedEx 2Day A.M. <i>Second business morning * Saturday Delivery NOT available</i>			
☐ FedEx Priority Overnight <i>Next business morning * FedEx shipments will be delivered on Monday unless SATURDAY Delivery is selected.</i>	☐ FedEx 2Day <i>Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.</i>			
☐ FedEx Standard Overnight <i>Next business afternoon. Saturday Delivery NOT available.</i>	☐ FedEx Express Saver <i>Third business day.* Saturday Delivery NOT available</i>			
5 Packaging *Declared value limit \$50K				
☐ FedEx Envelope*	☐ FedEx Pak*	☐ FedEx Box	☐ FedEx Tube	☐ Other _____
6 Special Handling and Delivery Signature Options				
☐ SATURDAY Delivery <i>NOT available for FedEx Standard Overnight, FedEx 2day A.M., or FedEx Express Saver.</i>				
☐ No Signature Required <i>Package may be left without obtaining a signature for delivery.</i>	☐ Direct Signature <i>Someone at recipient's address may sign for delivery. Fee applies.</i>	☐ Indirect Signature <i>If no one is available at recipient's address, someone at neighboring address may sign for delivery. For residential deliveries only. Fee applies.</i>		
Does this shipment contain dangerous goods?				
☐ No	☐ Yes <i>As per attached Shipper's Declaration.</i>	☐ Yes <i>Shipper's Declaration not required.</i>	☐ Dry Ice <i>Dry ice 5, UN 1845</i>	☐ _____ x _____ kg
Dangerous goods Shipment dry冰 must be checked in FedEx cartridges 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)	☐ Recipient	☐ Third Party	☐ Credit Card	☐ Cash/Cheq



8022 2781 5803

[†]Our table is based on a "normal" value (see column 1) of higher value. See the current FedEx Service Guide for details.

See Page 1/12 • Date: 11/20/2016 • Page 2 of 2 • PRINTED IN U.S.A. 595

644
306



CHAIN OF CUSTODY RECORD

Home Office 14391B South Dowling Road College Station TX 77845 phone (979) 653-3446 fax (979) 653-6369 <http://www.tdi-bi.com>



Client: ARCADIS

Project ID: 80086003, 1301 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: [Signature]

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers		PAHs + 8270 5m TEH by mod 8015	Analyses	Other Instructions
					Type	No.			
✓✓ SED-DA-BG-09-081513	8/15/13	800	W	none	✓ LAG	✓ 22	✓		Sdg 13081601 Cooler 10f20
✓✓ SO-DA-BG-06-081513		830	W		✓ LAG	✓ 22	✓		
✓ SO-DA-BG-004 (0-0.5)		815	Soil		✓ 402	✓ 1	✓		
✓ SO-DA-BG-004 (0-0.5) MS		815			✓	✓ 1	✓		
✓ SO-DA-BG-004 (0-0.5) MS		815			✓	✓ 1	✓		
✓ SO-DA-BG-005 (0-0.5)		840			✓	✓ 1	✓		
✓ SO-DA-BG-006 (0-0.5)		900			✓	✓ 1	✓		
✓ SED-DA-BG-012 (0-0.5)		910	Seb		✓ 802	✓ 1	✓		
✓ SO-DA-BG-001 (0-0.5)		1100			✓	✓ 1	✓		
✓ SED-DA-BG-002 (0-0.5)		1110			✓	✓ 1	✓		
Total # of Containers								12	

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: <u>Jonathan Florentin</u>	ARCADIS	8/15/13	630	Printed Name: <u>Amanda Brewster</u>	BIG LABS	8/16/13	10:30
Signature: <u>[Signature]</u>				Signature: <u>Amanda Brewster</u>			
Printed Name: _____				Printed Name: _____			
Signature: _____				Signature: _____			

Matrix: T=Trace S=Soil/Sediment R=Rinsate P=Product G=Gas W=Waste HW=Hazardous Waste W=Water Sample Container: Vol/Material C=Core B=Bag G=Glass P=Plastic



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>



Client: ARCADIS

Project ID: 80086003101 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: [Signature]

Analyses

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers		Other Instructions
					Type	No.	
VSED-DA-BG-003 (0-0.5)	8/15/13	1120	Sed	Bone	802	1	sdg 13081601 Cooler 1 of 2 (2)
VSO-DA-BG-001 (0-0.5)		1230	Soil		402	1	
VSO-DA-BG-002 (0-0.5)		1305	Soil		402	1	Full List
VSG-DA-BG-003 (0-0.5)		1250	Soil		402	1	44 PAHs List
VSED-DA-001 (0-0.5)		1345	Sed		802	1	↓
VSED-DA-001 (0-0.5)ms		1345			802	1	Full List
VSED-DA-001 (0-0.5)msd		1345			802	1	↓
VSED-DA-001 (0.5-1.0)		1350			402	1	44 PAHs List
VSEP-DA-002 (0-0.5)		1745			802	1	Full List
VSED-DA-002 (0.5-1.0)		1450			402	1	44 PAH List
Total # of Containers						10	

Relinquished By		Company Name		Date		Time	
Printed Name: <u>Jonathan Flanefelt</u>		<u>ARCADIS</u>		<u>8/15/13</u>		<u>1630</u>	
Signature: <u>[Signature]</u>							
Received By		Company Name		Date		Time	
Printed Name: <u>Amanda Brewster</u>		<u>B&B Labs</u>		<u>8/16/13</u>		<u>10:30</u>	
Signature: <u>[Signature]</u>							
Printed Name: <u>Amanda Brewster</u>							
Signature: <u>[Signature]</u>							

Matrix:

T = Tissue
S = Soil/Sediment
R = Rinse
P = Product

Sample Container: Voluminal

G = Gas
W = Waste
H = Hazardous Waste
B = Bag



fax (979) 693-6389

<http://www.tdi-bl.com>



B&B Contact: Juan Ramirez

Sampler Signature:

Relinquished By		Company Name	Date	Time	Received By		Company Name	Date	Time
Printed Name:	Jeanette Flowerfell	ARCABIS	8/15/13	1630	Printed Name:	Amanda Brewster	B:B Labs	8/16/13	10:30
Signature:		↓	↓	↓	Signature:	Amanda Brewster			
Printed Name:					Signature:				
Signature:					Printed Name:				
					Signature:				

Matrix:	Sample Container: Voluminal	
T = Tissue	G = Gas	G = Glass
S = Soil/Sediment	W = Waste	P = Plastic
R = Resin	HW = Hazardous Waste	C = Core
P = Product		B = Bag

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENT'S	B&B SDG	Cooler #	Sent By:	Container	Project #
64567	J13034	Arcadis - Mayflower AR	ARC1878	SED-DA-EB-09-081513	08/15/13	08/16/13	PAH, TPH, ALI	WATER	1 of 2	13081601	Cooler 2	Arcadis: Ryan Lewis	1L amber glass BR bottle	B0086003.1302
64568	J13034	Arcadis - Mayflower AR	ARC1878	SED-DA-EB-09-081513	08/15/13	08/16/13	HOLD	WATER	2 of 2	13081601	Cooler 2	Arcadis: Ryan Lewis	1L amber glass BR bottle	B0086003.1302
64569	J13034	Arcadis - Mayflower AR	ARC1880	SO-DA-EB-06-081513	08/15/13	08/16/13	PAH	WATER	44 analytes, 1 of 2	13081601	Cooler 2	Arcadis: Ryan Lewis	1L amber glass BR bottle	B0086003.1302
64570	J13034	Arcadis - Mayflower AR	ARC1881	SO-DA-EB-06-081513	08/15/13	08/16/13	HOLD	WATER	2 of 2	13081601	Cooler 1	Arcadis: Ryan Lewis	1L amber glass BR bottle	B0086003.1302
64571	J13034	Arcadis - Mayflower AR	ARC1882	SO-DA-BG-004 (0.0.5)	08/15/13	08/16/13	PAH	SOIL	44 analytes	13081601	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64572	J13034	Arcadis - Mayflower AR	ARC1883	SO-DA-BG-004 (0.0.5) MS	08/15/13	08/16/13	PAH	SOIL	44 analytes	13081601	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64573	J13034	Arcadis - Mayflower AR	ARC1884	SO-DA-BG-004 (0.0.5) MSD	08/15/13	08/16/13	PAH	SOIL	44 analytes	13081601	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64574	J13034	Arcadis - Mayflower AR	ARC1885	SO-DA-BG-005 (0.0.5)	08/15/13	08/16/13	PAH	SOIL	44 analytes	13081601	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64575	J13034	Arcadis - Mayflower AR	ARC1886	SO-DA-BG-006 (0.0.5)	08/15/13	08/16/13	PAH	SOIL	44 analytes	13081601	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64576	J13034	Arcadis - Mayflower AR	ARC1887	SED-DA-BG-012 (0.0.5)	08/15/13	08/16/13	PAH, TPH, ALI	SED		13081601	Cooler 1	Arcadis: Ryan Lewis	8oz clear glass jar	B0086003.1302
64577	J13034	Arcadis - Mayflower AR	ARC1888	SED-DA-BG-001 (0.0.5)	08/15/13	08/16/13	PAH, TPH, ALI	SED		13081601	Cooler 1	Arcadis: Ryan Lewis	8oz clear glass jar	B0086003.1302
64578	J13034	Arcadis - Mayflower AR	ARC1889	SED-DA-BG-002 (0.0.5)	08/15/13	08/16/13	PAH, TPH, ALI	SED		13081601	Cooler 1	Arcadis: Ryan Lewis	8oz clear glass jar	B0086003.1302
64579	J13034	Arcadis - Mayflower AR	ARC1890	SED-DA-BG-003 (0.0.5)	08/15/13	08/16/13	PAH, TPH, ALI	SED		13081601	Cooler 1	Arcadis: Ryan Lewis	8oz clear glass jar	B0086003.1302
64580	J13034	Arcadis - Mayflower AR	ARC1891	SO-DA-BG-001 (0.0.5)	08/15/13	08/16/13	PAH	SOIL	44 analytes	13081601	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64581	J13034	Arcadis - Mayflower AR	ARC1892	SO-DA-BG-002 (0.0.5)	08/15/13	08/16/13	PAH	SOIL	44 analytes	13081601	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64582	J13034	Arcadis - Mayflower AR	ARC1893	SO-DA-BG-003 (0.0.5)	08/15/13	08/16/13	PAH	SOIL	44 analytes	13081601	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64583	J13034	Arcadis - Mayflower AR	ARC1894	SED-DA-001 (0.0.5)	08/15/13	08/16/13	PAH, TPH, ALI	SED		13081601	Cooler 1	Arcadis: Ryan Lewis	8oz clear glass jar	B0086003.1302
64584	J13034	Arcadis - Mayflower AR	ARC1895	SED-DA-001 (0.0.5) MS	08/15/13	08/16/13	PAH, TPH, ALI	SED	MS	13081601	Cooler 1	Arcadis: Ryan Lewis	8oz clear glass jar	B0086003.1302
64585	J13034	Arcadis - Mayflower AR	ARC1896	SED-DA-001 (0.0.5) MSD	08/15/13	08/16/13	PAH, TPH, ALI	SED	MSD	13081601	Cooler 1	Arcadis: Ryan Lewis	8oz clear glass jar	B0086003.1302
64586	J13034	Arcadis - Mayflower AR	ARC1897	SED-DA-001 (0.5-1.0)	08/15/13	08/16/13	PAH	SED	44 analytes	13081601	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64587	J13034	Arcadis - Mayflower AR	ARC1898	SED-DA-002 (0.0.5)	08/15/13	08/16/13	PAH, TPH, ALI	SED		13081601	Cooler 1	Arcadis: Ryan Lewis	8oz clear glass jar	B0086003.1302
64588	J13034	Arcadis - Mayflower AR	ARC1899	SED-DA-002 (0.5-1.0)	08/15/13	08/16/13	PAH	SED	44 analytes	13081601	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64589	J13034	Arcadis - Mayflower AR	ARC1900	SED-DA-003 (0.0.5)	08/15/13	08/16/13	PAH, TPH, ALI	SED		13081601	Cooler 2	Arcadis: Ryan Lewis	8oz clear glass jar	B0086003.1302
64590	J13034	Arcadis - Mayflower AR	ARC1901	SED-DA-003 (0.5-1.0)	08/15/13	08/16/13	PAH	SED	44 analytes	13081601	Cooler 2	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64591	J13034	Arcadis - Mayflower AR	ARC1902	SED-DA-004 (0.0.5)	08/15/13	08/16/13	PAH, TPH, ALI	SED		13081601	Cooler 2	Arcadis: Ryan Lewis	8oz clear glass jar	B0086003.1302
64592	J13034	Arcadis - Mayflower AR	ARC1903	SED-DA-004 (0.5-1.0)	08/15/13	08/16/13	PAH	SED	44 analytes	13081601	Cooler 2	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64593	J13034	Arcadis - Mayflower AR	ARC1904	SED-DA-DUP-09-081513	08/15/13	08/16/13	PAH, TPH, ALI	SED		13081601	Cooler 1	Arcadis: Ryan Lewis	8oz clear glass jar	B0086003.1302

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: <u>J13034</u>	Number of Samples: <u>11</u>
SDG: <u>13081601</u>	Matrix: <u>sediments</u>
Client: <u>Arcadis-Mayflower</u>	Due Date: <u>45 days: 9/30/13</u>
Initiation Date: <u>8/16/13</u> <u>AR</u>	Comments: <u>PAH, TPH, ALI</u>
received <u>8/16/13</u>	

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 <u>15416</u>
☐ Blank Spike Duplicate	☒ Matrix Spike
☒ Matrix Spike Duplicate	☒ Duplicate

<u>SEE BACK FOR SPECIFIC STANDARDS TO USE</u>	
Surrogate(s): <u>PAH, ALI</u>	Volume(s): <u>100ul</u>
Spike Standard(s): <u>PAH, ALI</u>	Volume(s): <u>100ul</u>
Internal Standard(s): <u>PAH, ALI</u>	Volume(s): <u>100ul</u>
Final Extract Volume (ml): <u>1.0</u>	Final Solvent: <u>DCM</u>

Comments:	
Sample Custodian Signature: <u>Amanda Brewster</u>	Date: <u>8/16/13</u>
Laboratory Manager Signature: <u>[Signature]</u>	Date: <u>8/16/13</u>

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64576	J13034	Arcadis - Mayflower AR	ARC1887	SED-DA-BG-012 (0-0.5)	08/15/13	08/16/13	PAH, TPH, ALI	SED		13081601	Cooler 1	Arcadis: Ryan Lewis	8oz clear glass jar	B0086003.1302
64577	J13034	Arcadis - Mayflower AR	ARC1888	SED-DA-BG-001 (0-0.5)	08/15/13	08/16/13	PAH, TPH, ALI	SED		13081601	Cooler 1	Arcadis: Ryan Lewis	8oz clear glass jar	B0086003.1302
64578	J13034	Arcadis - Mayflower AR	ARC1889	SED-DA-BG-002 (0-0.5)	08/15/13	08/16/13	PAH, TPH, ALI	SED		13081601	Cooler 1	Arcadis: Ryan Lewis	8oz clear glass jar	B0086003.1302
64579	J13034	Arcadis - Mayflower AR	ARC1890	SED-DA-BG-003 (0-0.5)	08/15/13	08/16/13	PAH, TPH, ALI	SED		13081601	Cooler 1	Arcadis: Ryan Lewis	8oz clear glass jar	B0086003.1302
64583	J13034	Arcadis - Mayflower AR	ARC1894	SED-DA-001 (0-0.5)	08/15/13	08/16/13	PAH, TPH, ALI	SED		13081601	Cooler 1	Arcadis: Ryan Lewis	8oz clear glass jar	B0086003.1302
64584	J13034	Arcadis - Mayflower AR	ARC1895	SED-DA-001 (0-0.5) MSD	08/15/13	08/16/13	PAH, TPH, ALI	SED	MS	13081601	Cooler 1	Arcadis: Ryan Lewis	8oz clear glass jar	B0086003.1302
64585	J13034	Arcadis - Mayflower AR	ARC1898	SED-DA-001 (0-0.5) MSD	08/15/13	08/16/13	PAH, TPH, ALI	SED	MSD	13081601	Cooler 1	Arcadis: Ryan Lewis	8oz clear glass jar	B0086003.1302
64587	J13034	Arcadis - Mayflower AR	ARC1898	SED-DA-002 (0-0.5)	08/15/13	08/16/13	PAH, TPH, ALI	SED		13081601	Cooler 1	Arcadis: Ryan Lewis	8oz clear glass jar	B0086003.1302
64589	J13034	Arcadis - Mayflower AR	ARC1900	SED-DA-003 (0-0.5)	08/15/13	08/16/13	PAH, TPH, ALI	SED		13081601	Cooler 2	Arcadis: Ryan Lewis	8oz clear glass jar	B0086003.1302
64591	J13034	Arcadis - Mayflower AR	ARC1902	SED-DA-004 (0-0.5)	08/15/13	08/16/13	PAH, TPH, ALI	SED		13081601	Cooler 2	Arcadis: Ryan Lewis	8oz clear glass jar	B0086003.1302
64593	J13034	Arcadis - Mayflower AR	ARC1904	SED-DA-DUP-09-081513	08/15/13	08/16/13	PAH, TPH, ALI	SED		13081601	Cooler 1	Arcadis: Ryan Lewis	8oz clear glass jar	B0086003.1302

11

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: <u>J13034</u>	Number of Samples: <u>2</u>
SDG: <u>13081601</u>	Matrix: <u>Waters</u>
Client: <u>Arcadis-Mayflower</u>	Due Date: <u>45 days: 9/30/13</u>
Initiation Date: <u>8/16/13</u> <u>AK</u>	Comments: <u>collected 8/15/13</u>
<u>received 8/16/13</u>	<u>Extract by 8/21/13</u>

Analyses			
☒ PAHs	☐ OCs/PCBs	☒ <u>Aliphatics</u> /TPH	☒ EOM
☒ Dry Wt.	☐ %Lipid	☐ TOC/TIC	☐
☒ Short Columns	☐ Long Columns	☐	☐

Requested QA/QC (per batch of _____ Client Samples)	
☒ Blank	☐ SRM/LCS
☒ Blank Spike Duplicate	☐ Matrix Spike
☐ Matrix Spike Duplicate	☐ Duplicate

<u>SEE BACK FOR SPECIFIC STANDARDS TO USE</u>	
Surrogate(s): <u>ALI, PAH</u>	Volume(s): <u>100 µl</u>
Spike Standard(s): <u>ALI, PAH</u>	Volume(s): <u>100 µl</u>
Internal Standard(s): <u>ALI, PAH</u>	Volume(s): <u>100 µl</u>
Final Extract Volume (ml): <u>1.0</u>	Final Solvent: <u>DCM</u>

Comments:	
Sample Custodian Signature: <u>Amanda Brewster</u>	Date: <u>8/16/13</u>
Laboratory Manager Signature: <u>[Signature]</u>	Date: <u>8/16/13</u>

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECYD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64567	J13034	Arcadis - Mayflower AR	ARC1878	SED-DA-EB-09-081513	08/15/13	08/16/13	PAH, TPH, ALI	WATER	1 of 2	13081601	Cooler 2	Arcadis: Ryan Lewis	1L amber glass BR bottle	B0086003.1302
64569	J13034	Arcadis - Mayflower AR	ARC1880	SO-DA-EB-08-081513	08/15/13	08/16/13	PAH	WATER	44 analytes, 1 of 2	13081601	Cooler 2	Arcadis: Ryan Lewis	1L amber glass BR bottle	B0086003.1302

12

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: <u>513034</u> SDG: <u>13081601</u> Client: <u>Arcadis-Mayflower</u> Initiation Date: <u>8/16/13</u> <u>AR</u> <u>received 8/16/13</u>	Number of Samples: <u>12</u> Matrix: <u>Soil/sediment</u> Due Date: <u>45 days: 9/30/13</u> Comments: <u>PAH: 44 analytes</u>
--	--

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 <u>PAH, 194/16</u>
☐ Blank Spike Duplicate	☒ Matrix Spike _____
☒ Matrix Spike Duplicate _____	☒ Duplicate _____

<u>SEE BACK FOR SPECIFIC STANDARDS TO USE</u>	
Surrogate(s): <u>PAH, ALL</u>	Volume(s): <u>100ul</u>
Spike Standard(s): <u>PAH, ALL</u>	Volume(s): <u>100ul</u>
Internal Standard(s): <u>PH, ALL</u>	Volume(s): <u>100ul</u>
Final Extract Volume (ml): <u>1.0</u>	Final Solvent: <u>DCM</u>

Comments:	
Sample Custodian Signature: <u>Amanda Buehler</u>	Date: <u>8/16/13</u>
Laboratory Manager Signature: _____	Date: <u>8/16/13</u>

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64571	J13034	Arcadis - Mayflower AR	ARC1882	SO-DA-BG-004 (0.0.5)	08/15/13	08/16/13	PAH	SOIL	44 analytes	13081601	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64572	J13034	Arcadis - Mayflower AR	ARC1883	SO-DA-BG-004 (0.0.5) MSD	08/15/13	08/16/13	PAH	SOIL	44 analytes	13081601	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64573	J13034	Arcadis - Mayflower AR	ARC1884	SO-DA-BG-004 (0.0.5) MSD	08/15/13	08/16/13	PAH	SOIL	44 analytes	13081601	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64574	J13034	Arcadis - Mayflower AR	ARC1885	SO-DA-BG-005 (0.0.5)	08/15/13	08/16/13	PAH	SOIL	44 analytes	13081601	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64575	J13034	Arcadis - Mayflower AR	ARC1886	SO-DA-BG-006 (0.0.5)	08/15/13	08/16/13	PAH	SOIL	44 analytes	13081601	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64580	J13034	Arcadis - Mayflower AR	ARC1891	SO-DA-BG-001 (0.0.5)	08/15/13	08/16/13	PAH	SOIL	44 analytes	13081601	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64581	J13034	Arcadis - Mayflower AR	ARC1892	SO-DA-BG-002 (0.0.5)	08/15/13	08/16/13	PAH	SOIL	44 analytes	13081601	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64582	J13034	Arcadis - Mayflower AR	ARC1893	SO-DA-BG-003 (0.0.5)	08/15/13	08/16/13	PAH	SOIL	44 analytes	13081601	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64586	J13034	Arcadis - Mayflower AR	ARC1897	SED-DA-001 (0.5-1.0)	08/15/13	08/16/13	PAH	SED	44 analytes	13081601	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64588	J13034	Arcadis - Mayflower AR	ARC1899	SED-DA-002 (0.5-1.0)	08/15/13	08/16/13	PAH	SED	44 analytes	13081601	Cooler 1	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64590	J13034	Arcadis - Mayflower AR	ARC1901	SED-DA-003 (0.5-1.0)	08/15/13	08/16/13	PAH	SED	44 analytes	13081601	Cooler 2	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302
64592	J13034	Arcadis - Mayflower AR	ARC1903	SED-DA-004 (0.5-1.0)	08/15/13	08/16/13	PAH	SED	44 analytes	13081601	Cooler 2	Arcadis: Ryan Lewis	4oz clear glass jar	B0086003.1302

12

amanda brewster

From: amanda brewster <amandabrewster@tdi-bi.com>
Sent: Tuesday, August 20, 2013 6:34 PM
To: Lewis, Ryan (Ryan.Lewis@arcadis-us.com); Mays, Daniel (Daniel.Mays@arcadis-us.com); Parmelee, Rhiannon (Rhiannon.Parmelee@arcadis-us.com); Chandler, Jennifer (Jennifer.Chandler@arcadis-us.com); Capria, Dennis (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 8/16/13



COC 8-16-13.pdf

Hi Ryan,

I have been having some problems with my email the past week, so I wanted to make sure you received this notice. Please disregard if you have already received!

We received your samples 8/16/13 in good condition.

The internal temperature Cooler 1 was 1.4°C and the temperature blank was 1.9°C.

The internal temperature Cooler 2 was 2.4°C and the temperature blank was 2.0°C.

A PDF of the COC is attached for your records.

Regards,
Amanda

Amanda Brewster
Sample Custodian

Please note our new address!

B&B Laboratories
14391B South Dowling Road
College Station, TX 77845

Phone: (979) 693-3446

Fax: (979) 693-6389

Email: amandabrewster@tdi-bi.com

Please consider the environment before printing this email

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B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/20/13 SDG#: 13082001

Sender: Arcadis - mayflower, AR

1. Number of Shipping Containers: 3 Arcadis: Jessica geurts

Comments: 1 of 3, large blue cooler

2. Airbill Present? ☒ Yes ☐ No Shipping Company: Fed Ex
Airbill Number: 8022 2781 5777 Comments: PON

3. Custody Seals on Container? ☒ No ☒ Yes ☒ Intact ☐ Not Intact Comments: on top of duct tape

4. Chain of Custody Records? ☒ No ☐ Yes Comments: in cooler 2:3

5. General Sample Conditions:
Frozen ☒ Cool ☐ Unrefrigerated
Dry Ice ☐ Blue Ice ☒ Ice Temperature/Comments: 5.7°C / temp blank 5.1°C (T4)

6. List of Broken Containers:

<u>water: WS-025 DA (mid depth) 08/15/13</u>
<u>received broken, sample lost</u>

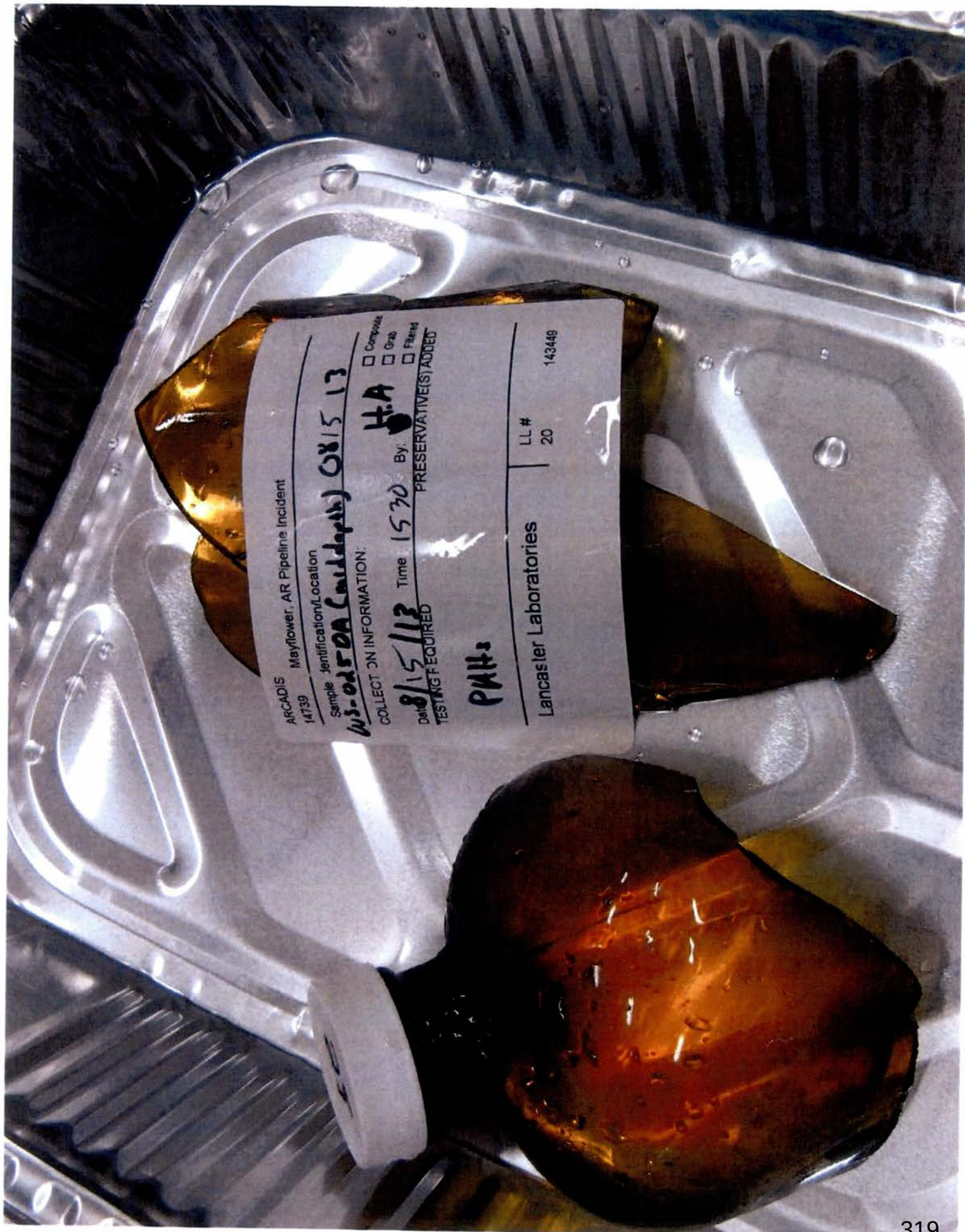
7. Number of Samples Expected: was NOT notified Number of Samples Received:

8. Problems/Discrepancies: sample received broken

Cooler 1:
9ea) 1L
waters

9. Resolutions: notified Lyndi via email 8/20/13

10. Checked in by: Amanda Bnewitt Date: 8/20/13



ARCADIS Mayflower, AR Pipeline Incident
14739

Sample Identification/Location
W3-0250A (middle) 08/15/13

COLLECT ON INFORMATION

DATE 8/15/13 Time 1530 By: H.A
TESTING REQUIRED PRESERVATIVE(S) ADDED

☐ Composite
☐ Grab
☐ Filtered

PMH:

Lancaster Laboratories LL# 20 143449

ARCADIS

14739 Mayflower, AR Pipeline Incident

Sample Identification/Location

WS-0250A (mid-depth) 0815 13

COLLECTION INFORMATION:

Date 8/15/13 Time 1530 By: H.A.

☐ Composite

☐ Grab

☐ Filtered

TESTING REQUIRED

PRESERVATIVE(S) ADDED

PAHs

Lancaster Laboratories

LL #

20

143449

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/20/13 SDG#: 13082001

Sender: Arcadis - Mayflower AR

1. Number of Shipping Containers: 3 Arcadis: Jessica geurts

Comments: 2 of 3, large blue cooler

2. Airbill Present? ☒ Yes ☐ No Shipping Company: Fed Ex

Airbill Number: 7958 1581 8020 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: None

5. General Sample Conditions: Frozen ☒ Cool ☐ Unrefrigerated Dry Ice ☐ Blue Ice ☒ Ice Temperature/Comments: 4.7°C / temp blank 0.6°C (Tb)

6. List of Broken Containers:

<u>None</u>

7. Number of Samples Expected: was NOT notified Number of Samples Received:

8. Problems/Discrepancies: None Cooler 2:
9 seeds
2 waters

9. Resolutions:

N/A

10. Checked in by: Amanda Bnew Date: 8/20/13

large
blue cooler

Ice type: wet
Cooler temp: 4.7°C
Temp blank: 0.6
Thermometer: T6
Custody seal: intact

Sdg 13082001
Cooler 2 of 3



ORIGIN ID:MPJA (879) 893-3446
B & B LABORATORIES
14391 S DOWLING RD STE B
COLLEGE STATION, TX 778453473
UNITED STATES US

SHIP DATE: 19AUG13
ACTWGT: 49.2 LB
CAD: /PCS1400
DIMS: 24x13x13 IN
BILL SENDER

TO B AND B LABS
B AND B LABS
14319 B SOUTH DOWLING RD

COLLEGE STATION TX 77845
(879) 893-3446



2 of 3
MPS# 7958 1581 8020
0681
Mstr# 8022 2781 5777

TUE - 20 AUG 10:30A
PRIORITY OVERNIGHT

XH CLLA

77845
TX-US IAH



B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/20/13 SDG#: 13082001

Sender: Arcadis-Mayflower AR

1. Number of Shipping Containers: 3 Arcadis: Jessica geurts

Comments: 3 of 3, large blue cooler

2. Airbill Present? ☒ Yes ☐ No Shipping Company: Fed Ex

Airbill Number: 7958 1581 8030 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: None

5. General Sample Conditions:
Frozen ☒ Cool ☐ Unrefrigerated
Dry Ice ☐ Blue Ice ☒ Ice
Temperature/Comments: 8.2°C / temp blank 2.4°C (T6)

6. List of Broken Containers:
None

7. Number of Samples Expected: was NOT Number of Samples Received: notified

8. Problems/Discrepancies: None Cooler 3:
8 waters

9. Resolutions: N/A

10. Checked in by: Amanda Brewster Date: 8/20/13



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



Client: ARCADIS

Project ID: B0080022.1301 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: [Signature]

Analyses

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers		Cooler #	Other Instructions
					Type	No.		
✓ SED-DA-022(10-0.5)	8/16/13	845	W	none	1A6	25	2.2	Full List
✓ SED-DA-022(10-0.5)		850	sed		202	1	2	Full List
✓ SED-DA-022(0.5-1.0)		855			402	1	2	44 PAH List
✓ SED-DA-022(1.0-1.5)		900				1	2	
✓ SED-DA-022(1.5-2.0)		905				1	2	
✓ SED-DA-022(2.0-3.0)		910				1	2	
✓ SED-DA-022(3.0-4.5)		930			202	1	2	Full List
✓ SED-DA-022(4.5-10)		935			402	1	2	44 PAH List
✓ SED-DA-022(10-1.5)		940				1	2	
✓ SED-DA-022(15-2.0)		945				1	2	
Total # of Containers						11		

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: <u>Jessica Gaur</u>	<u>ARCADIS</u>	<u>8/16/13</u>	<u>1700</u>	Printed Name: <u>Amanda Brewster</u>	<u>B&B Labs</u>	<u>8/20/13</u>	<u>15:30</u>
Signature: <u>[Signature]</u>				Signature: <u>Amanda Brewster</u>			
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 C = Core B = Bag

CHAIN OF CUSTODY RECORD

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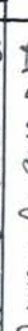
Client: ARCADIS

Project ID: B0886603.1361 Mayflower Pipeline Tacitont

B&B Contact: Juan Ramirez

Sampler Signature: _____

[illegible]

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Jessica Gentry Printed Name  Signature	ARCADES ↓	8/16/13 ↓	1700 ↓	Amanda Brewster Printed Name  Signature	B:B Cabs	8/20/13	15:30
Printed Name Signature				Printed Name Signature			

Matrix:	Sample Container:	Vol./mational

	T = Tissue	G = Gas	G = Glass	C = Core
W = Waste <td></td> <td></td> <td>P = Plastic <td>B = Bag</td> </td>			P = Plastic <td>B = Bag</td>	B = Bag
S = Soil/Sediment				
R = Residue				



CHAIN OF CUSTODY RECORD

Home Office 1439 IB South Dowling Road College Station TX 77845 phone (979) 693-3446 fax (979) 693-6389 http://www.tdi-bi.com



Client: ARCADIS

Project ID: BOO06027.1301 Mayflower Pipeline Incident

B&B Contact: Suan Ramirez

Sampler Signature: [Signature]

Analyses

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers		Cooler #	Other Instructions
					Type	No.		
WUS-025DA (m.d.b.p.H) 8/13/13	8/13/13	1530	W	—	1 Amber	2	PHS	sdy 13082001 Cooler 3 of 3 ①
WUS-026DA (m.d.b.p.H) 8/13/13	8/13/13	1500	W	—	2	1		
WUS-027DA (m.d.b.p.H) 8/13/13	8/13/13	1430	W	—	2	1		
WUS-028DA (m.d.b.p.H) 8/13/13	8/13/13	1300	W	—	2	1		
WUS-029DA (m.d.b.p.H) 8/13/13	8/13/13	1300	W	—	4	3		
WUS-030DA (m.d.b.p.H) 8/13/13	8/13/13	1300	W	—	2	1		
WUS-031DA (m.d.b.p.H) 8/13/13	8/13/13	1315	W	—	2	3		
WUS-DUP-01 DA-0813/13	8/13/13	—	W	—	2	3		
Total # of Containers								

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: <u>Jessica Beurtz</u>	<u>ARCADIS</u>	<u>8/14/13</u>	<u>1730</u>	Printed Name: <u>Amanda Brewster</u>	<u>B&B Labs</u>	<u>8/20/13</u>	<u>15:30</u>
Signature: _____				Signature: <u>Amanda Brewster</u>			
Printed Name: _____				Printed Name: _____			
Signature: _____				Signature: _____			

Sample Container: Vol/Material

G-Glass
P-Plastic
C-Corr
B-Bag

Matrix

T-Tank
S-Soil/Sediment
R-Residue
P-Product
G-Gas
W-Waste
HW-Hazardous Waste
W-Water

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: <u>J13034</u>	Number of Samples: <u>10</u>
SDG: <u>13082001</u>	Matrix: <u>waters</u>
Client: <u>Arcadis-Mayflower</u>	Due Date: <u>45 days: 10/04/13</u>
Initiation Date: <u>8/20/13</u> <u>AR</u>	Comments: <u>collected 8/13-8/16</u>
<u>received 8/20/13</u>	<u>extract by 8/19/13</u>

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 Duplicate	☒ Blank Spike
☒ Matrix Spike Duplicate <u>ARC1913</u>	☒ Matrix Spike <u>ARC1912</u>
☐ Duplicate	

<u>SEE BACK FOR SPECIFIC STANDARDS TO USE</u>	
Surrogate(s): <u>PAH, A-11</u>	Volume(s): <u>100 µl</u>
Spike Standard(s): <u>PAH, A-11</u>	Volume(s): <u>100 µl</u>
Internal Standard(s): <u>PAH, A-11</u>	Volume(s): <u>100 µl</u>
Final Extract Volume (ml): <u>1.0</u>	Final Solvent: <u>XH</u>

Comments: <u>ARC1922 is for PAH, TPH, A-11</u>	
Sample Custodian Signature: <u>Amanda Brewster</u>	Date: <u>8/20/13</u>
Laboratory Manager Signature: <u>[Signature]</u>	Date: <u>8/20/13</u>

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64595	J13034	Arcadis - Mayflower AR	ARC1905	WS-025DA(mid depth)081513	08/15/13	08/20/13	PAH	WATER	1 of 1, bottle 2 received broken	13082001	Cooler 1	Arcadis: Jessica Geurts	1L amber glass BR bottle	B0086003.1302
64596	J13034	Arcadis - Mayflower AR	ARC1906	WS-026DA(mid depth)081513	08/15/13	08/20/13	PAH	WATER	1 of 2	13082001	Cooler 1	Arcadis: Jessica Geurts	1L amber glass BR bottle	B0086003.1302
64598	J13034	Arcadis - Mayflower AR	ARC1908	WS-027DA(mid depth)081513	08/15/13	08/20/13	PAH	WATER	1 of 2	13082001	Cooler 1	Arcadis: Jessica Geurts	1L amber glass BR bottle	B0086003.1302
64600	J13034	Arcadis - Mayflower AR	ARC1910	WS-024DA(mid depth)081313	08/13/13	08/20/13	PAH	WATER	1 of 2	13082001	Cooler 3	Arcadis: Jessica Geurts	1L amber glass BR bottle	B0086003.1302
64602	J13034	Arcadis - Mayflower AR	ARC1912	WS-024DA(mid depth)081313 MS/MSD	08/13/13	08/20/13	PAH	WATER	1 of 4, MS	13082001	Cooler 1	Arcadis: Jessica Geurts	1L amber glass BR bottle	B0086003.1302
64603	J13034	Arcadis - Mayflower AR	ARC1913	WS-024DA(mid depth)081313 MS/MSD	08/13/13	08/20/13	PAH	WATER	2 of 4, MSD	13082001	Cooler 1	Arcadis: Jessica Geurts	1L amber glass BR bottle	B0086003.1302
64606	J13034	Arcadis - Mayflower AR	ARC1916	WS-022DA(surface)081313	08/13/13	08/20/13	PAH	WATER	1 of 2	13082001	Cooler 3	Arcadis: Jessica Geurts	1L amber glass BR bottle	B0086003.1302
64608	J13034	Arcadis - Mayflower AR	ARC1918	WS-023DA(surface)081313	08/13/13	08/20/13	PAH	WATER	1 of 2	13082001	Cooler 3	Arcadis: Jessica Geurts	1L amber glass BR bottle	B0086003.1302
64610	J13034	Arcadis - Mayflower AR	ARC1920	WS-DUP-01DA-081513	08/15/13	08/20/13	PAH	WATER	1 of 2	13082001	Cooler 3	Arcadis: Jessica Geurts	1L amber glass BR bottle	B0086003.1302
64612	J13034	Arcadis - Mayflower AR	ARC1922	SED-DA-EB-10-081613	08/16/13	08/20/13	PAH, TPH, ALI	WATER	1 of 2	13082001	Cooler 2	Arcadis: Jessica Geurts	1L amber glass BR bottle	B0086003.1302

10

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: <u>513034</u> SDG: <u>13082001</u> Client: <u>Arcadis- Mayflower AR</u> Initiation Date: <u>8/20/13</u> <u>received 8/20/13</u>	Number of Samples: <u>9</u> Matrix: <u>sediments</u> Due Date: <u>45 days: 10/04/13</u> Comments: <u>PAH: 44 analytes</u>
--	--

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 ☐ Blank Spike Duplicate ☒ Matrix Spike Duplicate	☒ SRM/LCS <u>1941</u> ☐ Blank Spike ☒ Matrix Spike ☒ Duplicate

<u>SEE BACK FOR SPECIFIC STANDARDS TO USE</u>	
Surrogate(s): <u>PAH, A.C.I.</u>	Volume(s): <u>100ul</u>
Spike Standard(s): <u>PAH, A.C.I.</u>	Volume(s): <u>100ul</u>
Internal Standard(s): <u>PAH, A.C.I.</u>	Volume(s): <u>100ul</u>
Final Extract Volume (ml): <u>1.0</u>	Final Solvent: <u>DCM</u>

Comments:	
Sample Custodian Signature: _____	Date: <u>8/20/13</u>
Laboratory Manager Signature: _____	Date: <u>8/20/13</u>

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64615	J13034	Arcadis - Mayflower AR	ARC1925	SED-DA-022 (0.5-1.0)	08/16/13	08/20/13	PAH	SED	44 analytes	13082001	Cooler 2	Arcadis: Jessica Geurts	4oz clear glass jar	B0086003.1302
64616	J13034	Arcadis - Mayflower AR	ARC1926	SED-DA-022 (1.0-1.5)	08/16/13	08/20/13	PAH	SED	44 analytes	13082001	Cooler 2	Arcadis: Jessica Geurts	4oz clear glass jar	B0086003.1302
64617	J13034	Arcadis - Mayflower AR	ARC1927	SED-DA-022 (1.5-2.0)	08/16/13	08/20/13	PAH	SED	44 analytes	13082001	Cooler 2	Arcadis: Jessica Geurts	4oz clear glass jar	B0086003.1302
64618	J13034	Arcadis - Mayflower AR	ARC1928	SED-DA-022 (2.0-3.0)	08/16/13	08/20/13	PAH	SED	44 analytes	13082001	Cooler 2	Arcadis: Jessica Geurts	4oz clear glass jar	B0086003.1302
64620	J13034	Arcadis - Mayflower AR	ARC1930	SED-DA-023 (0.5-1.0)	08/16/13	08/20/13	PAH	SED	44 analytes	13082001	Cooler 2	Arcadis: Jessica Geurts	4oz amber glass jar	B0086003.1302
64621	J13034	Arcadis - Mayflower AR	ARC1931	SED-DA-023 (1.0-1.5)	08/16/13	08/20/13	PAH	SED	44 analytes	13082001	Cooler 2	Arcadis: Jessica Geurts	4oz amber glass jar	B0086003.1302
64622	J13034	Arcadis - Mayflower AR	ARC1932	SED-DA-023 (1.5-2.0)	08/16/13	08/20/13	PAH	SED	44 analytes	13082001	Cooler 2	Arcadis: Jessica Geurts	4oz amber glass jar	B0086003.1302
64623	J13034	Arcadis - Mayflower AR	ARC1933	SED-DA-023 (2.0-3.0)	08/16/13	08/20/13	PAH	SED	44 analytes	13082001	Cooler 2	Arcadis: Jessica Geurts	4oz amber glass jar	B0086003.1302
64624	J13034	Arcadis - Mayflower AR	ARC1934	SED-DA-023 (3.0-3.1)	08/16/13	08/20/13	PAH	SED	44 analytes	13082001	Cooler 2	Arcadis: Jessica Geurts	4oz amber glass jar	B0086003.1302



B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: <u>J13034</u>	Number of Samples: <u>2</u>
SDG: <u>13082001</u>	Matrix: <u>sediments</u>
Client: <u>Arcadis-Mayflower</u>	Due Date: <u>45 days: 10/04/13</u>
Initiation Date: <u>8/20/13</u> <u>AR</u>	Comments: <u>PAH, TPH, ALI</u>

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 <u>19416</u>
☐ Blank Spike Duplicate	☒ Matrix Spike _____
☒ Matrix Spike Duplicate _____	☒ Duplicate _____

<u>SEE BACK FOR SPECIFIC STANDARDS TO USE</u>	
Surrogate(s): <u>PAH, ALI</u>	Volume(s): <u>100ul</u>
Spike Standard(s): <u>PAH, ALI</u>	Volume(s): <u>100ul</u>
Internal Standard(s): <u>PAH, ALI</u>	Volume(s): <u>100ul</u>
Final Extract Volume (ml): <u>1.0</u>	Final Solvent: <u>DCM</u>

Comments:	
Sample Custodian Signature: <u>Amanda Buehler</u>	Date: <u>8/20/13</u>
Laboratory Manager Signature: _____	Date: <u>8/20/13</u>

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	REC'D	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64614	J13034	Arcadis - Mayflower AR	ARC1924	SED-DA-022 (0-0.5)	08/16/13	08/20/13	PAH, TPH, ALI	SED		13082001	Cooler 2	Arcadis: Jessica Geurts	8oz clear glass jar	B0086003.1302
64619	J13034	Arcadis - Mayflower AR	ARC1929	SED-DA-023 (0-0.5)	08/16/13	08/20/13	PAH, TPH, ALI	SED		13082001	Cooler 2	Arcadis: Jessica Geurts	8oz clear glass jar	B0086003.1302

12

amanda brewster

From: amanda brewster <amandabrewster@tdi-bi.com>
Sent: Tuesday, August 20, 2013 6:45 PM
To: Parmelee, Rhiannon (Rhiannon.Parmelee@arcadis-us.com); Chandler, Jennifer (Jennifer.Chandler@arcadis-us.com); Capria, Dennis (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 8/20/13



COC 8-20-13.pdf

Hi Lyndi,

We received your samples 8/20/13 in good condition.
The internal temperature Cooler 1 was 5.7°C and the temperature blank was 5.1°C.
The internal temperature Cooler 2 was 4.7°C and the temperature blank was 0.6°C.
The internal temperature Cooler 2 was 8.2°C and the temperature blank was 2.4°C.

We received one water sample broken and the sample was lost: WS-025DA(mid depth)081513, bottle 2 of 2

A PDF of the COC is attached for your records.

Regards,
Amanda

Amanda Brewster
Sample Custodian

Please note our new address!

B&B Laboratories
14391B South Dowling Road
College Station, TX 77845

Phone: (979) 693-3446
Fax: (979) 693-6389
Email: amandabrewster@tdi-bi.com

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Laboratory Bench Sheet Logs

B&B LABORATORIES ENVIRONMENTAL EXTRACTION LOG

MATRIX ☐ OTHER ☒ WATER ☐ SEDIMENT ☐ TISSUE		Job #: <u>J13034</u> Client: <u>ARCADIS-Mayflower AR</u> Analysis: ☒ PAH ☐ PESTS ☐ PCB ☒ ALI Other: _____ Extraction Solvent: <u>DCM</u> Final Volume: <u>1.0 mL</u>	SDG #: <u>1308160113082001</u> Surrogate: <u>100</u> μ L PAH: <u>AR-WK-SU-2500-003</u> Pest/PCB: _____ Aliphatic: <u>AL-WK-SU-200-001</u> Other: _____	Spike: <u>100</u> μ L PAH: <u>AR-WK-SK-1000-026</u> Pest/PCB: _____ Aliphatic: <u>AL-WK-SK-100-020</u> Other: _____
General Comments: <u>Report 13-3109</u> <u>Add PAH + ALI standards to all samples. See</u> <u>Comments for specific analysis - CK</u>		GC Int Std: <u>100</u> μ L PAH: <u>AR-WK-S-2500-002</u> Pest/PCB: _____ Aliphatic: <u>AL-WK-S-500-001</u> Other: _____	Turbo Vap II Bath T (C): _____ Pressure (>20psi): _____ Check Water Level: _____ Turbo Vap Date: _____	

Sample Name	Client ID	Wet Wt. (g or μ L)	Dry Wt. %	Dry Wt. (g)	Extraction Comments	Internal Chain of Custody
1 ENV3089A Procedural Blank		1.00				Extraction Prep Date: <u>8-21-13</u> Initials: <u>ER</u>
2 ENV3089B Blank Spike		1.00				Extraction Date: <u>8-21-13</u> Initials: <u>ER</u>
3 ENV3089C Blank Spike Duplicate		1.00				Extraction Date: <u>8-21-13</u> Initials: <u>ER</u>
4 ENV3089D Matrix Spike (ARC1912)		0.94			PAH only	Concentration Date: <u>8-21-13</u> Initials: <u>ER</u>
5 ENV3089E Matrix Spike Dup (ARC1913)		0.92			PAH only	Concentration Date: <u>8-21-13</u> Initials: <u>ER</u>
6 ARC1878 SED-DA-EB-09-081513		1.05			PAH only	Concentration Date: <u>8-21-13</u> Initials: <u>ER</u>
7 ARC1880 SO-DA-EB-06-081513		1.05			PAH only	Concentration Date: <u>8-21-13</u> Initials: <u>ER</u>
8 ARC1905 WS-025DA (mid depth) 081513		1.04			PAH only	Concentration Date: <u>8-21-13</u> Initials: <u>ER</u>
9 ARC1906 WS-026DA (mid depth) 081513		0.97			PAH only	Concentration Date: <u>8-21-13</u> Initials: <u>ER</u>
10 ARC1908 WS-027DA (mid depth) 081513		0.93			PAH only	Concentration Date: <u>8-21-13</u> Initials: <u>ER</u>
11 ARC1910 WS-024DA (mid depth) 081513		1.01			PAH only	Concentration Date: <u>8-21-13</u> Initials: <u>ER</u>
12 ARC1912					original for MS/MSD-PAH	Short Columns Date: <u>8-22-13</u> Initials: <u>ER</u>

ENV 3089

Page 1 of 2

Sample Name	Client ID	Wet Wt. (g or L)	Dry Wt. %	Dry Wt. (g)	Extraction Comments	Internal Chain of Custody
APC1913						Concentration Short Columns Date: 8-22-13 Initials: <i>ca</i>
APC1916	WS-022DA (surface) 081313	0.97			PAH only	
APC1918	WS-023DA (surface) 081313	0.95			PAH only	
APC1920	WS-DUP-01DA-081313	0.87			PAH only	Columns SA1 Date: <i>8/22/13</i> Initials: <i>ca</i>
APC1922	SED-DA-EB-10-081613	1.03				
18						
19						Concentration SA1 Date: <i>8/22/13</i> Initials: <i>ca</i>
20						
21						
22						Columns SA2 Date: <i>8/22/13</i> Initials: <i>ca</i>
23						
24						Concentration SA2 Date: <i>8/22/13</i> Initials: <i>ca</i>

Dry Weight Page

Lipid/EOM Page

Clean-up/Separation/Other Columns

Lot Numbers
DCM: 52314
Hexane: _____
Hydromatrix: _____
Water: DIS14-F
Silica: BCBJ9443V
Alumina: TG14BZEM5
Sodium Sulfate: 2092C525
Pentane: _____
Copper: _____
Hydrochloric Acid: 52144
SPE Columns: _____
Other: _____

Sample Storage Box #
J13034-3

HPLC Storage Box #

QC Review
Date: 8/23/13
Initials: <i>ca</i>

Copied to Folders
8/26/13 <i>ca</i>

Post-HPLC Concentration
Date: <i>8/23/13</i>
Initials: <i>ca</i>
Final Extract Transfer
Date: <i>8/23/13</i>
Initials: <i>ca</i>

B&B LABORATORIES EOM LOGBOOK

MATRIX OTHER SEDIMENT WATER	Job #:	SDG #:	General comments:							
	Date/Int:	Lab Manager	Transferred by:	Date/Int:						
	J13034	3/26/13 JH	8/23/13 From ENV Pg: ENV3089 From DRY Pg:	8/23/13 CK						
	Client: Arcadis - Mayflower AR									
Sample Name	Client ID	Smpl Wt. (g) 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 ENV3089A Procedural Blank		1.00		3	30.321	30.321	0.000	0		
2 ENV3089B Blank Spike		1.00		3	29.893	29.907	0.014	420		
3 ENV3089C Blank Spike Duplicate		1.00		3	30.296	30.310	0.014	420		
4 ENV3089D Matrix Spike (ARC1912)		0.94		3	29.697	29.719	0.022	702		
5 ENV3089E Matrix Spike Dup (ARC1913)		0.92		3	29.322	29.349	0.027	880		
6 ARC1878 SED-DA-EB-09-081513		1.05		3	28.968	28.982	0.014	400		
7 ARC1880 SO-DA-EB-06-081513		1.045		3	29.953	29.972	0.019	543		
8 ARC1905 WS-025DA (mid depth)		1.04		3	30.670	30.830	0.160	4615		
9 ARC1906 WS-026DA (mid depth)		0.97		3	30.551	30.586	0.035	1082		
10 ARC1908 WS-027DA (mid depth)		0.93		3	29.996	30.087	0.091	2935		
11 ARC1910 WS-024DA (mid depth)		1.01		3	30.598	30.624	0.026	772		
12 ARC1916 WS-022DA (surface)		0.97		3	30.282	30.310	0.058	1794		

EOM 1028

Page 1 of 2

[illegible]

$$\text{EOM} = \frac{(\text{EOM Wt. (mg)}) (\text{Final Extract Vol. (ml)})}{(\text{Smpl WtVol. (g/L)}) (0.10 \text{ ml})} \times \frac{1000}{(\text{EOM}_1 + \text{EOM}_2) \times 0.5} \times 100\%$$

	Initial Filter Wt (mg)	Filter & Sample Wt (mg)	Wt. of 100 μ l Lipid Wt. (mg)
Solvent Blank	30.243	30.243	0.000
EOM Standard	29.817	40.160	10.343

The Relative Percent Difference (RPD) between duplicates must be $\leq 25\%$.

Date/Int:	RPD
Sample:	
Duplicate:	

50M-WKLC-10-004

Last Page