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

Arcadis
Mayflower AR Project
(Contract # B0086003.1302)
August 7, 2013 through August 11, 2013
Collection Dates

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

(QC Batch ENV 3080)

September 13, 2013

Technical Report 13-3099

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Introduction

B&B Laboratories received a shipment of two (2) ice chests that were sent by Daniel Mays of Arcadis using FedEx on August 8, 2013 and arrived on August 9, 2013 in College Station, Texas. The ice chests arrived sealed and in good condition.

Cooler Number	Temperature	Samples Received
1	0.3°C 1.1°C (Temp Blank)	Thirteen (13) sediments in 8oz or 4oz jars Three (3) 1L water samples in B/R amber bottles.
2	0.2°C 1.2°C (Temp Blank)	Twenty (20) sediments in 8oz or 4oz jars Two (2) 1L water samples in B/R amber bottles.

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

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

The water and sediment samples were collected between August 7, 2013 and August 12, 2013 in support of the Mayflower AR, Project (Arcadis-US Contract #B0086003.1302). The water samples were logged in according to B&B Laboratories standard operating procedure (B&B 1009) and were stored in an access-controlled refrigerator (4.0°C) prior to analysis. The sediment 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 C_9 to C_{40} Aliphatic Hydrocarbons (ALI) by GC/FID, Polycyclic Aromatic Hydrocarbons (PAH) by GC/MS-SIM, and selected biological markers by GC/MS-SIM.

The analytical results for 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
I	Analytical interference
J	Analyte detected below the method detection limit
NA	Not Applicable
U	Analyte not detected
X	Analyte <3X MDL
Y	Spiked level of analyte <50% of the native concentration
*	Outside QA limits, refer to narrative

Table 4. Method Detection Limits.

Aliphatics	**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 Sample size Unit of measure	**Water MDLs** 1.0L, 1mL final extract 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 Unit of measure	Water MDLs 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-Methylanthracene	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 of10 ng/g.

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

Quality Assurance/Quality Control Variances - 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.

Laboratory Control Standard (Solution and Petroleum)

Observation

- No variances were observed.

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 ≤30%. No more than 2 analytes may exceed 40-120%	Evaluate impact to data, discuss with manager to determine if corrective action is needed.
Blank Spike/Blank Spike Duplicate	One per batch/every 20 field samples	%R 40% - 120% for target analytes; RPD ≤30%. No more than 2 analytes may exceed 40-120%	Evaluate impact to data, discuss with lab manager to determine if corrective action is needed.
Procedural Blank	One per batch/every 20 field samples	No more than 2 analytes to exceed 3x MDL unless analyte not detected in associated sample(s) or analyte concentration >10x blank value	Resolve before proceeding. QA coordinator may be contacted to resolve issues.
Laboratory Duplicate (not required for aqueous samples)	One per batch/every 20 field samples	RPD ≤ 30% if analyte concentration is 3x greater than the MDL, no more than 2 individual analyte RPDs with conc. 3x MDL can exceed 35%.	Evaluate impact to data, discuss with lab manager to determine if corrective action is needed.
Mass Discrimination	Initial calibration and CCVs (mid-level)	Ratio for the raw areas of n-C36 / n-C20 ≥0.70	Resolve before proceeding.
Internal Standard (IS)	Every sample	50% - 200% of the area of the IS in the associated calibration standard	Resolve before proceeding.
Surrogates	Every sample	%R 40-120%	Re-extract affected samples. Evaluate impact to data, discuss with lab manager, determine if corrective action is needed.

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

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

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

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

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

Juan A. Ramirez
Environmental Laboratory Manager

Donell S. Frank
Project Quality Manager

Sample/Analyses Description

B&B Laboratories
Project J13034
Report 13-3099

Arcadis - Mayflower AR
Sample Inventory

Client Project #B0086003.1302

#	File Number	Client Identification	Collection Date	Received Date	Analysis	Matrix	Comments	B&B SDG	Client Project #
1	ARC1762	SO-DA-EB-02-080713	08/07/13	08/09/13	PAH	Water	44 analytes, 1 of 1	13080901	B0086003.1302
2	ARC1763	SO-DA-EB-03-080813	08/08/13	08/09/13	PAH	Water	44 analytes, 1 of 2	13080901	B0086003.1302
3	ARC1765	SED-DA-EB-07-080913	08/09/13	08/13/13	PAH, TPH, ALI	Water	1 of 2	13081301	B0086003.1302
4	ARC1767	SED-DA-DI-Water	08/09/13	08/13/13	PAH, TPH, ALI	Water	1 of 2	13081301	B0086003.1302
5	ARC1769	SED-DA-EB-08-081013	08/10/13	08/13/13	PAH, TPH, ALI	Water	1 of 2	13081301	B0086003.1302
6	ARC1771	SO-DA-EB-04-081113	08/11/13	08/13/13	PAH	Water	44 analytes, 1 of 2	13081301	B0086003.1302

Water Samples

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

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

Sample Name	ARC1765.D	ARC1767.D	ARC1769.D
Client Name	SED-DA-EB-07-080913	SED-DA-DI-Water	SED-DA-EB-08-081013
Matrix	Water	Water	Water
Collection Date	08/09/13	08/09/13	08/10/13
Received Date	08/13/13	08/13/13	08/13/13
Extraction Date	08/13/13	08/13/13	08/13/13
Extraction Batch	ENV 3080	ENV 3080	ENV 3080
Date Acquired	16-Aug-2013, 15:08:47	16-Aug-2013, 16:19:32	16-Aug-2013, 17:30:16
Method	ALI2012.M	ALI2012.M	ALI2012.M
Sample Volume (L)	1.07	1.05	1.07
Dilution	1X	1X	1X

Target Compounds	Su. Corrected Conc. (µg/L)	Q	Su. Corrected Conc. (µg/L)	Q	Su. Corrected Conc. (µg/L)	Q
n-C9	<0.288	U	<0.288	U	<0.288	U
n-C10	<0.252	U	<0.252	U	<0.252	U
n-C11	<0.251	U	<0.251	U	<0.251	U
n-C12	<0.266	U	<0.266	U	<0.266	U
n-C13	<0.258	U	<0.258	U	<0.258	U
i-C15	<0.256	U	<0.256	U	<0.256	U
n-C14	<0.277	U	<0.277	U	<0.277	U
i-C16	<0.234	U	<0.234	U	<0.234	U
n-C15	<0.256	U	<0.256	U	<0.256	U
n-C16	<0.234	U	<0.234	U	<0.234	U
i-C18	<0.1	U	<0.1	U	<0.1	U
n-C17	<0.174	U	<0.174	U	<0.174	U
Pristane	<0.19	U	<0.19	U	<0.19	U
n-C18	<0.1	U	<0.1	U	<0.1	U
Phytane	<0.201	U	<0.201	U	<0.201	U
n-C19	<0.073	U	<0.073	U	<0.073	U
n-C20	<0.077	U	<0.077	U	<0.077	U
n-C21	<0.081	U	<0.081	U	<0.081	U
n-C22	<0.15	U	<0.15	U	<0.15	U
n-C23	<0.117	U	<0.117	U	<0.117	U
n-C24	<0.069	U	<0.069	U	<0.069	U
n-C25	<0.066	U	<0.066	U	<0.066	U
n-C26	<0.07	U	<0.07	U	<0.07	U
n-C27	<0.069	U	<0.069	U	<0.069	U
n-C28	<0.077	U	<0.077	U	<0.077	U
n-C29	<0.087	U	<0.087	U	<0.087	U
n-C30	<0.081	U	<0.081	U	<0.081	U
n-C31	<0.126	U	<0.126	U	<0.126	U
n-C32	<0.083	U	<0.083	U	<0.083	U
n-C33	<0.282	U	<0.282	U	<0.282	U
n-C34	<0.106	U	<0.106	U	<0.106	U
n-C35	<0.112	U	<0.112	U	<0.112	U
n-C36	<0.113	U	<0.113	U	<0.113	U
n-C37	<0.148	U	<0.148	U	<0.148	U
n-C38	<0.127	U	<0.127	U	<0.127	U
n-C39	<0.16	U	<0.16	U	<0.16	U
n-C40	<0.144	U	<0.144	U	<0.144	U
Total Alkanes		U		U		U
Total Petroleum Hydrocarbons	<13	U	<13	U	<13	U
Total Resolved Hydrocarbons	<13	U	<13	U	<13	U
Unresolved Complex Mixture	<13	U	<13	U	<13	U
EOM (µg/L)	252		171		196	

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)	Su Recovery (%)
n-dodecane-d26	75	71	77
n-eicosane-d42	94	98	98
n-triacontane-d62	92	99	99

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

Sample Name	ENV3080A.D
Client Name	Procedural Blank
Matrix	Water
Collection Date	NA
Received Date	NA
Extraction Date	08/13/13
Extraction Batch	ENV 3080
Date Acquired	16-Aug-2013, 11:36:47
Method	ALI2012.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
Total Resolved Hydrocarbons	<13	U		39.0	13
Unresolved Complex Mixture	<13	U		39.0	13
EOM (µg/L)	<100	U		300	100

Surrogate (Su)	Su Recovery (%)
n-dodecane-d26	80
n-eicosane-d42	98
n-triacontane-d62	99

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

Sample Name	ENV3080B.D	ENV3080C.D
Client Name	Blank Spike	Blank Spike Duplicate
Matrix	Water	Water
Collection Date	NA	NA
Received Date	NA	NA
Extraction Date	08/13/13	08/13/13
Extraction Batch	ENV 3080	ENV 3080
Date Acquired	16-Aug-2013, 12:47:23	16-Aug-2013, 13:58:00
Method	ALI2012.M	ALI2012.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	7.31	73		6.51	65		12		10.0
n-C10	7.86	79		6.93	69		13		10.0
n-C11	8.32	84		7.33	74		13		9.90
n-C12	8.34	83		7.35	73		13		10.0
n-C13	8.63	86		7.63	76		12		10.0
n-C14	8.84	90		8.01	81		10		9.86
n-C15	9.57	96		8.80	88		8		9.98
n-C16	10.2	102		9.39	94		8		10.0
n-C17	10.7	107		9.9	100		8		9.94
Pristane	10.7	108		9.9	100		8		9.90
n-C18	11.1	111		10.3	103		7		10.0
Phytane	11.0	111		10.3	103		7		9.91
n-C19	11.2	112		10.4	104		7		10.0
n-C20	11.1	111		10.4	104		7		10.0
n-C21	11.0	110		10.3	103		7		10.0
n-C22	11.1	112		10.4	104		7		9.95
n-C23	11.0	111		10.3	104		6		9.91
n-C24	11.0	109		10.3	103		6		10.0
n-C25	11.0	110		10.4	104		6		10.0
n-C26	11.0	111		10.4	105		6		10.0
n-C27	11.0	111		10.4	106		5		9.89
n-C28	11.1	111		10.6	106		5		10.0
n-C29	10.9	108		10.4	104		4		10.0
n-C30	10.9	109		10.3	103		6		10.0
n-C31	11.0	110		10.4	104		6		10.0
n-C32	10.9	109		10.3	102		6		10.0
n-C33	11.0	110		10.4	104		6		10.0
n-C34	11.1	110		10.4	104		6		10.0
n-C35	11.3	112		10.6	106		6		10.0
n-C36	11.2	113		10.5	106		7		9.90
n-C37	11.6	116		10.9	109		7		10.0
n-C38	11.7	117		10.8	108		8		10.0
n-C39	11.7	117		10.6	106		10		10.0
n-C40	11.9	119		11.0	110		8		10.0
Average %Recovery		106			98				

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)
n-dodecane-d26	71	76
n-eicosane-d42	93	100
n-triacontane-d62	98	99

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

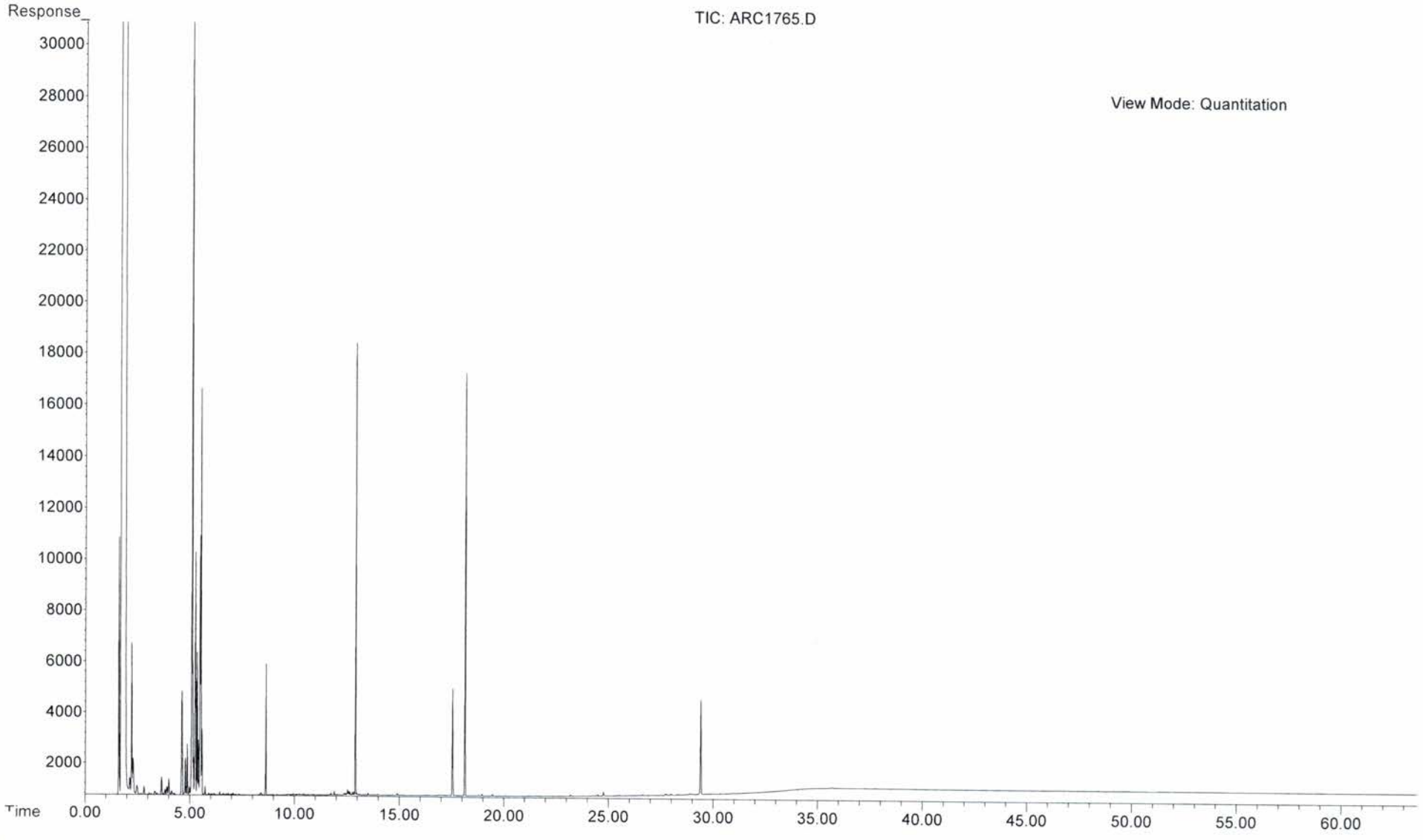
Sample Name	FID10079C.D
Client Name	AL-SRM2779-20-01
Matrix	Reference Oil
Collection Date	NA
Received Date	NA
Extraction Date	08/13/13
Extraction Batch	ENV 3080
Date Acquired	15-Aug-2013, 22:38:15
Method	ALI2012.M
Sample Dry Weight (mg)	20.0
Sample Wet Weight (mg)	NA
% Dry	NA
% Moisture	NA
% Lipid (dry)	NA
% Lipid (wet)	NA
Dilution	1X

Target Compounds	Su. Corrected Conc. (µg/mg)	Q	Q	RPD (%)	B&B Average	-20% Conc. (µg/mg)	+20% Conc. (µg/mg)
n-C9	13.9			3	13.5	10.8	16.2
n-C10	12.3			3	12.0	9.60	14.4
n-C11	11.3			4	10.8	8.64	13.0
n-C12	9.91			1	9.82	7.86	11.8
n-C13	8.86			5	8.41	6.73	10.1
i-C15	1.91			2	1.95	1.56	2.34
n-C14	7.47			3	7.70	6.16	9.24
i-C16	2.81			5	2.95	2.36	3.54
n-C15	7.38			2	7.23	5.78	8.68
n-C16	6.01			2	6.15	4.92	7.38
i-C18	1.48			5	1.56	1.25	1.87
n-C17	5.00			6	4.69	3.75	5.63
Pristane	2.62			8	2.42	1.94	2.90
n-C18	4.02			5	3.84	3.07	4.61
Phytane	1.53			2	1.51	1.21	1.81
n-C19	3.80			9	3.47	2.78	4.16
n-C20	3.09			8	2.84	2.27	3.41
n-C21	2.59			9	2.37	1.90	2.84
n-C22	2.24			9	2.04	1.63	2.45
n-C23	1.99			8	1.84	1.47	2.21
n-C24	1.77			7	1.66	1.33	1.99
n-C25	1.47			7	1.37	1.10	1.64
n-C26	1.24			9	1.13	0.904	1.36
n-C27	0.989			10	0.892	0.714	1.07
n-C28	0.816			5	0.776	0.621	0.931
n-C29	0.776			5	0.739	0.591	0.887
n-C30	0.678			2	0.666	0.533	0.799
n-C31	0.577			7	0.539	0.431	0.647
n-C32	0.419			6	0.443	0.354	0.532
n-C33	0.503			7	0.467	0.374	0.560
n-C34	0.453			6	0.428	0.342	0.514
n-C35	0.353			3	0.342	0.274	0.410
n-C36	0.227	J		7	0.211	0.169	0.253
n-C37	0.218	J		6	0.206	0.165	0.247
n-C38	0.165	J		4	0.172	0.138	0.206
n-C39	0.155	J		9	0.169	0.135	0.203
n-C40	0.171	J		3	0.176	0.141	0.211
Total Petroleum Hydrocarbons	616			1	607	484	726

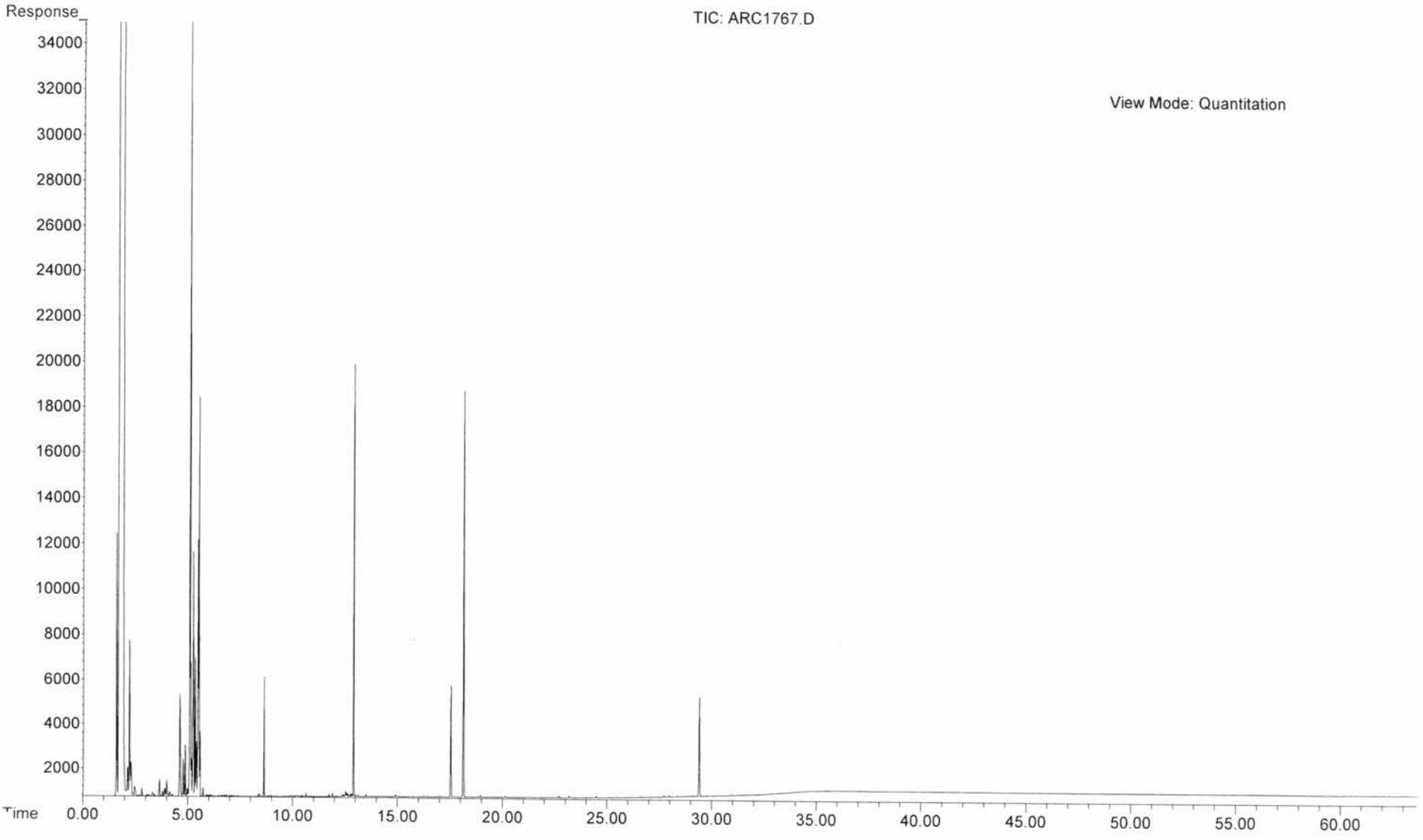
Surrogate (Su)	Su Recovery (%)
n-dodecane-d26	92
n-eicosane-d42	96
n-triacontane-d62	97

Total Petroleum Hydrocarbons Chromatograms

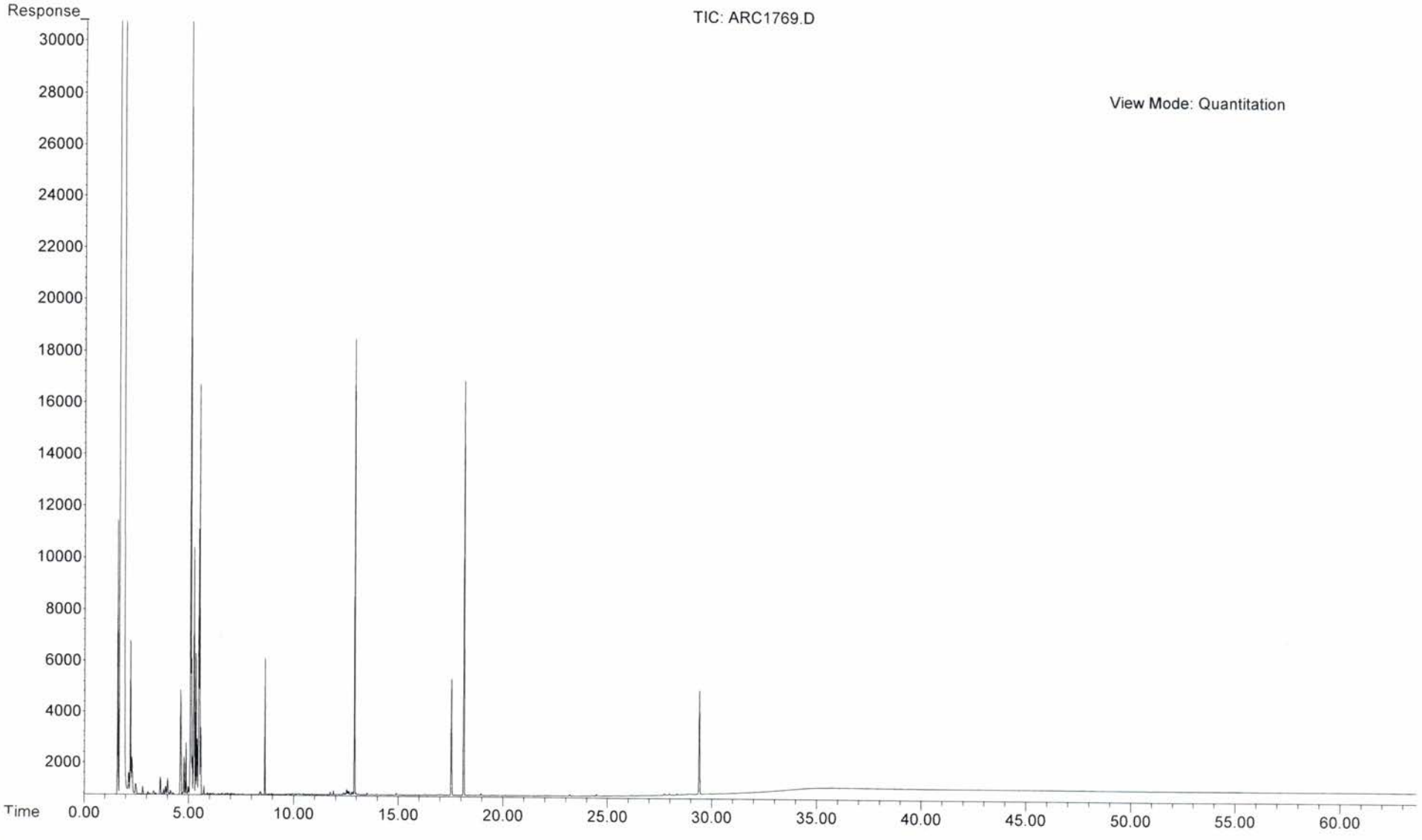
File :P:\2013\J13034\Aliphatics\ENV 3080\FID10079\ARC1765.D
Operator : Meghan Dailey
Acquired : 16-Aug-2013, 15:08 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: SED-DA-EB-07-080913
Misc Info :
Vial Number: 66



File :P:\2013\J13034\Aliphatics\ENV 3080\FID10079\ARC1767.D
Operator : Meghan Dailey
Acquired : 16-Aug-2013, 16:19 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: SED-DA-DI-Water
Misc Info :
Vial Number: 67



File :P:\2013\J13034\Aliphatics\ENV 3080\FID10079\ARC1769.D
Operator : Meghan Dailey
Acquired : 16-Aug-2013, 17:30 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: SED-DA-EB-08-081013
Misc Info :
Vial Number: 68



Polycyclic Aromatic Hydrocarbon Concentration

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1762.D	ARC1763.D	ARC1765.D	ARC1767.D	ARC1769.D
Client Name	SO-DA-EB-02-080713	SO-DA-EB-03-080813	SED-DA-EB-07-080913	SED-DA-DI-Water	SED-DA-EB-08-081013
Matrix	Water	Water	Water	Water	Water
Collection Date	08/07/13	08/08/13	08/09/13	08/09/13	08/10/13
Received Date	08/09/13	08/09/13	08/13/13	08/13/13	08/13/13
Extraction Date	08/13/13	08/13/13	08/13/13	08/13/13	08/13/13
Extraction Batch	ENV 3080	ENV 3080	ENV 3080	ENV 3080	ENV 3080
Date Acquired	8/20/13 23:03	8/21/13 0:11	8/21/13 1:20	8/21/13 2:28	8/21/13 4:45
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Volume (L)	1.04	1.04	1.07	1.05	1.07
% Dry	NA	NA	NA	NA	NA
% Moisture	NA	NA	NA	NA	NA
Dilution	1X	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	Su. Corrected Conc. (ng/L)	Q
cis/trans Decalin	NA		NA		<1.1	U	<1.1	U	<1.1	U
C1-Decalins	NA		NA		<2.3	U	<2.3	U	<2.3	U
C2-Decalins	NA		NA		<2.3	U	<2.3	U	<2.3	U
C3-Decalins	NA		NA		<2.3	U	<2.3	U	<2.3	U
C4-Decalins	NA		NA		<2.3	U	<2.3	U	<2.3	U
Naphthalene	118		77.4		130		108		203	
C1-Naphthalenes	1.80		1.52		2.13		2.04		1.89	
C2-Naphthalenes	<5.8	U	<5.8	U	<5.8	U	<5.8	U	<5.8	U
C3-Naphthalenes	<5.8	U	<5.8	U	<5.8	U	<5.8	U	<5.8	U
C4-Naphthalenes	<5.8	U	<5.8	U	<5.8	U	<5.8	U	<5.8	U
Benzothiophene	NA		NA		<1.3	U	<1.3	U	<1.3	U
C1-Benzothiophenes	NA		NA		<2.6	U	<2.6	U	<2.6	U
C2-Benzothiophenes	NA		NA		<2.6	U	<2.6	U	<2.6	U
C3-Benzothiophenes	NA		NA		<2.6	U	<2.6	U	<2.6	U
C4-Benzothiophenes	NA		NA		<2.6	U	<2.6	U	<2.6	U
Biphenyl	NA		NA		1.21	J	0.99	J	1.26	J
Acenaphthylene	<1.2	U	<1.2	U	<1.2	U	<1.2	U	<1.2	U
Acenaphthene	<1.4	U	<1.4	U	<1.4	U	<1.4	U	<1.4	U
Dibenzofuran	NA		NA		1.31		0.82	J	0.93	J
Fluorene	0.66	J	0.66	J	0.73	J	0.62	J	0.66	J
C1-Fluorenes	<1.6	U	<1.6	U	<1.6	U	<1.6	U	<1.6	U
C2-Fluorenes	<1.6	U	<1.6	U	<1.6	U	<1.6	U	<1.6	U
C3-Fluorenes	<1.6	U	<1.6	U	<1.6	U	<1.6	U	<1.6	U
Carbazole	NA		NA		<0.8	U	<0.8	U	<0.8	U
Anthracene	<0.8	U	0.186	J	<0.8	U	<0.8	U	<0.8	U
Phenanthrene	3.09		3.04		4.42		2.75		2.91	
C1-Phenanthrenes/Anthracenes	<0.7	U	<0.7	U	<0.7	U	<0.7	U	<0.7	U
C2-Phenanthrenes/Anthracenes	<3	U	<3	U	<3	U	<3	U	<3	U
C3-Phenanthrenes/Anthracenes	<3	U	<3	U	<3	U	<3	U	<3	U
C4-Phenanthrenes/Anthracenes	<3	U	<3	U	<3	U	<3	U	<3	U
Dibenzothiophene	<0.8	U	<0.8	U	<0.8	U	<0.8	U	<0.8	U
C1-Dibenzothiophenes	<0.7	U	<0.7	U	<0.7	U	<0.7	U	<0.7	U
C2-Dibenzothiophenes	<1.3	U	<1.3	U	<1.3	U	<1.3	U	<1.3	U
C3-Dibenzothiophenes	<1.3	U	<1.3	U	<1.3	U	<1.3	U	<1.3	U
C4-Dibenzothiophenes	<1.3	U	<1.3	U	<1.3	U	<1.3	U	<1.3	U
Fluoranthene	1.03	J	0.81	J	1.13		0.87	J	1.04	J
Pyrene	1.11	J	1.17	J	1.46		0.97	J	1.15	J
C1-Fluoranthenes/Pyrenes	<2.5	U	<2.5	U	<2.5	U	<2.5	U	<2.5	U
C2-Fluoranthenes/Pyrenes	<2.5	U	<2.5	U	<2.5	U	<2.5	U	<2.5	U
C3-Fluoranthenes/Pyrenes	<2.5	U	<2.5	U	<2.5	U	<2.5	U	<2.5	U
C4-Fluoranthenes/Pyrenes	<2.5	U	<2.5	U	<2.5	U	<2.5	U	<2.5	U
Naphthobenzothiophene	NA		NA		<1	U	<1	U	<1	U
C1-Naphthobenzothiophenes	NA		NA		<2.1	U	<2.1	U	<2.1	U
C2-Naphthobenzothiophenes	NA		NA		<2.1	U	<2.1	U	<2.1	U
C3-Naphthobenzothiophenes	NA		NA		<2.1	U	<2.1	U	<2.1	U
C4-Naphthobenzothiophenes	NA		NA		<2.1	U	<2.1	U	<2.1	U
Benz(a)anthracene	<0.7	U	<0.7	U	<0.7	U	<0.7	U	<0.7	U
Chrysene/Triphenylene	<0.8	U	<0.8	U	<0.8	U	<0.8	U	<0.8	U
C1-Chrysenes	<1.6	U	<1.6	U	<1.6	U	<1.6	U	<1.6	U
C2-Chrysenes	<1.6	U	<1.6	U	<1.6	U	<1.6	U	<1.6	U
C3-Chrysenes	<1.6	U	<1.6	U	<1.6	U	<1.6	U	<1.6	U
C4-Chrysenes	<1.6	U	<1.6	U	<1.6	U	<1.6	U	<1.6	U
Benzo(b)fluoranthene	<2.4	U	<2.4	U	<2.4	U	<2.4	U	<2.4	U
Benzo(k,j)fluoranthene	<2.5	U	<2.5	U	<2.5	U	<2.5	U	<2.5	U
Benzo(a)fluoranthene	NA		NA		<2.5	U	<2.5	U	<2.5	U
Benzo(e)pyrene	<2.7	U	<2.7	U	<2.7	U	<2.7	U	<2.7	U
Benzo(a)pyrene	<1.9	U	<1.9	U	<1.9	U	<1.9	U	<1.9	U
Perylene	<0.6	U	<0.6	U	<0.6	U	<0.6	U	<0.6	U
Indeno(1,2,3-c,d)pyrene	<1.4	U	<1.4	U	<1.4	U	<1.4	U	<1.4	U
Dibenzo(a,h)anthracene	<1.1	U	<1.1	U	<1.1	U	<1.1	U	<1.1	U
Benzo(g,h,i)perylene	<2.5	U	<2.5	U	<2.5	U	<2.5	U	<2.5	U
Total PAHs	125		84.8		142		117		212	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1762.D	ARC1763.D	ARC1765.D	ARC1767.D	ARC1769.D
Client Name	SO-DA-EB-02-080713	SO-DA-EB-03-080813	SED-DA-EB-07-080913	SED-DA-DI-Water	SED-DA-EB-08-081013
Matrix	Water	Water	Water	Water	Water
Collection Date	08/07/13	08/08/13	08/09/13	08/09/13	08/10/13
Received Date	08/09/13	08/09/13	08/13/13	08/13/13	08/13/13
Extraction Date	08/13/13	08/13/13	08/13/13	08/13/13	08/13/13
Extraction Batch	ENV 3080	ENV 3080	ENV 3080	ENV 3080	ENV 3080
Date Acquired	8/20/13 23:03	8/21/13 0:11	8/21/13 1:20	8/21/13 2:28	8/21/13 4:45
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Volume (L)	1.04	1.04	1.07	1.05	1.07
% Dry	NA	NA	NA	NA	NA
% Moisture	NA	NA	NA	NA	NA
Dilution	1X	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	Su. Corrected Conc. (ng/L)	Q
Individual Alkyl Isomers and Hopanes										
2-Methylnaphthalene	1.73		1.53		2.21		1.79		1.58	
1-Methylnaphthalene	1.09	J	0.857	J	1.11	J	1.42		1.41	J
2,6-Dimethylnaphthalene	NA		NA		<0.7	U	<0.7	U	<0.7	U
1,6,7-Trimethylnaphthalene	NA		NA		<0.7	U	<0.7	U	<0.7	U
1-Methylfluorene	NA		NA		<1.5	U	<1.5	U	<1.5	U
4-Methyldibenzothiophene	NA		NA		<1	U	<1	U	<1	U
2/3-Methyldibenzothiophene	NA		NA		<1	U	<1	U	<1	U
1-Methyldibenzothiophene	NA		NA		<1	U	<1	U	<1	U
3-Methylphenanthrene	NA		NA		<0.9	U	<0.9	U	<0.9	U
2-Methylphenanthrene	NA		NA		<0.9	U	<0.9	U	<0.9	U
2-Methylanthracene	NA		NA		<0.9	U	<0.9	U	<0.9	U
4/9-Methylphenanthrene	NA		NA		<0.9	U	<0.9	U	<0.9	U
1-Methylphenanthrene	NA		NA		<0.9	U	<0.9	U	<0.9	U
3,6-Dimethylphenanthrene	NA		NA		<1.7	U	<1.7	U	<1.7	U
Retene	NA		NA		<1.6	U	<1.6	U	<1.6	U
2-Methylfluoranthene	NA		NA		<1.1	U	<1.1	U	<1.1	U
Benzo(b)fluorene	NA		NA		<1.4	U	<1.4	U	<1.4	U
C29-Hopane	NA		NA		<8.2	U	<8.2	U	<8.2	U
18a-Oleanane	NA		NA		<8.2	U	<8.2	U	<8.2	U
C30-Hopane	NA		NA		<8.2	U	<8.2	U	<8.2	U
C20-TAS	NA		NA		<2.6	U	<2.6	U	<2.6	U
C21-TAS	NA		NA		<2.6	U	<2.6	U	<2.6	U
C26(20S)-TAS	NA		NA		<2.6	U	<2.6	U	<2.6	U
C26(20R)/C27(20S)-TAS	NA		NA		<2.6	U	<2.6	U	<2.6	U
C28(20S)-TAS	NA		NA		<2.6	U	<2.6	U	<2.6	U
C27(20R)-TAS	NA		NA		<2.6	U	<2.6	U	<2.6	U
C28(20R)-TAS	NA		NA		<2.6	U	<2.6	U	<2.6	U
Surrogate Recovery										
Naphthalene-d8	82		81		70		83		86	
Acenaphthene-d10	83		81		71		82		83	
Phenanthrene-d10	98		98		90		102		102	
Chrysene-d12	75		74		66		72		71	
Perylene-d12	79		78		70		79		80	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1771.D
Client Name	SO-DA-EB-04-081113
Matrix	Water
Collection Date	08/11/13
Received Date	08/13/13
Extraction Date	08/13/13
Extraction Batch	ENV 3080
Date Acquired	8/21/13 5:54
Method	PAH-2012.M
Sample Volume (L)	1.02
% Dry	NA
% Moisture	NA
Dilution	1X

Target Compounds	Su. Corrected Conc. (ng/L)	Q
cis/trans Decalin	NA	
C1-Decalins	NA	
C2-Decalins	NA	
C3-Decalins	NA	
C4-Decalins	NA	
Naphthalene	162	
C1-Naphthalenes	2.13	
C2-Naphthalenes	<5.8	U
C3-Naphthalenes	<5.8	U
C4-Naphthalenes	<5.8	U
Benzothiophene	NA	
C1-Benzothiophenes	NA	
C2-Benzothiophenes	NA	
C3-Benzothiophenes	NA	
C4-Benzothiophenes	NA	
Biphenyl	NA	
Acenaphthylene	<1.2	U
Acenaphthene	<1.4	U
Dibenzofuran	NA	
Fluorene	0.70	J
C1-Fluorenes	<1.6	U
C2-Fluorenes	<1.6	U
C3-Fluorenes	<1.6	U
Carbazole	NA	
Anthracene	<0.8	U
Phenanthrene	3.37	
C1-Phenanthrenes/Anthracenes	<0.7	U
C2-Phenanthrenes/Anthracenes	<3	U
C3-Phenanthrenes/Anthracenes	<3	U
C4-Phenanthrenes/Anthracenes	<3	U
Dibenzothiophene	<0.8	U
C1-Dibenzothiophenes	<0.7	U
C2-Dibenzothiophenes	<1.3	U
C3-Dibenzothiophenes	<1.3	U
C4-Dibenzothiophenes	<1.3	U
Fluoranthene	0.85	J
Pyrene	1.30	J
C1-Fluoranthenes/Pyrenes	<2.5	U
C2-Fluoranthenes/Pyrenes	<2.5	U
C3-Fluoranthenes/Pyrenes	<2.5	U
C4-Fluoranthenes/Pyrenes	<2.5	U
Naphthobenzothiophene	NA	
C1-Naphthobenzothiophenes	NA	
C2-Naphthobenzothiophenes	NA	
C3-Naphthobenzothiophenes	NA	
C4-Naphthobenzothiophenes	NA	
Benz(a)anthracene	<0.7	U
Chrysene/Triphenylene	<0.8	U
C1-Chrysenes	<1.6	U
C2-Chrysenes	<1.6	U
C3-Chrysenes	<1.6	U
C4-Chrysenes	<1.6	U
Benzo(b)fluoranthene	<2.4	U
Benzo(k,j)fluoranthene	<2.5	U
Benzo(a)fluoranthene	NA	
Benzo(e)pyrene	<2.7	U
Benzo(a)pyrene	<1.9	U
Perylene	<0.6	U
Indeno(1,2,3-c,d)pyrene	<1.4	U
Dibenzo(a,h)anthracene	<1.1	U
Benzo(g,h,i)perylene	<2.5	U
Total PAHs	170	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1771.D
Client Name	SO-DA-EB-04-081113
Matrix	Water
Collection Date	08/11/13
Received Date	08/13/13
Extraction Date	08/13/13
Extraction Batch	ENV 3080
Date Acquired	8/21/13 5:54
Method	PAH-2012.M
Sample Volume (L)	1.02
% Dry	NA
% Moisture	NA
Dilution	1X

Target Compounds	Su. Corrected Conc. (ng/L)	Q
Individual Alkyl Isomers and Hopanes		
2-Methylnaphthalene	2.02	
1-Methylnaphthalene	1.33	J
2,6-Dimethylnaphthalene	NA	
1,6,7-Trimethylnaphthalene	NA	
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	NA	
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	80
Acenaphthene-d10	81
Phenanthrene-d10	101
Chrysene-d12	71
Perylene-d12	77

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Procedural Blank Report

Sample Name	ENV3080A.D
Client Name	Procedural Blank
Matrix	Water
Collection Date	NA
Received Date	NA
Extraction Date	08/13/13
Extraction Batch	ENV 3080
Date Acquired	8/20/13 19:37
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	4.68		8.72	2.91
C1-Naphthalenes	1.66		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	1.26	J	15.3	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	1.69	J	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	<1.1	U	3.28	1.09
Pyrene	<1.4	U	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	9.29			

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Procedural Blank Report

Sample Name	ENV3080A.D
Client Name	Procedural Blank
Matrix	Water
Collection Date	NA
Received Date	NA
Extraction Date	08/13/13
Extraction Batch	ENV 3080
Date Acquired	8/20/13 19:37
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	1.52		3.31	1.10
1-Methylnaphthalene	1.09	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	1.47
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-Methylanthracene	<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	85
Acenaphthene-d10	86
Phenanthrene-d10	96
Chrysene-d12	84
Perylene-d12	89

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Blank Spike Report

Sample Name	ENV3080B.D	ENV3080C.D
Client Name	Blank Spike	Blank Spike Dupl.
Matrix	Water	Water
Collection Date	NA	NA
Received Date	NA	NA
Extraction Date	08/13/13	08/13/13
Extraction Batch	ENV 3080	ENV 3080
Date Acquired	8/20/13 20:46	8/20/13 21:54
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 Conc. (ng/L)	Q	Recovery (%)	Q	Su. Corrected Conc. (ng/L)	Q	Recovery (%)	Q	RPD (%)	Q	Spike amount (ng)
cis/trans Decalin	80.6		82		80.5		81		0		98.9
C1-Decalins	NA				NA						
C2-Decalins	NA				NA						
C3-Decalins	NA				NA						
C4-Decalins	NA				NA						
Naphthalene	85		85		83.8		84		1		100
C1-Naphthalenes	NA				NA						
C2-Naphthalenes	NA				NA						
C3-Naphthalenes	NA				NA						
C4-Naphthalenes	NA				NA						
Benzothiophene	77.4		78		77.1		78		0		99.4
C1-Benzothiophenes	NA				NA						
C2-Benzothiophenes	NA				NA						
C3-Benzothiophenes	NA				NA						
C4-Benzothiophenes	NA				NA						
Biphenyl	80		81		79.4		80		1		99.1
Acenaphthylene	81.4		82		81.2		82		0		99.2
Acenaphthene	80.8		81		78.9		79		2		100
Dibenzofuran	81.6		82		80.2		81		2		99.5
Fluorene	82.1		82		82.0		82		0		100
C1-Fluorenes	NA				NA						
C2-Fluorenes	NA				NA						
C3-Fluorenes	NA				NA						
Carbazole	83.0		84		83.6		84		1		99.1
Anthracene	81.5		81		81.3		81		0		100
Phenanthrene	86.4		87		87.4		88		1		99.1
C1-Phenanthrenes/Anthracenes	NA				NA						
C2-Phenanthrenes/Anthracenes	NA				NA						
C3-Phenanthrenes/Anthracenes	NA				NA						
C4-Phenanthrenes/Anthracenes	NA				NA						
Dibenzothiophene	104		105		105.1		107		1		98.6
C1-Dibenzothiophenes	NA				NA						
C2-Dibenzothiophenes	NA				NA						
C3-Dibenzothiophenes	NA				NA						
C4-Dibenzothiophenes	NA				NA						
Fluoranthene	85.0		85		84.7		85		0		100
Pyrene	88.2		88		87.4		87		1		100
C1-Fluoranthenes/Pyrenes	NA				NA						
C2-Fluoranthenes/Pyrenes	NA				NA						
C3-Fluoranthenes/Pyrenes	NA				NA						
C4-Fluoranthenes/Pyrenes	NA				NA						
Naphthobenzothiophene	80.4		80		76.2		76		5		101
C1-Naphthobenzothiophenes	NA				NA						
C2-Naphthobenzothiophenes	NA				NA						
C3-Naphthobenzothiophenes	NA				NA						
C4-Naphthobenzothiophenes	NA				NA						
Benz(a)anthracene	91.2		91		86.1		86		6		99.8
Chrysene/Triphenylene	79.0		79		77.2		78		2		99.4
C1-Chrysenes	NA				NA						
C2-Chrysenes	NA				NA						
C3-Chrysenes	NA				NA						
C4-Chrysenes	NA				NA						
Benzo(b)fluoranthene	77.5		77		76.9		77		1		100
Benzo(k,j)fluoranthene	72.8		73		67.3		68		8		99.6
Benzo(a)fluoranthene	NA				NA						
Benzo(e)pyrene	79.3		80		76.6		77		3		99.6
Benzo(a)pyrene	77.0		77		74.9		75		3		99.8
Perylene	81.0		81		80.1		80		1		100
Indeno(1,2,3-c,d)pyrene	76.4		78		75.0		76		2		98.3
Dibenzo(a,h)anthracene	79.5		80		78.0		79		2		99.1
Benzo(g,h,i)perylene	77.0		78		75.0		76		3		99.1
Average % Recovery			83				82				

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Blank Spike Report

Sample Name	ENV3080B.D	ENV3080C.D
Client Name	Blank Spike	Blank Spike Dupl.
Matrix	Water	Water
Collection Date	NA	NA
Received Date	NA	NA
Extraction Date	08/13/13	08/13/13
Extraction Batch	ENV 3080	ENV 3080
Date Acquired	8/20/13 20:46	8/20/13 21:54
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	78.8		79		77.6		77		2		100
1-Methylnaphthalene	78.7		79		78.2		78		1		99.9
2,6-Dimethylnaphthalene	76.2		76		77.8		78		2		100
1,6,7-Trimethylnaphthalene	82.2		82		81.1		81		1		100
1-Methylfluorene	84.3		84		86.0		85		2		101
4-Methyldibenzothiophene	88		87		88.9		88		1		101
2/3-Methyldibenzothiophene	NA				NA						
1-Methyldibenzothiophene	NA				NA						
3-Methylphenanthrene	NA				NA						
2-Methylphenanthrene	NA				NA						
2-Methylanthracene	NA				NA						
4/9-Methylphenanthrene	NA				NA						
1-Methylphenanthrene	83.6		85		83.0		84		1		98.9
3,6-Dimethylphenanthrene	76.4		76		76.6		77		0		100
Retene	80.0		89		78.1		87		2		89.4
2-Methylfluoranthene	92.9		92		93.2		93		0		101
Benzo(b)fluorene	91.1		90		89.9		89		1		101
C29-Hopane	NA				NA						
18a-Oleanane	NA				NA						
C30-Hopane	88.6		89		83.1		83		6		100
C20-TAS	NA				NA						
C21-TAS	NA				NA						
C26(20S)-TAS	NA				NA						
C26(20R)/C27(20S)-TAS	85.3		85		83.2		83		3		100
C28(20S)-TAS	NA				NA						
C27(20R)-TAS	NA				NA						
C28(20R)-TAS	NA				NA						

Surrogate Recovery		
Naphthalene-d8	81	81
Acenaphthene-d10	83	85
Phenanthrene-d10	96	99
Chrysene-d12	82	79
Perylene-d12	85	86

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

Sample Name	MS70058K.D
Client Name	AR-SRM2779-WK4.0-002
Matrix	Gulf of Mexico Crude Oil
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3080
Date Acquired	8/20/13 18:28
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	674						
C1-Decalins	988						
C2-Decalins	884						
C3-Decalins	777						
C4-Decalins	502						
Naphthalene	716			18	855 ± 46	647	1081
C1-Naphthalenes	1535						
C2-Naphthalenes	1798						
C3-Naphthalenes	1200						
C4-Naphthalenes	672						
Benzothiophene	7.5	J					
C1-Benzothiophenes	33.4						
C2-Benzothiophenes	23.0						
C3-Benzothiophenes	35.2						
C4-Benzothiophenes	27.4						
Biphenyl	147						
Acenaphthylene	9.44	J					
Acenaphthene	12.4						
Dibenzofuran	27.2						
Fluorene	118						
C1-Fluorenes	254						
C2-Fluorenes	382						
C3-Fluorenes	329						
Carbazole	4.3	J					
Anthracene	4.2	J		22	3.42 ± 0.59	2.26	4.81
Phenanthrene	220			16	258 ± 27	185	342
C1-Phenanthrenes/Anthracenes	550						
C2-Phenanthrenes/Anthracenes	625						
C3-Phenanthrenes/Anthracenes	441						
C4-Phenanthrenes/Anthracenes	252						
Dibenzothiophene	40.0			26	51.8 ± 2.1	39.8	64.7
C1-Dibenzothiophenes	101						
C2-Dibenzothiophenes	147						
C3-Dibenzothiophenes	114						
C4-Dibenzothiophenes	43.6						
Fluoranthene	3.90	J		11	4.36 ± 0.40	3.17	5.71
Pyrene	12.6			16	14.81 ± 0.39	11.5	18.2
C1-Fluoranthenes/Pyrenes	74.0						
C2-Fluoranthenes/Pyrenes	122						
C3-Fluoranthenes/Pyrenes	117						
C4-Fluoranthenes/Pyrenes	93.8						
Naphthobenzothiophene	20.4						
C1-Naphthobenzothiophenes	54.5						
C2-Naphthobenzothiophenes	64.6						
C3-Naphthobenzothiophenes	46.4						
C4-Naphthobenzothiophenes	19.8						
Benz(a)anthracene	7.04	J		0	7.03 ± 0.85	4.94	9.5
Chrysene/Triphenylene	37.4			24	47.4 ± 1.7	36.6	58.9
C1-Chrysenes	93.9						
C2-Chrysenes	115						
C3-Chrysenes	73.5						
C4-Chrysenes	45.8						
Benzo(b)fluoranthene	4.61	J		20	5.62 ± 0.34	4.22	7.15
Benzo(k,j)fluoranthene	0.278	J					
Benzo(a)fluoranthene	<10	U					
Benzo(e)pyrene	8.8	J		21	10.78 ± 0.60	8.14	13.7
Benzo(a)pyrene	1.44	J					
Perylene	0.513	J					
Indeno(1,2,3-c,d)pyrene	0.720	J					
Dibenzo(a,h)anthracene	0.408	J		34	0.574 ± 0.091	0.386	0.798
Benzo(g,h,i)perylene	1.57	J		30	2.11 ± 0.26	1.48	2.84
Total PAHs	14713						

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

Sample Name	MS70058K.D
Client Name	AR-SRM2779-WK4.0-002
Matrix	Gulf of Mexico Crude Oil
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3080
Date Acquired	8/20/13 18:28
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	1439		12	1630 ± 50	1264	2016
1-Methylnaphthalene	973		16	1140 ± 20	896	1392
2,6-Dimethylnaphthalene	871					
1,6,7-Trimethylnaphthalene	315					
1-Methylfluorene	215					
4-Methyldibenzothiophene	89.0					
2/3-Methyldibenzothiophene	41.2					
1-Methyldibenzothiophene	29.4					
3-Methylphenanthrene	141		38	206 ± 32	139	286
2-Methylphenanthrene	181		24	230 ± 14	173	293
2-Methylanthracene	10.9					
4/9-Methylphenanthrene	196		17	232 ± 19	170	301
1-Methylphenanthrene	140		18	169 ± 10	127	215
3,6-Dimethylphenanthrene	42.9					
Retene	22.8					
2-Methylfluoranthene	3.28	J				
Benzo(b)fluorene	12.7					
C29-Hopane	27.6					
18a-Oleanane	<10	U				
C30-Hopane	48.1					
C20-TAS	6.74	J				
C21-TAS	8.06	J				
C26(20S)-TAS	3.77	J				
C26(20R)/C27(20S)-TAS	11.7					
C28(20S)-TAS	8.20	J				
C27(20R)-TAS	7.38	J				
C28(20R)-TAS	5.55	J				

Surrogate Recovery	
Naphthalene-d8	93
Acenaphthene-d10	93
Phenanthrene-d10	90
Chrysene-d12	97
Perylene-d12	91

Peak Resolution	
4/9-Methylphenanthrene from 1-Methylyphenanthrene (m/z 192)	88%

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

Sample Name	MS70058J.D
Client Name	AR-WKCC-250-038
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3080
Date Acquired	8/20/13 17:20
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	239		3.3	247	210	284
C1-Decalins	NA					
C2-Decalins	NA					
C3-Decalins	NA					
C4-Decalins	NA					
Naphthalene	243		2.7	250	213	288
C1-Naphthalenes	NA					
C2-Naphthalenes	NA					
C3-Naphthalenes	NA					
C4-Naphthalenes	NA					
Benzothiophene	242		2.6	249	211	286
C1-Benzothiophenes	NA					
C2-Benzothiophenes	NA					
C3-Benzothiophenes	NA					
C4-Benzothiophenes	NA					
Biphenyl	242		2.2	248	211	285
Acenaphthylene	231		7.3	248	211	285
Acenaphthene	232		7.6	251	213	288
Dibenzofuran	239		4.1	249	211	286
Fluorene	236		5.8	251	213	288
C1-Fluorenes	NA					
C2-Fluorenes	NA					
C3-Fluorenes	NA					
Carbazole	226		9.4	248	211	285
Anthracene	239		4.7	251	213	288
Phenanthrene	248		0.1	248	211	285
C1-Phenanthrenes/Anthracenes	NA					
C2-Phenanthrenes/Anthracenes	NA					
C3-Phenanthrenes/Anthracenes	NA					
C4-Phenanthrenes/Anthracenes	NA					
Dibenzothiophene	246		0.1	247	210	283
C1-Dibenzothiophenes	NA					
C2-Dibenzothiophenes	NA					
C3-Dibenzothiophenes	NA					
C4-Dibenzothiophenes	NA					
Fluoranthene	231		7.9	250	213	288
Pyrene	244		2.6	250	213	288
C1-Fluoranthenes/Pyrenes	NA					
C2-Fluoranthenes/Pyrenes	NA					
C3-Fluoranthenes/Pyrenes	NA					
C4-Fluoranthenes/Pyrenes	NA					
Naphthobenzothiophene	218		14.2	252	214	289
C1-Naphthobenzothiophenes	NA					
C2-Naphthobenzothiophenes	NA					
C3-Naphthobenzothiophenes	NA					
C4-Naphthobenzothiophenes	NA					
Benz(a)anthracene	236		5.7	250	212	287
Chrysene/Triphenylene	225		10.1	249	211	286
C1-Chrysenes	NA					
C2-Chrysenes	NA					
C3-Chrysenes	NA					
C4-Chrysenes	NA					
Benzo(b)fluoranthene	229		8.9	251	213	288
Benzo(k,j)fluoranthene	228		8.6	249	212	286
Benzo(a)fluoranthene	NA					
Benzo(e)pyrene	231		7.7	249	212	286
Benzo(a)pyrene	230		8.2	250	212	287
Perylene	233		7.0	250	213	288
Indeno(1,2,3-c,d)pyrene	225		8.7	246	209	283
Dibenzo(a,h)anthracene	229		7.7	248	211	285
Benzo(g,h,i)perylene	238		4.1	248	211	285

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

Sample Name	MS70058J.D
Client Name	AR-WKCC-250-038
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3080
Date Acquired	8/20/13 17:20
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	236		5.7	250	213	288
1-Methylnaphthalene	238		4.9	250	212	287
2,6-Dimethylnaphthalene	237		5.2	250	213	288
1,6,7-Trimethylnaphthalene	231		7.9	250	213	288
1-Methylfluorene	224		11.7	252	214	290
4-Methyldibenzothiophene	241		4.3	252	214	290
2/3-Methyldibenzothiophene	NA					
1-Methyldibenzothiophene	NA					
3-Methylphenanthrene	NA					
2-Methylphenanthrene	NA					
2-Methylanthracene	NA					
4/9-Methylphenanthrene	NA					
1-Methylphenanthrene	223		10.1	247	210	284
3,6-Dimethylphenanthrene	222		11.9	250	213	288
Retene	206		7.9	223	190	257
2-Methylfluoranthene	236		6.6	252	214	289
Benzo(b)fluorene	215		16.1	252	214	290
C29-Hopane	NA					
18a-Oleanane	NA					
C30-Hopane	247		1.3	250	213	288
C20-TAS	NA					
C21-TAS	NA					
C26(20S)-TAS	NA					
C26(20R)/C27(20S)-TAS	221		12.3	250	213	288
C28(20S)-TAS	NA					
C27(20R)-TAS	NA					
C28(20R)-TAS	NA					

Surrogate Recovery	
Naphthalene-d8	96
Acenaphthene-d10	93
Phenanthrene-d10	102
Chrysene-d12	90
Perylene-d12	96

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

Sample Name	MS70058I.D
Client Name	AR-WKICV-250-004
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3080
Date Acquired	8/20/13 16:11
Method	PAH-2012.M
Sample Volume (mL)	1.0

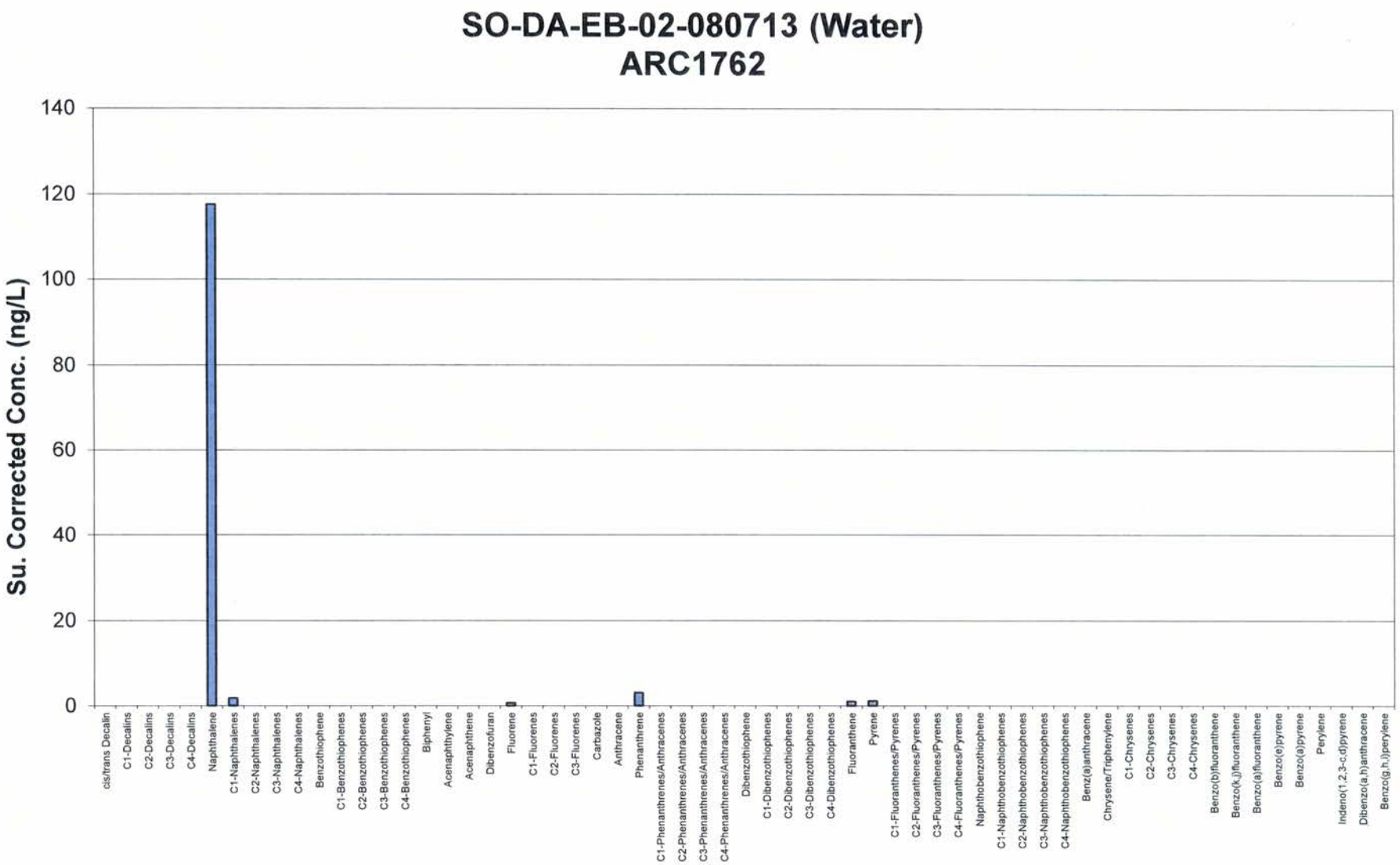
Target Compounds	Concentration (ng/mL)	Q	RPD (%)	ICV Certified Conc. (ng/mL)	-20% Certified Conc. (ng/mL)	+20% Certified Conc. (ng/mL)
cis/trans Decalin	270		7.7	250	200	300
C1-Decalins	NA					
C2-Decalins	NA					
C3-Decalins	NA					
C4-Decalins	NA					
Naphthalene	286		13.4	250	200	300
C1-Naphthalenes	NA					
C2-Naphthalenes	NA					
C3-Naphthalenes	NA					
C4-Naphthalenes	NA					
Benzothiophene	285		13.1	250	200	300
C1-Benzothiophenes	NA					
C2-Benzothiophenes	NA					
C3-Benzothiophenes	NA					
C4-Benzothiophenes	NA					
Biphenyl	284		12.3	251	201	301
Acenaphthylene	286					
Acenaphthene	279		11.0	250	200	300
Dibenzofuran	291		15.2	250	200	300
Fluorene	286		13.4	250	200	300
C1-Fluorenes	NA					
C2-Fluorenes	NA					
C3-Fluorenes	NA					
Carbazole	284		12.5	250	200	300
Anthracene	277		10.3	250	200	300
Phenanthrene	284		12.7	250	200	300
C1-Phenanthrenes/Anthracenes	NA					
C2-Phenanthrenes/Anthracenes	NA					
C3-Phenanthrenes/Anthracenes	NA					
C4-Phenanthrenes/Anthracenes	NA					
Dibenzothiophene	288		14.0	250	200	300
C1-Dibenzothiophenes	NA					
C2-Dibenzothiophenes	NA					
C3-Dibenzothiophenes	NA					
C4-Dibenzothiophenes	NA					
Fluoranthene	284		12.6	250	200	300
Pyrene	294		16.1	250	200	300
C1-Fluoranthenes/Pyrenes	NA					
C2-Fluoranthenes/Pyrenes	NA					
C3-Fluoranthenes/Pyrenes	NA					
C4-Fluoranthenes/Pyrenes	NA					
Naphthobenzothiophene	NA					
C1-Naphthobenzothiophenes	NA					
C2-Naphthobenzothiophenes	NA					
C3-Naphthobenzothiophenes	NA					
C4-Naphthobenzothiophenes	NA					
Benz(a)anthracene	269		7.3	250	200	300
Chrysene/Triphenylene	284		12.5	250	200	300
C1-Chrysenes	NA					
C2-Chrysenes	NA					
C3-Chrysenes	NA					
C4-Chrysenes	NA					
Benzo(b)fluoranthene	290		14.9	250	200	300
Benzo(k,j)fluoranthene	279		11.0	250	200	300
Benzo(a)fluoranthene	NA					
Benzo(e)pyrene	277		10.3	250	200	300
Benzo(a)pyrene	270		7.5	250	200	300
Perylene	275		9.4	251	200	301
Indeno(1,2,3-c,d)pyrene	278		10.6	250	200	300
Dibenzo(a,h)anthracene	289		14.4	250	200	300
Benzo(g,h,i)perylene	283		12.2	250	200	300

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

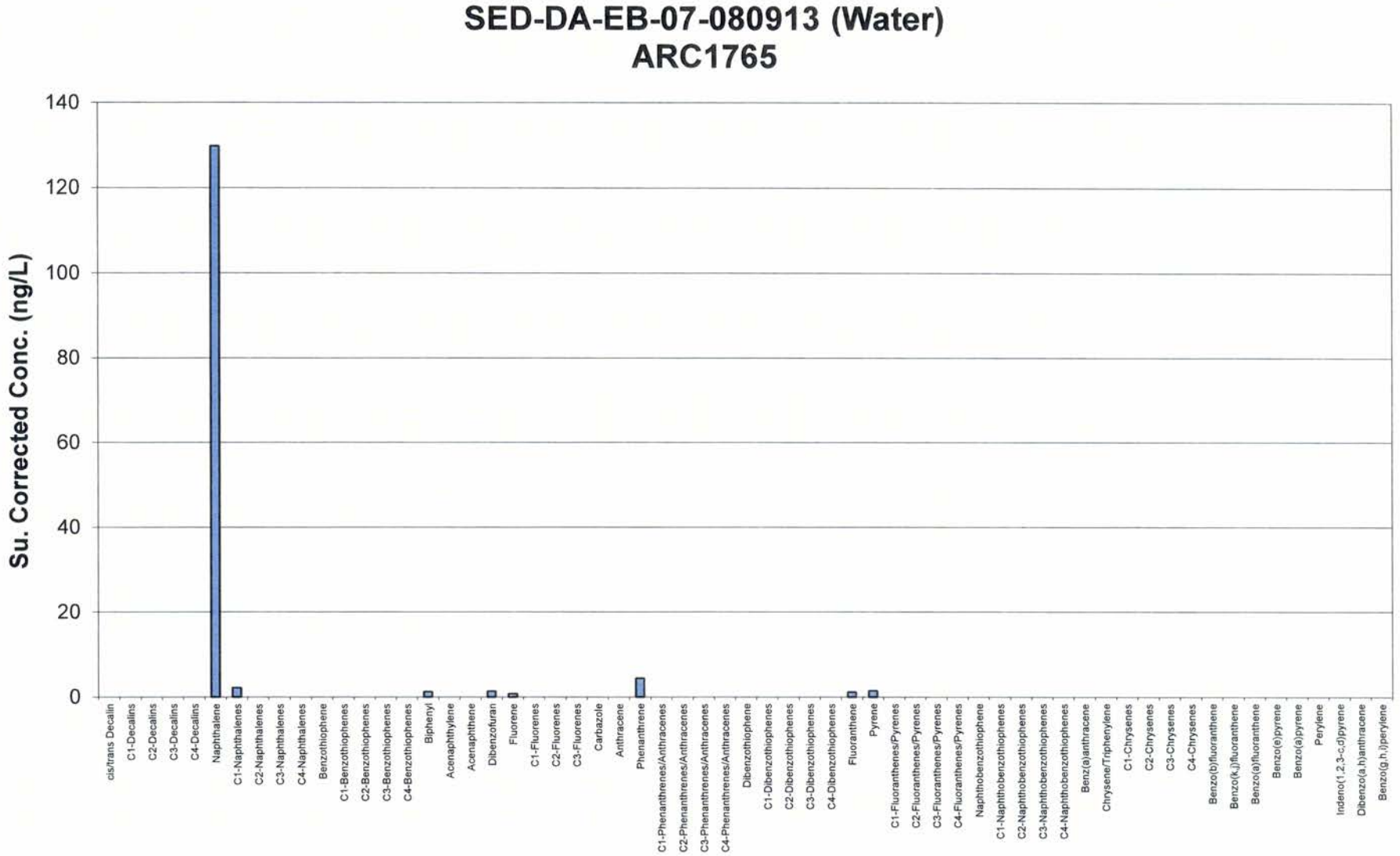
Sample Name	MS70058I.D
Client Name	AR-WKICV-250-004
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3080
Date Acquired	8/20/13 16:11
Method	PAH-2012.M
Sample Volume (mL)	1.0

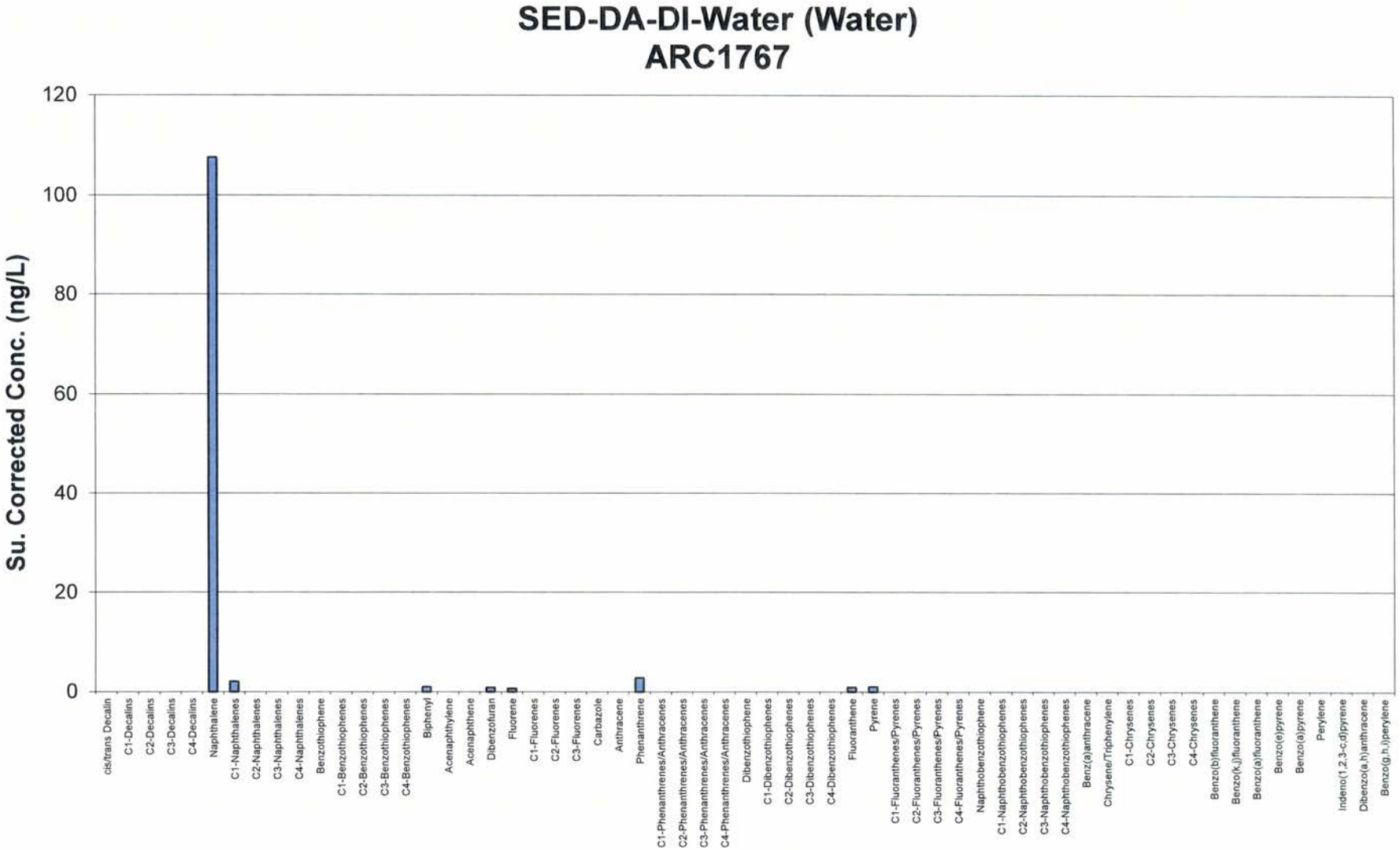
Target Compounds	Concentration (ng/mL)	Q	RPD (%)	ICV Certified Conc. (ng/mL)	-20% Certified Conc. (ng/mL)	+20% Certified Conc. (ng/mL)
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	294		16.0	250	200	301
1-Methylnaphthalene	294		15.8	251	200	301
2,6-Dimethylnaphthalene	292		15.3	250	200	300
1,6,7-Trimethylnaphthalene	290		14.6	250	200	301
1-Methylfluorene	NA					
4-Methyldibenzothiophene	NA					
2/3-Methyldibenzothiophene	NA					
1-Methyldibenzothiophene	NA					
3-Methylphenanthrene	NA					
2-Methylphenanthrene	NA					
2-Methylanthracene	NA					
4/9-Methylphenanthrene	NA					
1-Methylphenanthrene	270		7.7	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	235		6.4	250	200	300
Acenaphthene-d10	229		8.8	250	200	300
Phenanthrene-d10	242		3.4	250	200	300
Chrysene-d12	225		10.5	250	200	300
Perylene-d12	232		7.4	250	200	300

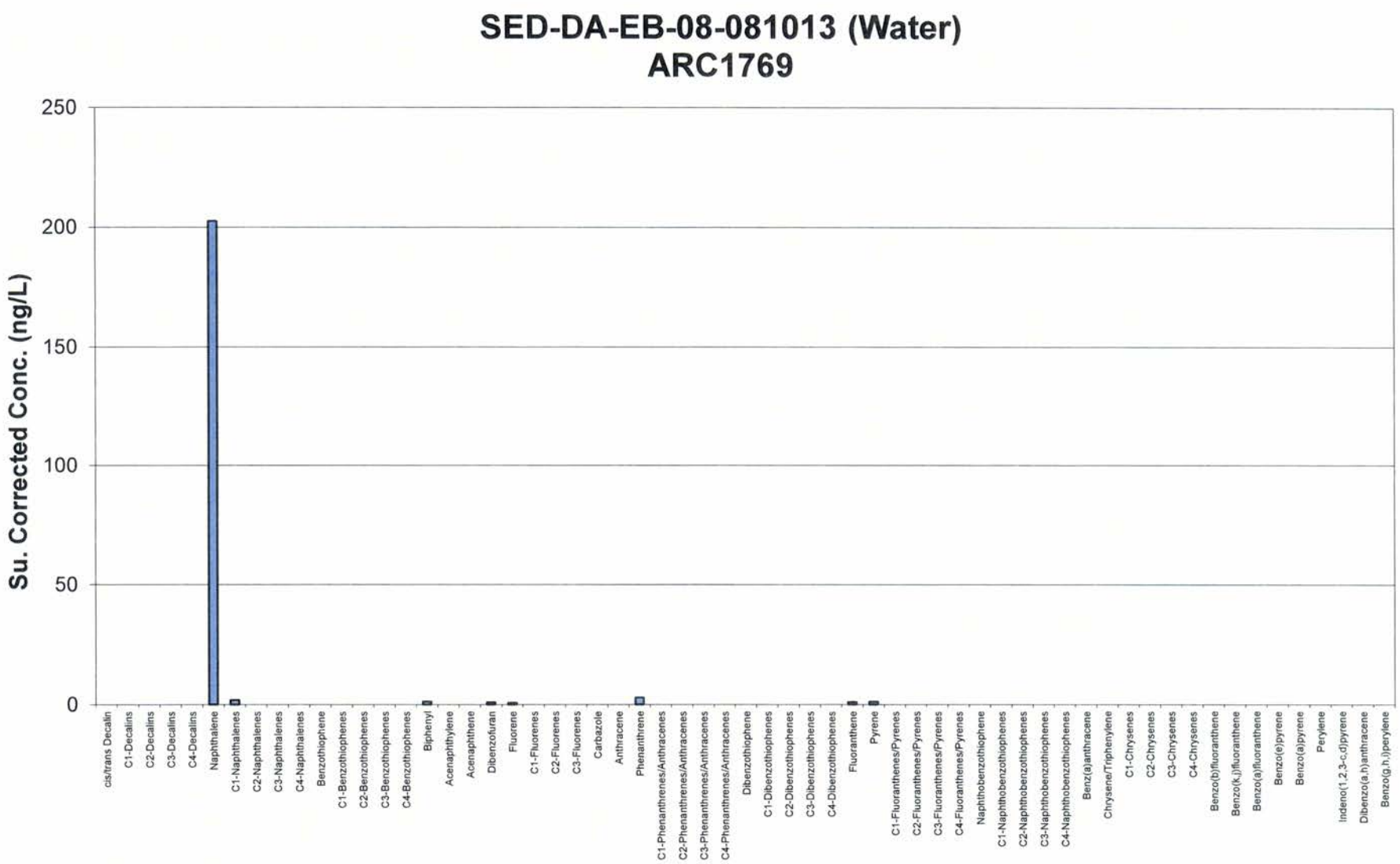
Polycyclic Aromatic Hydrocarbon Histograms

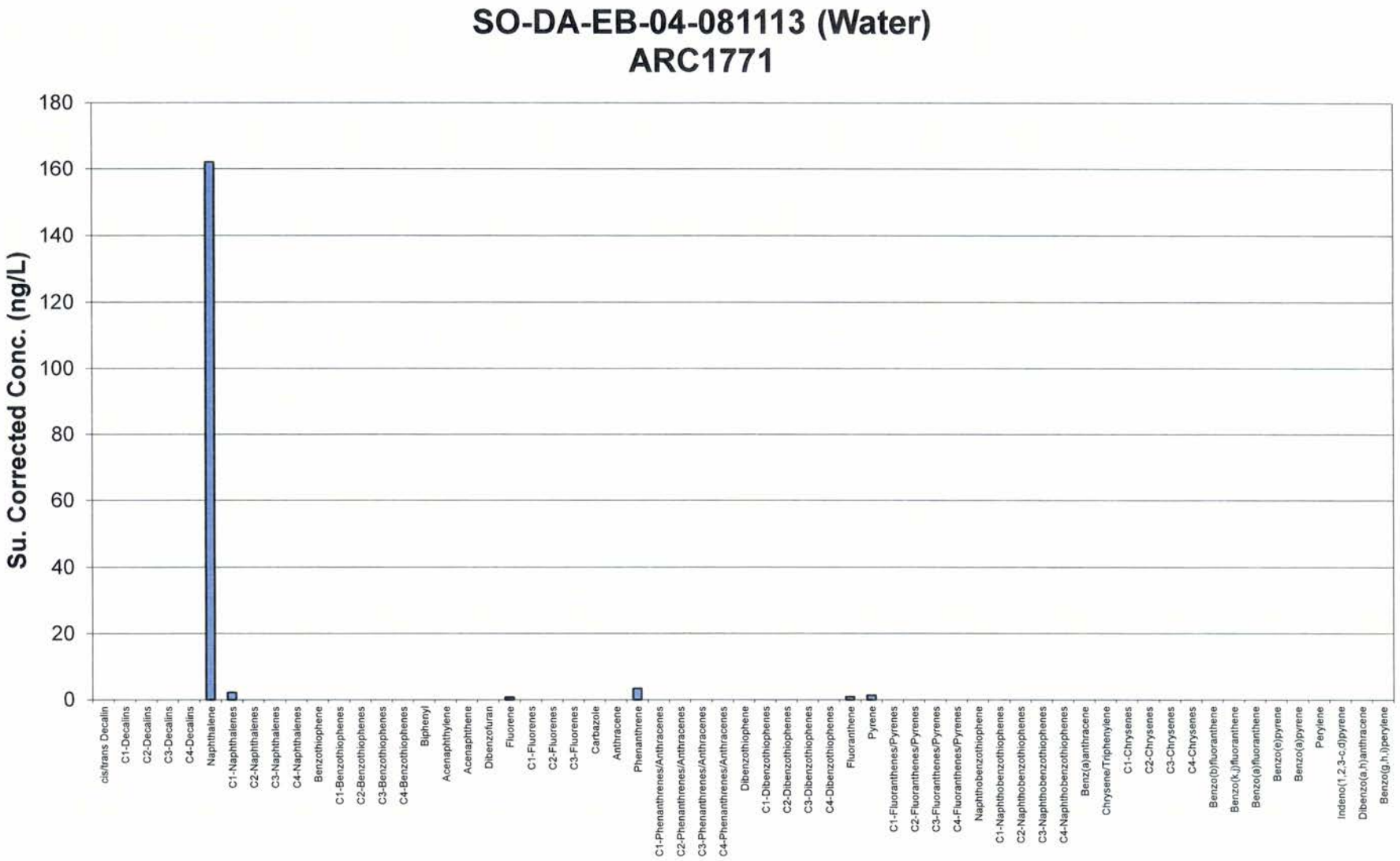

SO-DA-EB-02-080713 (Water)
ARC1762
Su. Corrected Conc. (ng/L)
140
120
100
80
60
40
20
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

SO-DA-EB-03-080813 (Water)
ARC1763
Su. Corrected Conc. (ng/L)
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene


SED-DA-EB-07-080913 (Water)
ARC1765
Su. Corrected Conc. (ng/L)
140
120
100
80
60
40
20
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

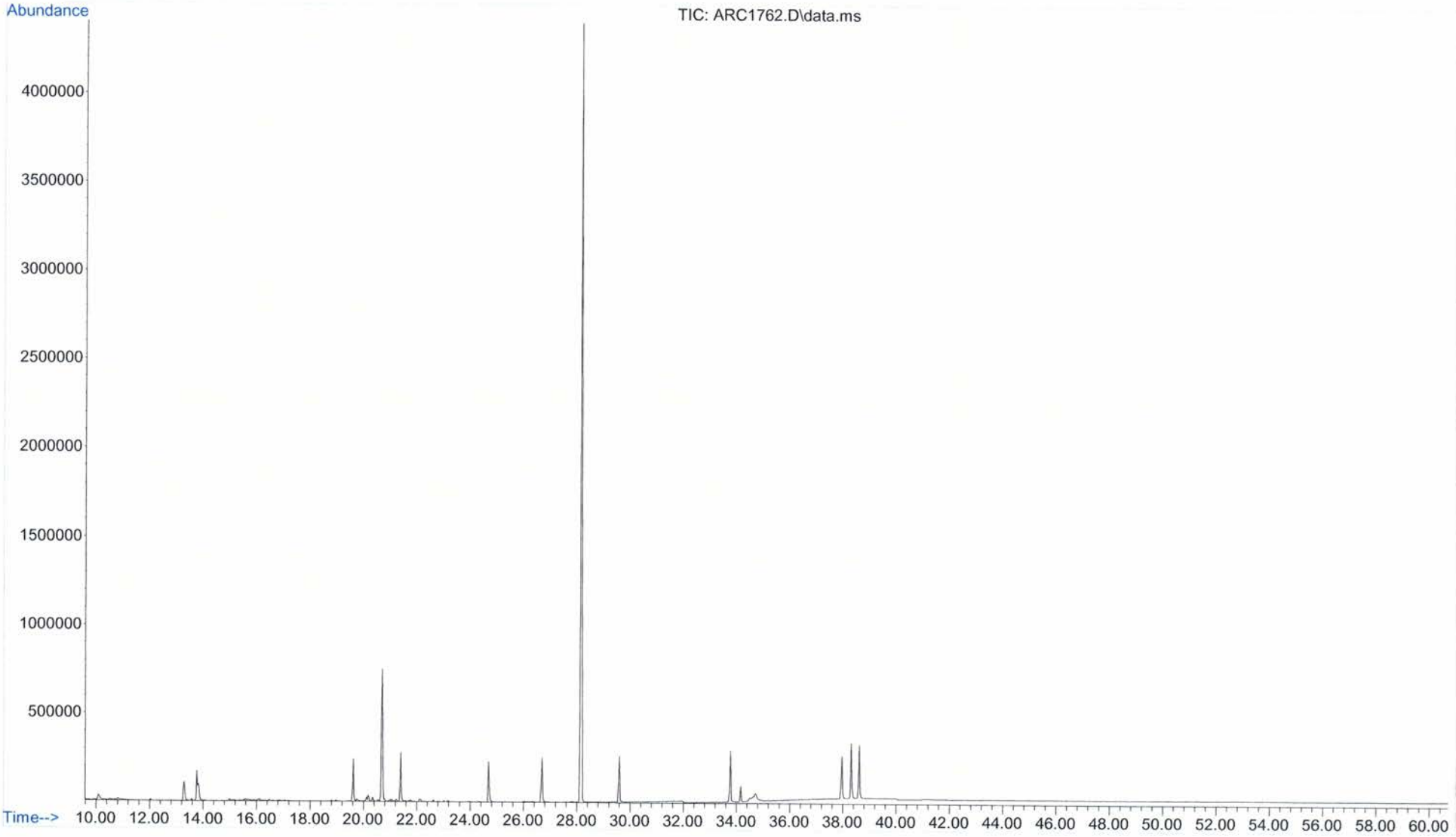

SED-DA-DI-Water (Water)
ARC1767
Su. Corrected Conc. (ng/L)
120
100
80
60
40
20
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene


SED-DA-EB-08-081013 (Water)
ARC1769
Su. Corrected Conc. (ng/L)
250
200
150
100
50
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

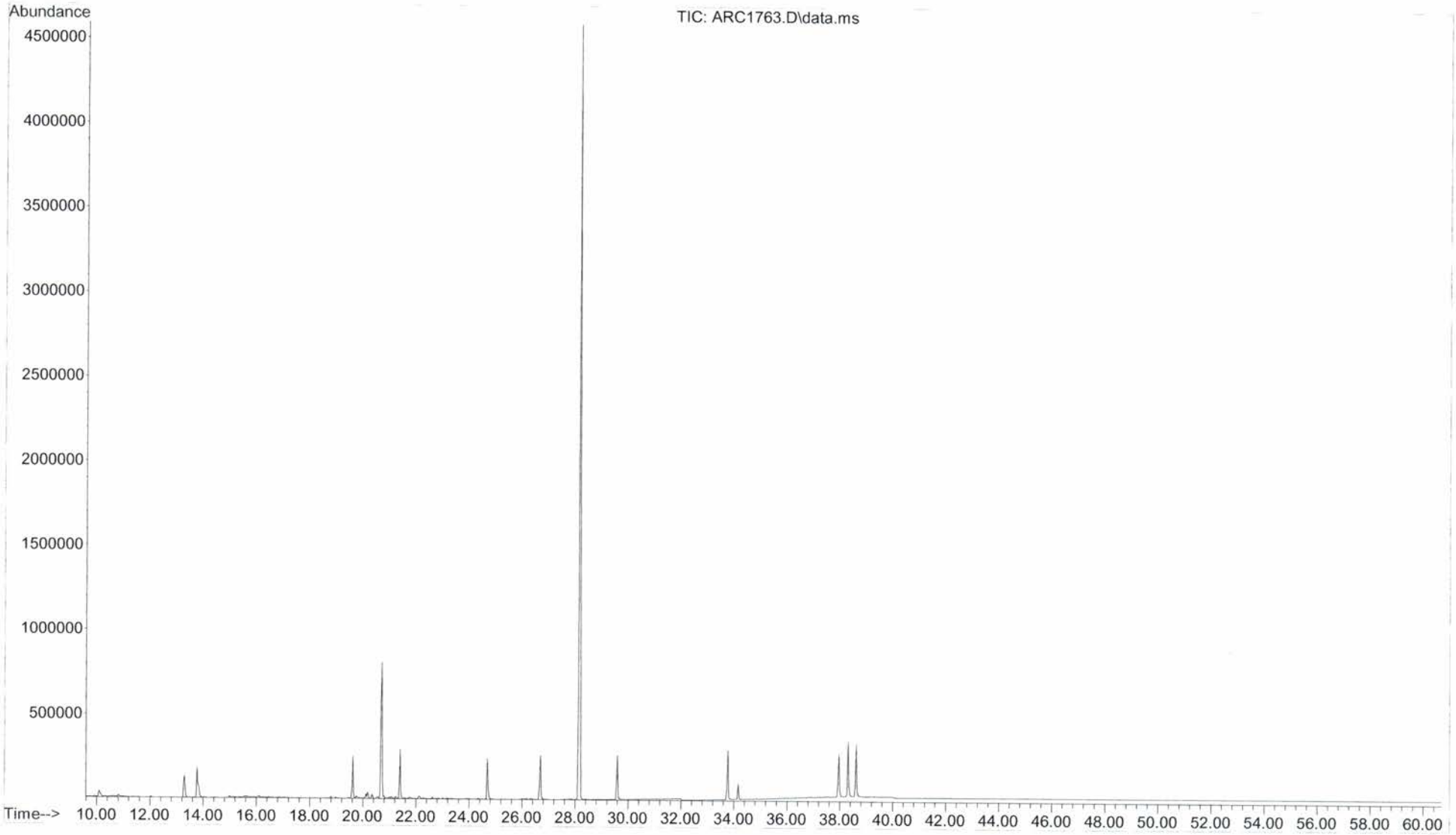

SO-DA-EB-04-081113 (Water)
ARC1771
Su. Corrected Conc. (ng/L)
180
160
140
120
100
80
60
40
20
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

Polycyclic Aromatic Hydrocarbon Total Ion Chromatograms

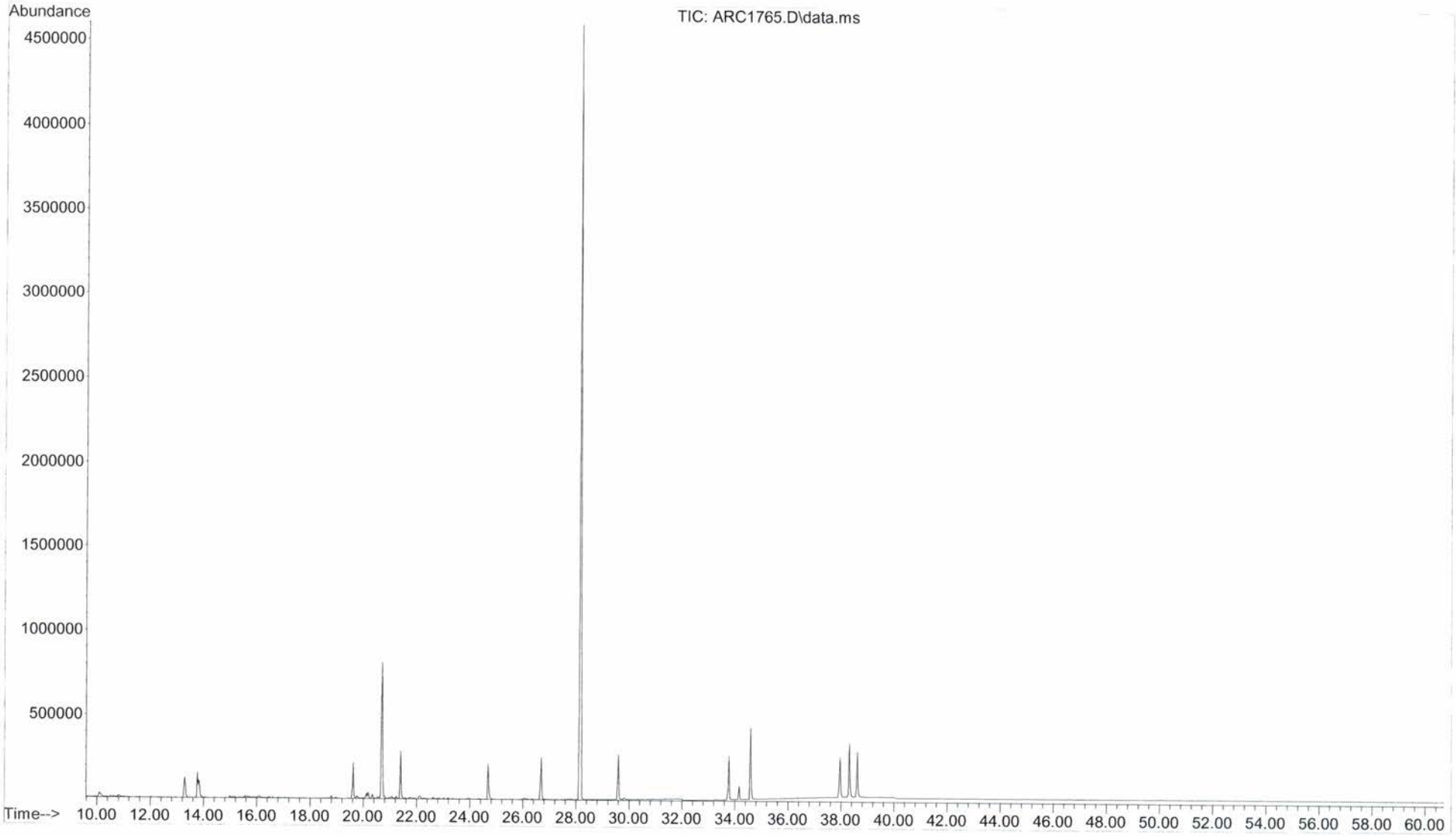
File :C:\GCMS7\MS70058\ARC1762.D
Operator : YM
Acquired : 20 Aug 2013 23:03 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SO-DA-EB-02-080713
Misc Info :
Vial Number: 15



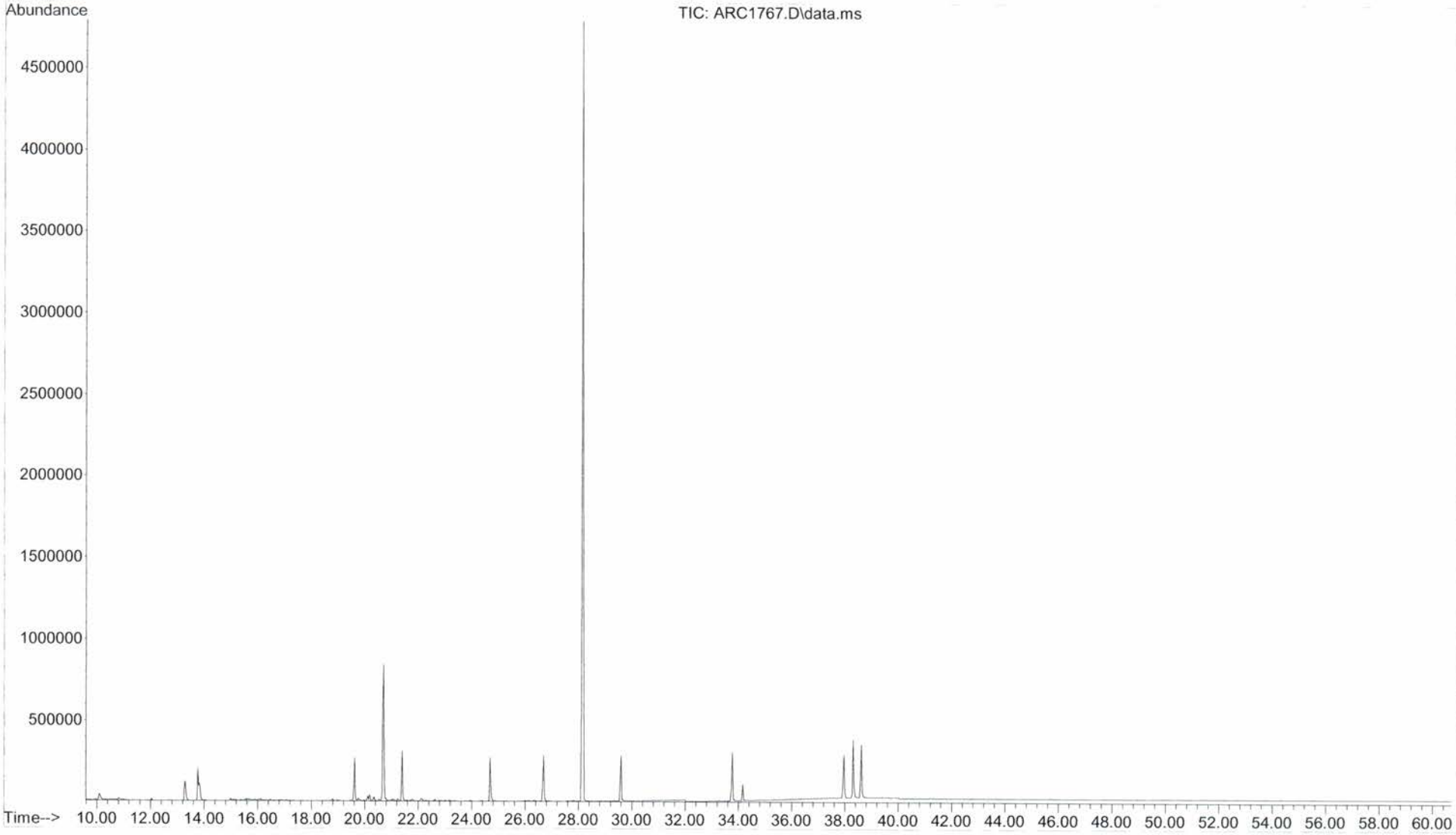
File :C:\GCMS7\MS70058\ARC1763.D
Operator : YM
Acquired : 21 Aug 2013 00:11 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SO-DA-EB-03-080813
Misc Info :
Vial Number: 16



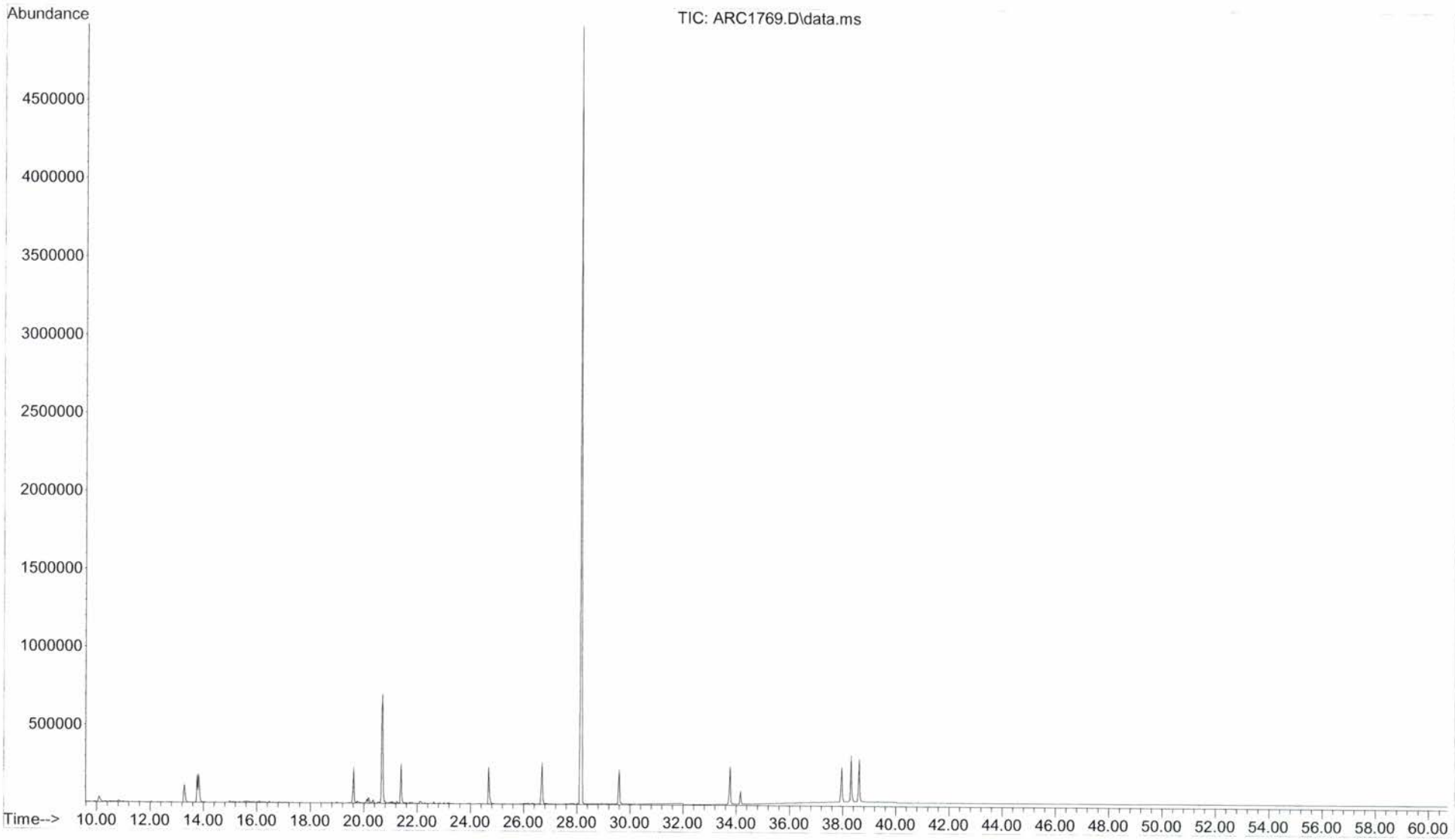
File :C:\GCMS7\MS70058\ARC1765.D
Operator : YM
Acquired : 21 Aug 2013 1:20 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SED-DA-EB-07-080913
Misc Info :
Vial Number: 17



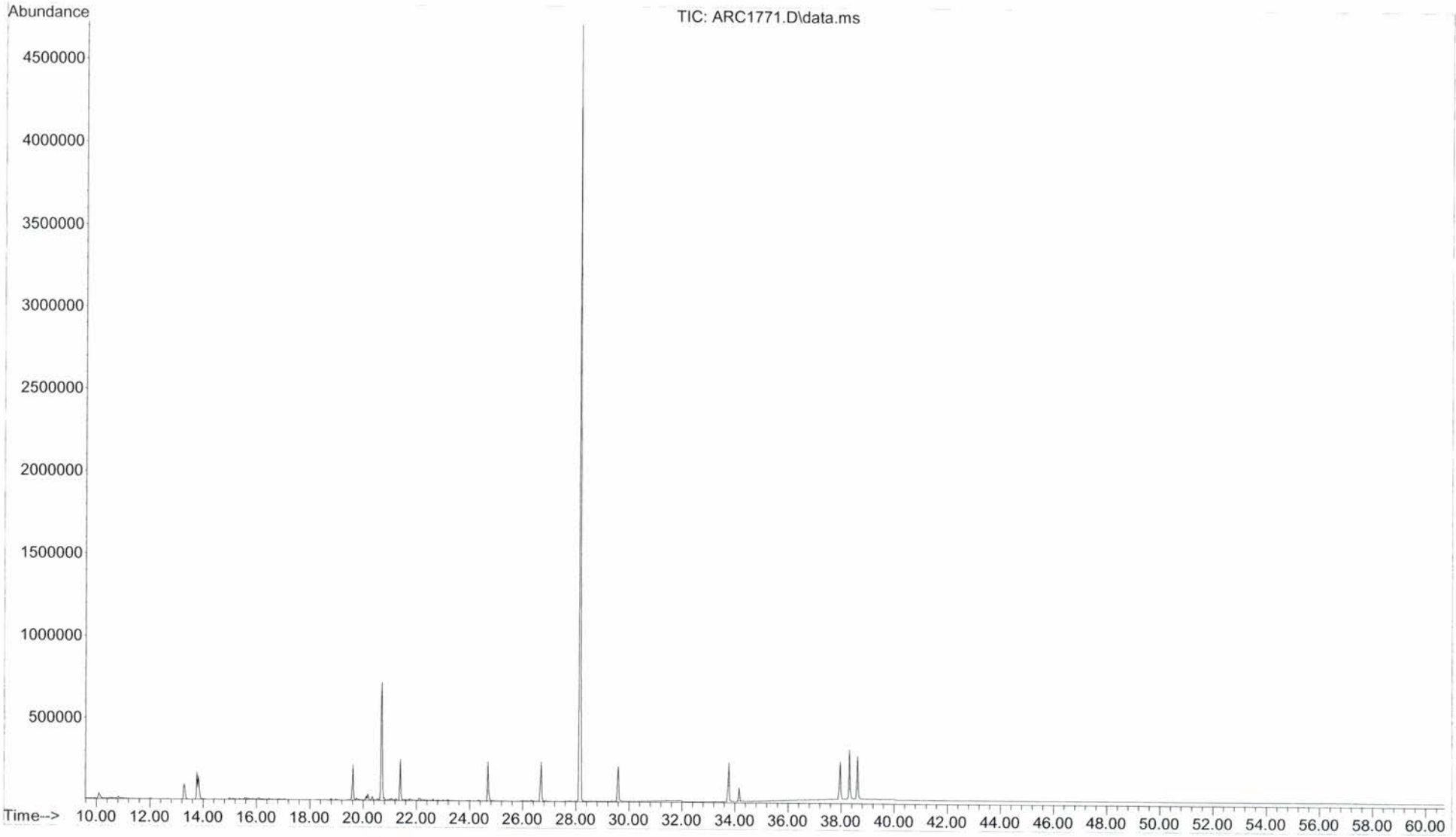
File :C:\GCMS7\MS70058\ARC1767.D
Operator : YM
Acquired : 21 Aug 2013 2:28 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SED-DA-DI-Water
Misc Info :
Vial Number: 18



File :C:\GCMS7\MS70058\ARC1769.D
Operator : YM
Acquired : 21 Aug 2013 4:45 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SED-DA-EB-08-081013
Misc Info :
Vial Number: 20



File :C:\GCMS7\MS70058\ARC1771.D
Operator : YM
Acquired : 21 Aug 2013 5:54 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SO-DA-EB-04-081113
Misc Info :
Vial Number: 21



Total Petroleum Hydrocarbons/ Aliphatic Hydrocarbons Raw Data

B&B LABORATORIES ALIPHATICS/TEH QA FORM

Extraction Page:_____ENV 3080_____	Analyst:____Meghan Dailey_____
Client:___Arcadis Mayflower Project_____	Date:____ Sepember 13, 2013
Job: #:___J13034_____	Project Quality Manager:_____
SDG #:_____13080901 and 13081301	Date:_____09/13/13_____

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	
Matirx Spike Duplicate: NA	
SRM 2779 Reference Oil No failures	
Mass Discrimination Check (n-C36/n-C20 >0.7) No failures	

FID Sequence Summary Report

B&B Laboratories, Inc.

Sequence name: FID10078 2013-08-15 16-37-34

Acquisition date: 8/15/2013 4:37:35 PM

Acquired by: Meghan Dailey

Data Directory C:\CHEM32\3\DATA\FID10078 2013-08-15 16-37-34

Line	Location	Sample Name	Datafile	Method	Injection Date
4	Vial 51	Solvent Blank	FID10079A.D	ALI2012.M	08/15/2013 20:16:53
5	Vial 52	AL-WKCC-25-024	FID10079B.D	ALI2012.M	08/15/2013 21:27:36
6	Vial 53	AL-SRM2779-20-01	FID10079C.D	ALI2012.M	08/15/2013 22:38:15
7	Vial 51	Solvent Blank	FID10079D.D	ALI2012.M	08/15/2013 23:49:09
8	Vial 54	AL-RetWin-001	FID10079E.D	ALI2012.M	08/16/2013 00:59:51
9	Vial 55	AL-WKPem-001	FID10079F.D	ALI2012.M	08/16/2013 02:10:37
10	Vial 56		ENV3078A.D	ALI2012.M	08/16/2013 03:21:21
11	Vial 57		ENV3078B.D	ALI2012.M	08/16/2013 04:32:05
12	Vial 58		ENV3078C.D	ALI2012.M	08/16/2013 05:42:46
13	Vial 59		NPS0301.D	ALI2012.M	08/16/2013 06:53:32
14	Vial 60		NPS0302.D	ALI2012.M	08/16/2013 08:04:24
15	Vial 61		NPS0303.D	ALI2012.M	08/16/2013 09:15:19
16	Vial 62	AL-WKCC-25-024	FID10079G.D	ALI2012.M	08/16/2013 10:26:04
17	Vial 63		ENV3080A.D	ALI2012.M	08/16/2013 11:36:47
18	Vial 64		ENV3080B.D	ALI2012.M	08/16/2013 12:47:23
19	Vial 65		ENV3080C.D	ALI2012.M	08/16/2013 13:58:00
20	Vial 66		ARC1765.D	ALI2012.M	08/16/2013 15:08:47
21	Vial 67		ARC1767.D	ALI2012.M	08/16/2013 16:19:32
22	Vial 68		ARC1769.D	ALI2012.M	08/16/2013 17:30:16
23	Vial 69	AL-WKCC-25-024	FID10079H.D	ALI2012.M	08/16/2013 18:40:48

Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3080\FID10079\
Data File : FID10079B.D
Signal(s) : FID2B.CH
Acq On : 15-Aug-2013, 21:27:36
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 16 15:15:07 2013
Quant Method : P:\2005\J05453\Aliphatics\ENV3078\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	n-hexadecane-d34	1.000	1.000	0.0	75	0.00
2		n-C8	0.962	1.019	-5.9	77	0.02
3		n-C9	1.011	1.056	-4.5	76	0.00
4		n-C10	1.064	1.110	-4.3	77	0.00
5		n-C11	1.069	1.116	-4.4	77	0.00
6	S	n-dodecane-d26	0.992	1.027	-3.5	77	0.00
7		n-C12	1.116	1.163	-4.2	76	0.00
10		n-C13	1.122	1.161	-3.5	76	0.00
12		n-C14	1.164	1.199	-3.0	75	0.00
14		n-C15	1.189	1.214	-2.1	75	0.00
15		n-C16	1.208	1.226	-1.5	75	0.00
16	I	5a-androstane	1.000	1.000	0.0	73	0.00
18		n-C17	0.952	0.990	-4.0	74	0.00
19		Pristane	0.949	0.986	-3.9	74	0.00
20		n-C18	0.944	0.977	-3.5	74	0.00
21		Phytane	0.962	0.996	-3.5	74	0.00
22		n-C19	0.948	0.977	-3.1	74	0.00
23	S	n-eicosane-d42	0.758	0.773	-2.0	73	0.00
24		n-C20	0.957	0.984	-2.8	74	0.00
25		n-C21	0.969	0.996	-2.8	73	0.01
26		n-C22	0.974	0.996	-2.3	73	0.01
27		n-C23	0.982	1.002	-2.0	73	0.01
28		n-C24	0.984	1.000	-1.6	73	0.01
29		n-C25	0.985	0.999	-1.4	73	0.01
30		n-C26	0.989	0.999	-1.0	72	0.02
31		n-C27	0.964	0.971	-0.7	72	0.02
32		n-C28	0.976	0.982	-0.6	72	0.02
33		n-C29	0.978	0.981	-0.3	72	0.01
34	S	n-triacontane-d62	0.754	0.746	1.1	71	0.00
35		n-C30	0.964	0.968	-0.4	72	0.00
36		n-C31	0.944	0.951	-0.7	72	0.00
37		n-C32	0.929	0.939	-1.1	71	0.00
38		n-C33	0.898	0.914	-1.8	72	0.00
39		n-C34	0.903	0.926	-2.5	72	0.00
40		n-C35	0.872	0.894	-2.5	73	0.00
41		n-C36	0.935	0.950	-1.6	72	0.00
42		n-C37	0.842	0.851	-1.1	72	0.00
43		n-C38	0.827	0.837	-1.2	72	0.00

44	n-C39	0.795	0.798	-0.4	72	0.00
45	n-C40	0.722	0.726	-0.6	70	0.00

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.017	0.000	100.0#	0#	-9.03#
9	i-14	0.018	0.000	100.0#	0#	-9.73#
11	i-15	0.018	0.000	100.0#	0#	-10.88#
13	i-16	0.019	0.000	100.0#	0#	-11.77#
17	i-18	0.019	0.000	100.0#	0#	-13.72#
46	TPH	0.018	0.000	100.0#	0#	-29.05#
47	TRH1	0.018	0.000	100.0#	0#	-7.75#
48	TRH2	0.018	0.000	100.0#	0#	-15.92#
49	TRH3	0.018	0.000	100.0#	0#	-23.38#
50	TRH4	0.018	0.000	100.0#	0#	-28.40#
51	TRH5	0.018	0.000	100.0#	0#	-33.37#
52	TRH6	0.018	0.000	100.0#	0#	-44.83#
53	GRO	0.018	0.000	100.0#	0#	-5.27#
54	DRO	0.018	0.000	100.0#	0#	-14.31#
55	RRO	0.018	0.000	100.0#	0#	-33.00#

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

FID1C08BACK081213.M Mon Aug 19 11:07:38 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3080\FID10079\
Data File : FID10079B.D
Signal(s) : FID2B.CH
Acq On : 15-Aug-2013, 21:27:36
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 16 15:15:07 2013
Quant Method : P:\2005\J05453\Aliphatics\ENV3078\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
	Internal Standards				
1)	I n-hexadecane-d34	12.910	286461	50.000	ug/mlm
16)	I 5a-androstane	18.148	363178	50.072	ug/mlm
	System Monitoring Compounds				
6)	S n-dodecane-d26	8.634	147129	25.880	ug/mlm
23)	S n-eicosane-d42	17.548	141062	25.650	ug/mlm
34)	S n-triacontane-d62	29.419	135428	24.768	ug/mlm
	Target Compounds				
2)	n-C8	3.515	146061	26.511	ug/mlm
3)	n-C9	4.826	151283	26.123	ug/mlm
4)	n-C10	6.233	158962	26.082	ug/mlm
5)	n-C11	7.582	160006	26.134	ug/mlm
7)	n-C12	8.839	163690	25.596	ug/mlm
8)	i-13	0.000	0	N.D.	ug/ml
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	10.009	166595	25.926	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	11.102	170748	25.605	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	12.129	173056	25.415	ug/mlm
15)	n-C16	13.160	173885	25.127	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.261	177290	25.665	ug/mlm
19)	Pristane	14.378	177138	25.728	ug/mlm
20)	n-C18	15.434	177347	25.895	ug/mlm
21)	Phytane	15.596	180137	25.814	ug/mlm
22)	n-C19	16.669	176984	25.742	ug/mlm
24)	n-C20	17.946	178666	25.745	ug/mlm
25)	n-C21	19.243	179085	25.479	ug/mlm
26)	n-C22	20.542	180835	25.596	ug/mlm
27)	n-C23	21.827	179962	25.276	ug/mlm
28)	n-C24	23.087	179240	25.124	ug/mlm
29)	n-C25	24.319	180535	25.268	ug/mlm
30)	n-C26	25.516	181426	25.299	ug/mlm
31)	n-C27	26.677	176154	25.205	ug/mlm
32)	n-C28	27.803	178047	25.154	ug/mlm
33)	n-C29	28.896	178160	25.123	ug/mlm
35)	n-C30	29.954	174798	25.006	ug/mlm
36)	n-C31	30.979	172593	25.209	ug/mlm
37)	n-C32	31.972	168081	24.949	ug/mlm
38)	n-C33	32.940	165737	25.456	ug/mlm
39)	n-C34	33.878	167568	25.591	ug/mlm
40)	n-C35	34.875	162220	25.647	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3080\FID10079\
Data File : FID10079B.D
Signal(s) : FID2B.CH
Acq On : 15-Aug-2013, 21:27:36
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 16 15:15:07 2013
Quant Method : P:\2005\J05453\Aliphatics\ENV3078\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.009	168807	24.904	ug/mlm
42)	n-C37	37.319	154426	25.287	ug/mlm
43)	n-C38	38.840	151955	25.345	ug/mlm
44)	n-C39	40.631	144717	25.108	ug/mlm
45)	n-C40	42.735	131310	25.061	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

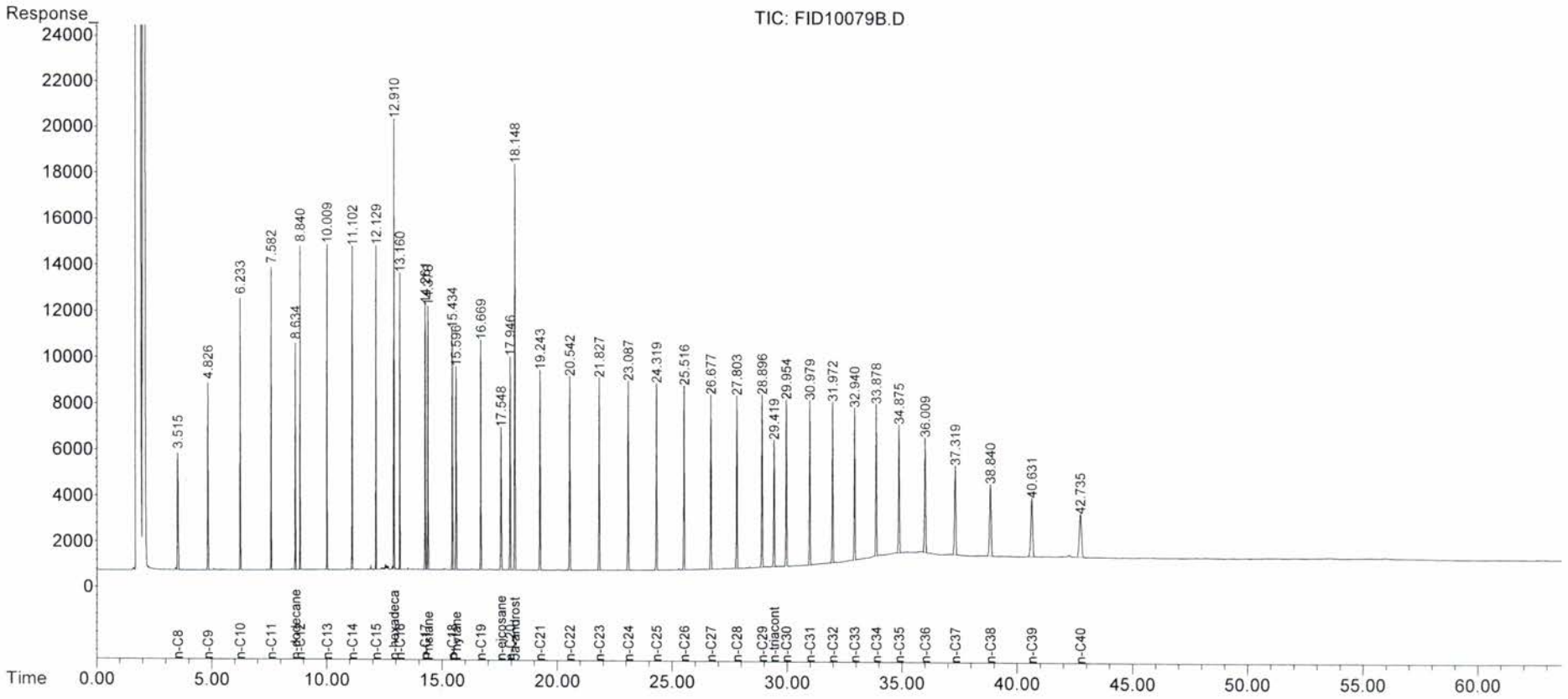
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3080\FID10079\
Data File : FID10079B.D
Signal(s) : FID2B.CH
Acq On : 15-Aug-2013, 21:27:36
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 16 15:15:07 2013
Quant Method : P:\2005\J05453\Aliphatics\ENV3078\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3080\FID10079\
Data File : FID10079G.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 10:26:04
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 62 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 16 15:21:33 2013
Quant Method : P:\2005\J05453\Aliphatics\ENV3078\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	n-hexadecane-d34	1.000	1.000	0.0	73	0.00
2		n-C8	0.962	1.014	-5.4	75	0.00
3		n-C9	1.011	1.048	-3.7	74	0.00
4		n-C10	1.064	1.102	-3.6	74	0.00
5		n-C11	1.069	1.107	-3.6	74	0.00
6	S	n-dodecane-d26	0.992	1.021	-2.9	74	0.00
7		n-C12	1.116	1.160	-3.9	74	0.00
10		n-C13	1.122	1.158	-3.2	74	0.00
12		n-C14	1.164	1.198	-2.9	74	0.00
14		n-C15	1.189	1.211	-1.9	73	0.00
15		n-C16	1.208	1.223	-1.2	73	0.00
16	I	5a-androstane	1.000	1.000	0.0	71	0.00
18		n-C17	0.952	0.992	-4.2	72	0.00
19		Pristane	0.949	0.990	-4.3	73	0.00
20		n-C18	0.944	0.980	-3.8	72	0.00
21		Phytane	0.962	0.998	-3.7	72	0.00
22		n-C19	0.948	0.981	-3.5	72	0.00
23	S	n-eicosane-d42	0.758	0.775	-2.2	72	0.00
24		n-C20	0.957	0.985	-2.9	72	0.00
25		n-C21	0.969	0.998	-3.0	72	0.00
26		n-C22	0.974	0.998	-2.5	71	0.00
27		n-C23	0.982	1.003	-2.1	71	0.00
28		n-C24	0.984	1.001	-1.7	71	0.00
29		n-C25	0.985	0.999	-1.4	71	0.00
30		n-C26	0.989	0.997	-0.8	70	0.00
31		n-C27	0.964	0.970	-0.6	70	0.00
32		n-C28	0.976	0.980	-0.4	70	0.00
33		n-C29	0.978	0.980	-0.2	70	0.00
34	S	n-triacontane-d62	0.754	0.746	1.1	70	0.00
35		n-C30	0.964	0.967	-0.3	70	-0.01
36		n-C31	0.944	0.950	-0.6	70	-0.01
37		n-C32	0.929	0.939	-1.1	70	-0.01
38		n-C33	0.898	0.913	-1.7	70	-0.01
39		n-C34	0.903	0.924	-2.3	70	-0.01
40		n-C35	0.872	0.897	-2.9	71	-0.01
41		n-C36	0.935	0.962	-2.9	71	-0.02
42		n-C37	0.842	0.860	-2.1	71	-0.02
43		n-C38	0.827	0.844	-2.1	71	-0.02

44	n-C39	0.795	0.800	-0.6	70	-0.03
45	n-C40	0.722	0.738	-2.2	70	-0.03

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.017	0.000	100.0#	0#	-9.03#
9	i-14	0.018	0.000	100.0#	0#	-9.73#
11	i-15	0.018	0.000	100.0#	0#	-10.88#
13	i-16	0.019	0.000	100.0#	0#	-11.77#
17	i-18	0.019	0.000	100.0#	0#	-13.72#
46	TPH	0.018	0.000	100.0#	0#	-29.05#
47	TRH1	0.018	0.000	100.0#	0#	-7.75#
48	TRH2	0.018	0.000	100.0#	0#	-15.92#
49	TRH3	0.018	0.000	100.0#	0#	-23.38#
50	TRH4	0.018	0.000	100.0#	0#	-28.40#
51	TRH5	0.018	0.000	100.0#	0#	-33.37#
52	TRH6	0.018	0.000	100.0#	0#	-44.83#
53	GRO	0.018	0.000	100.0#	0#	-5.27#
54	DRO	0.018	0.000	100.0#	0#	-14.31#
55	RRO	0.018	0.000	100.0#	0#	-33.00#

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

FID1C08BACK081213.M Mon Aug 19 11:07:21 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3080\FID10079\
Data File : FID10079G.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 10:26:04
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 62 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 16 15:21:33 2013
Quant Method : P:\2005\J05453\Aliphatics\ENV3078\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	Internal Standards			
1) I	n-hexadecane-d34	12.905	279963	50.000 ug/mlm
16) I	5a-androstane	18.139	353476	50.072 ug/mlm
	System Monitoring Compounds			
6) S	n-dodecane-d26	8.630	142878	25.715 ug/mlm
23) S	n-eicosane-d42	17.541	137687	25.724 ug/mlm
34) S	n-triacontane-d62	29.406	131847	24.775 ug/mlm
	Target Compounds			
2)	n-C8	3.509	142046	26.381 ug/mlm
3)	n-C9	4.823	146687	25.917 ug/mlm
4)	n-C10	6.229	154262	25.898 ug/mlm
5)	n-C11	7.579	155130	25.925 ug/mlm
7)	n-C12	8.836	159547	25.528 ug/mlm
8)	i-13	0.000	0	N.D. ug/ml
9)	i-14	0.000	0	N.D. ug/mld
10)	n-C13	10.005	162337	25.850 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	11.098	166635	25.568 ug/mlm
13)	i-16	0.000	0	N.D. ug/mld
14)	n-C15	12.126	168648	25.342 ug/mlm
15)	n-C16	13.156	169515	25.064 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	14.256	172915	25.719 ug/mlm
19)	Pristane	14.373	173098	25.832 ug/mlm
20)	n-C18	15.428	173093	25.968 ug/mlm
21)	Phytane	15.590	175663	25.864 ug/mlm
22)	n-C19	16.662	172949	25.845 ug/mlm
24)	n-C20	17.938	174168	25.786 ug/mlm
25)	n-C21	19.235	174628	25.527 ug/mlm
26)	n-C22	20.532	176339	25.645 ug/mlm
27)	n-C23	21.816	175191	25.281 ug/mlm
28)	n-C24	23.076	174631	25.150 ug/mlm
29)	n-C25	24.306	175734	25.271 ug/mlm
30)	n-C26	25.504	176271	25.255 ug/mlm
31)	n-C27	26.664	171180	25.166 ug/mlm
32)	n-C28	27.791	172966	25.107 ug/mlm
33)	n-C29	28.884	173130	25.084 ug/mlm
35)	n-C30	29.941	169903	24.972 ug/mlm
36)	n-C31	30.967	167718	25.170 ug/mlm
37)	n-C32	31.960	163583	24.948 ug/mlm
38)	n-C33	32.928	161151	25.431 ug/mlm
39)	n-C34	33.867	162765	25.540 ug/mlm
40)	n-C35	34.862	158290	25.713 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3080\FID10079\
Data File : FID10079G.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 10:26:04
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 62 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 16 15:21:33 2013
Quant Method : P:\2005\J05453\Aliphatics\ENV3078\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.991	166466	25.233	ug/mlm
42)	n-C37	37.296	151876	25.552	ug/mlm
43)	n-C38	38.815	149231	25.574	ug/mlm
44)	n-C39	40.602	141165	25.164	ug/mlm
45)	n-C40	42.708	130065	25.505	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

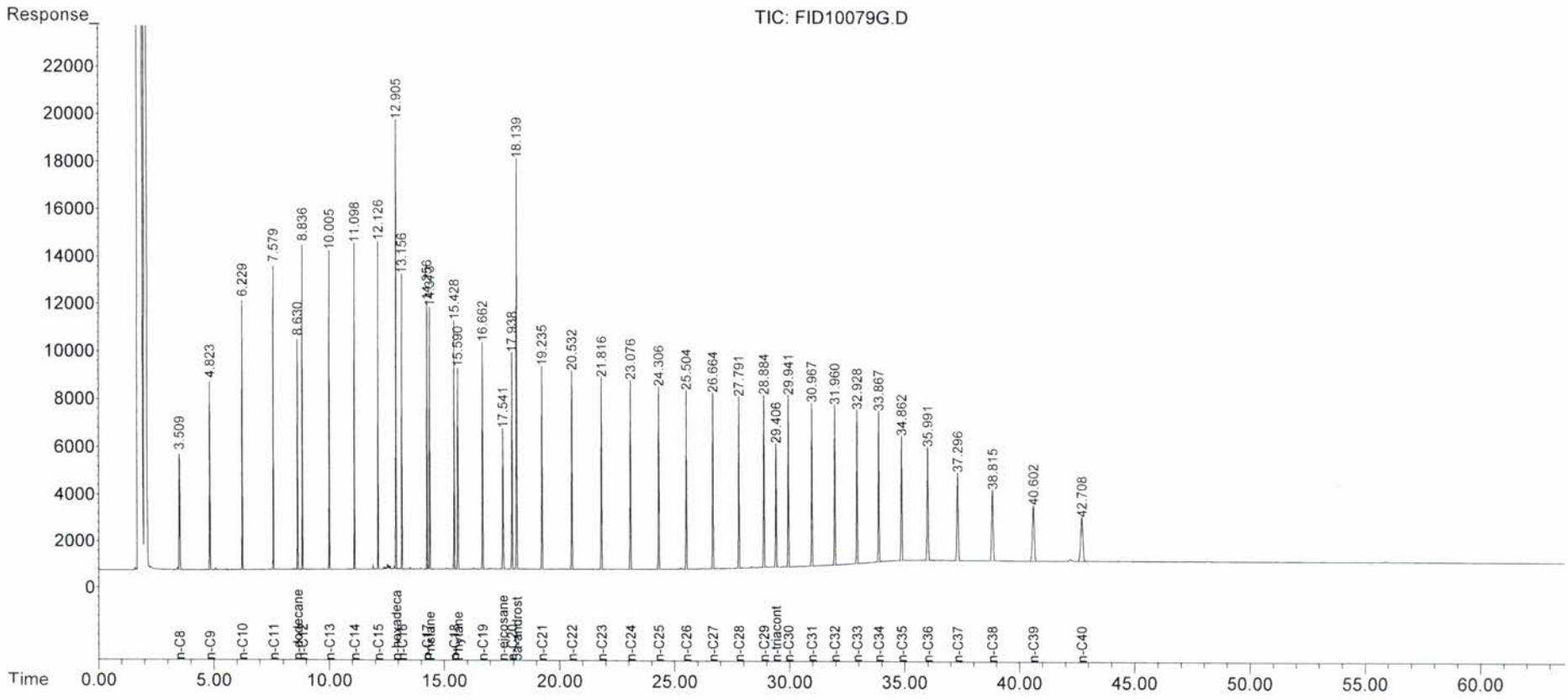
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3080\FID10079\
Data File : FID10079G.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 10:26:04
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 62 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 16 15:21:33 2013
Quant Method : P:\2005\J05453\Aliphatics\ENV3078\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3080\FID10079\
Data File : FID10079H.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 18:40:48
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 69 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 19 11:05:12 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3080\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	n-hexadecane-d34	1.000	1.000	0.0	76	0.00
2		n-C8	0.962	1.009	-4.9	78	0.00
3		n-C9	1.011	1.046	-3.5	77	0.00
4		n-C10	1.064	1.102	-3.6	77	0.00
5		n-C11	1.069	1.107	-3.6	77	0.00
6	S	n-dodecane-d26	0.992	1.021	-2.9	77	0.00
7		n-C12	1.116	1.158	-3.8	77	0.00
10		n-C13	1.122	1.158	-3.2	77	0.00
12		n-C14	1.164	1.198	-2.9	77	0.00
14		n-C15	1.189	1.215	-2.2	76	0.00
15		n-C16	1.208	1.225	-1.4	76	0.00
16	I	5a-androstane	1.000	1.000	0.0	74	0.00
18		n-C17	0.952	0.987	-3.7	76	0.00
19		Pristane	0.949	0.984	-3.7	76	0.00
20		n-C18	0.944	0.976	-3.4	75	0.00
21		Phytane	0.962	0.995	-3.4	75	0.00
22		n-C19	0.948	0.978	-3.2	75	0.00
23	S	n-eicosane-d42	0.758	0.774	-2.1	75	0.00
24		n-C20	0.957	0.983	-2.7	75	0.00
25		n-C21	0.969	0.996	-2.8	75	0.00
26		n-C22	0.974	0.998	-2.5	75	0.00
27		n-C23	0.982	1.002	-2.0	75	0.00
28		n-C24	0.984	1.001	-1.7	74	0.00
29		n-C25	0.985	1.000	-1.5	74	0.00
30		n-C26	0.989	0.997	-0.8	74	0.00
31		n-C27	0.964	0.970	-0.6	74	0.00
32		n-C28	0.976	0.982	-0.6	74	0.00
33		n-C29	0.978	0.979	-0.1	73	0.00
34	S	n-triacontane-d62	0.754	0.747	0.9	73	-0.01
35		n-C30	0.964	0.969	-0.5	73	-0.02
36		n-C31	0.944	0.954	-1.1	73	-0.02
37		n-C32	0.929	0.941	-1.3	73	-0.01
38		n-C33	0.898	0.913	-1.7	73	-0.02
39		n-C34	0.903	0.923	-2.2	74	-0.02
40		n-C35	0.872	0.898	-3.0	75	-0.02
41		n-C36	0.935	0.962	-2.9	75	-0.02
42		n-C37	0.842	0.860	-2.1	74	-0.03
43		n-C38	0.827	0.843	-1.9	74	-0.03

44	n-C39	0.795	0.799	-0.5	74	-0.04
45	n-C40	0.722	0.738	-2.2	73	-0.05

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.017	0.000	100.0#	0#	-9.03#
9	i-14	0.018	0.000	100.0#	0#	-9.73#
11	i-15	0.018	0.000	100.0#	0#	-10.88#
13	i-16	0.019	0.000	100.0#	0#	-11.77#
17	i-18	0.019	0.000	100.0#	0#	-13.72#
46	TPH	0.018	0.000	100.0#	0#	-29.05#
47	TRH1	0.018	0.000	100.0#	0#	-7.75#
48	TRH2	0.018	0.000	100.0#	0#	-15.92#
49	TRH3	0.018	0.000	100.0#	0#	-23.38#
50	TRH4	0.018	0.000	100.0#	0#	-28.40#
51	TRH5	0.018	0.000	100.0#	0#	-33.37#
52	TRH6	0.018	0.000	100.0#	0#	-44.83#
53	GRO	0.018	0.000	100.0#	0#	-5.27#
54	DRO	0.018	0.000	100.0#	0#	-14.31#
55	RRO	0.018	0.000	100.0#	0#	-33.00#

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

FID1C08BACK081213.M Mon Aug 19 11:05:32 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3080\FID10079\
Data File : FID10079H.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 18:40:48
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 69 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 19 11:05:12 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3080\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	12.903	290925	50.000	ug/mlm
16) I	5a-androstane	18.136	370603	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.629	148546	25.728	ug/mlm
23) S	n-eicosane-d42	17.537	144182	25.692	ug/mlm
34) S	n-triacontane-d62	29.402	138451	24.814	ug/mlm
Target Compounds					
2)	n-C8	3.509	146922	26.258	ug/mlm
3)	n-C9	4.822	152216	25.881	ug/mlm
4)	n-C10	6.228	160278	25.894	ug/mlm
5)	n-C11	7.577	161164	25.919	ug/mlm
7)	n-C12	8.835	165571	25.493	ug/mlm
8)	i-13	0.000	0	N.D.	ug/ml
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	10.004	168659	25.844	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	11.096	173159	25.568	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	12.124	175832	25.426	ug/mlm
15)	n-C16	13.154	176373	25.095	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.253	180512	25.608	ug/mlm
19)	Pristane	14.370	180528	25.695	ug/mlm
20)	n-C18	15.425	180768	25.866	ug/mlm
21)	Phytane	15.587	183591	25.782	ug/mlm
22)	n-C19	16.659	180843	25.776	ug/mlm
24)	n-C20	17.934	182258	25.736	ug/mlm
25)	n-C21	19.232	182762	25.482	ug/mlm
26)	n-C22	20.530	184800	25.633	ug/mlm
27)	n-C23	21.813	183539	25.262	ug/mlm
28)	n-C24	23.073	183055	25.145	ug/mlm
29)	n-C25	24.303	184321	25.280	ug/mlm
30)	n-C26	25.500	184840	25.259	ug/mlm
31)	n-C27	26.661	179537	25.174	ug/mlm
32)	n-C28	27.786	181656	25.149	ug/mlm
33)	n-C29	28.878	181334	25.058	ug/mlm
35)	n-C30	29.938	178515	25.026	ug/mlm
36)	n-C31	30.961	176510	25.265	ug/mlm
37)	n-C32	31.957	171833	24.995	ug/mlm
38)	n-C33	32.921	168925	25.426	ug/mlm
39)	n-C34	33.861	170487	25.515	ug/mlm
40)	n-C35	34.855	166251	25.758	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3080\FID10079\
Data File : FID10079H.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 18:40:48
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 69 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 19 11:05:12 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3080\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.987	174521	25.231	ug/mlm
42)	n-C37	37.290	159238	25.552	ug/mlm
43)	n-C38	38.812	156242	25.538	ug/mlm
44)	n-C39	40.593	147967	25.157	ug/mlm
45)	n-C40	42.688	136321	25.496	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

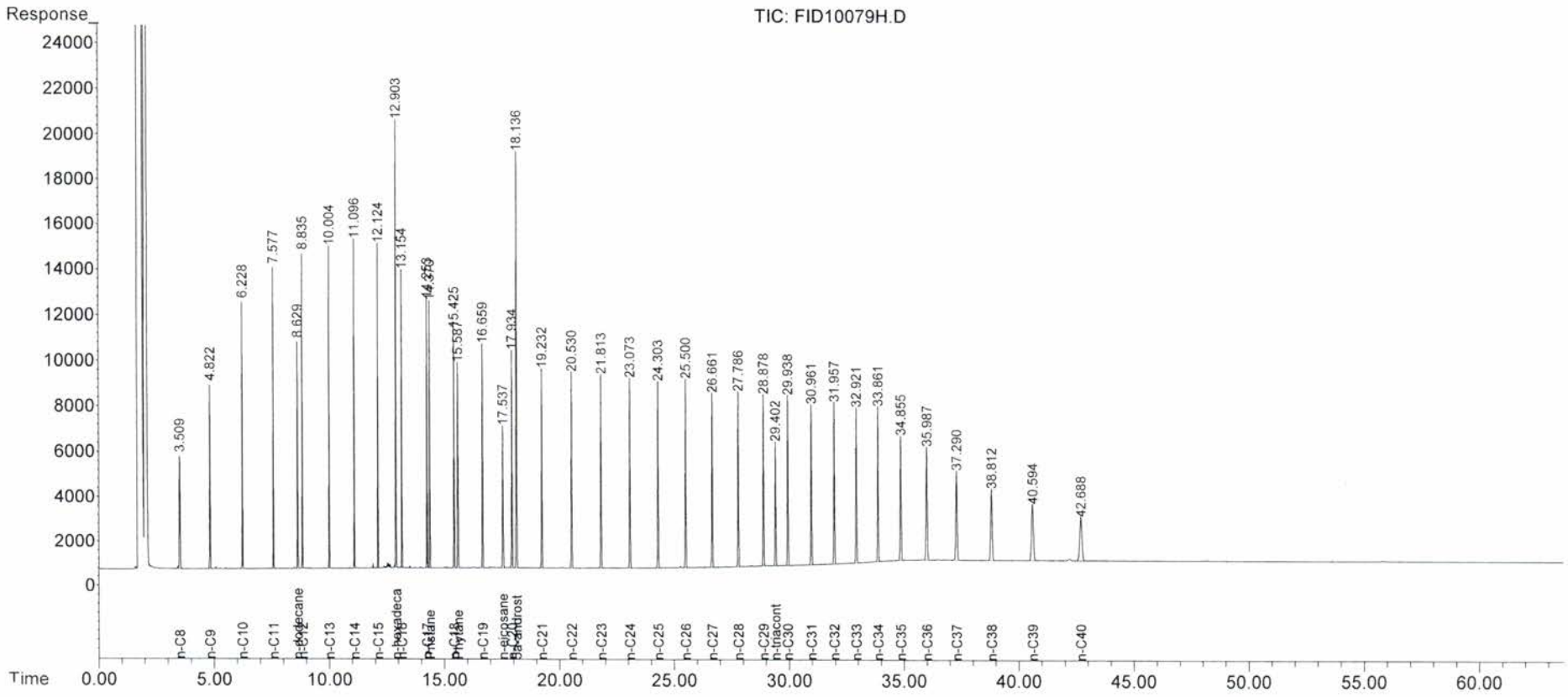
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3080\FID10079\
Data File : FID10079H.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 18:40:48
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 69 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 19 11:05:12 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3080\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**FID10079C.D**		FID10079C.D
Sample Name	**AL-SRM2779-20-01**		AL-SRM2779-20-01
Misc Info	**0**		15-Aug-2013, 22:38:15
Data File Path	**C:\msdchem\2\data\FID10079**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**15-Aug-2013, 22:38:15**		0.05
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	53
Vial Number	**53**	IS Area 1	320383
Sample Multiplier	**0.05**	IS Area 2	446097

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.52	1960080	15.91	15.905
3)	n-C9	4.84	1731290	13.37	13.365
4)	n-C10	6.25	1619610	11.88	11.880
5)	n-C11	7.60	1485320	10.85	10.846
7)	n-C12	8.85	1366210	9.55	9.551
8)	i-13	9.03	325014	2.26	2.261
9)	i-14	9.73	206332	1.38	1.383
10)	n-C13	10.02	1228030	8.54	8.544
11)	i-15	10.89	280903	1.84	1.844
12)	n-C14	11.12	1073680	7.20	7.198
13)	i-16	11.78	418503	2.70	2.704
14)	n-C15	12.14	1083240	7.11	7.112
15)	n-C16	13.18	897087	5.80	5.795
17)	i-18	13.73	240700	1.43	1.431
18)	n-C17	14.28	817051	4.81	4.815
19)	Pristane	14.38	426612	2.52	2.522
20)	n-C18	15.45	652376	3.88	3.877
21)	Phytane	15.60	253296	1.48	1.478
22)	n-C19	16.69	618285	3.66	3.661
24)	n-C20	17.96	507127	2.97	2.975
25)	n-C21	19.26	431233	2.50	2.497
26)	n-C22	20.56	374604	2.16	2.158
27)	n-C23	21.84	336009	1.92	1.921
28)	n-C24	23.10	299422	1.71	1.708
29)	n-C25	24.33	249137	1.42	1.419
30)	n-C26	25.53	210213	1.19	1.193
31)	n-C27	26.68	163679	0.95	0.953
32)	n-C28	27.81	136827	0.79	0.787
33)	n-C29	28.90	130354	0.75	0.748
35)	n-C30	29.96	112275	0.65	0.654
36)	n-C31	30.99	93500.5	0.56	0.556
37)	n-C32	31.98	66859.8	0.40	0.404
38)	n-C33	32.94	77529.6	0.48	0.485
39)	n-C34	33.89	70238.5	0.44	0.437
40)	n-C35	34.88	52762.9	0.34	0.340
41)	n-C36	36.01	36401.7	0.22	0.219
42)	n-C37	37.32	31529.2	0.21	0.210
43)	n-C38	38.85	23415.5	0.16	0.159
44)	n-C39	40.63	21142.6	0.15	0.149
45)	n-C40	42.74	21264.7	0.17	0.165
46)	TPH	7.60	106256000	659.00	659.000
47)	TRH1	7.60	20151400	124.98	124.979
48)	TRH2	12.14	12005600	74.46	74.459
49)	TRH3	21.84	1905080	11.82	11.815
50)	TRH4	26.68	1672960	10.38	10.376
51)	TRH5	31.98	1365430	8.47	8.468
52)	TRH6	37.32	212337	1.32	1.317
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	8.64	117196	0.92	92.2
23)	n-eicosane-d42	17.55	131145	0.97	96.4
34)	n-triacontane-d62	29.43	129894	0.97	96.6
1)	n-hexadecane-d34	12.91	320383	2.50	320383.000
16)	5a-androstane	18.16	446097	2.50	446097.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10079\
Data File : FID10079C.D
Signal(s) : FID2B.CH
Acq On : 15-Aug-2013, 22:38:15
Operator : Meghan Dailey
Sample : AL-SRM2779-20-01
Misc :
ALS Vial : 53 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Aug 16 15:43:32 2013
Quant Method : P:\2005\J05453\Aliphatics\ENV3078\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Fri Aug 16 15:16:38 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
Internal Standards				
1) I	n-hexadecane-d34	12.915	320383	50.000 ug/mlm
16) I	5a-androstane	18.162	446097	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.636	117196	0.922 ug/mlm
23) S	n-eicosane-d42	17.553	131145	0.971 ug/mlm
34) S	n-triacontane-d62	29.426	129894	0.967 ug/mlm
Target Compounds				
2)	n-C8	3.523	1960080	15.905 ug/mlm
3)	n-C9	4.838	1731287	13.365 ug/mlm
4)	n-C10	6.246	1619611	11.880 ug/mlm
5)	n-C11	7.596	1485323	10.845 ug/mlm
7)	n-C12	8.854	1366210	9.551 ug/mlm
8)	i-13	9.033	325014	2.261 ug/mlm
9)	i-14	9.733	206332	1.383 ug/mlm
10)	n-C13	10.024	1228032	8.544 ug/mlm
11)	i-15	10.887	280903	1.844 ug/mlm
12)	n-C14	11.116	1073682	7.198 ug/mlm
13)	i-16	11.780	418503	2.704 ug/mlm
14)	n-C15	12.144	1083237	7.112 ug/mlm
15)	n-C16	13.176	897087	5.795 ug/mlm
17)	i-18	13.731	240700	1.431 ug/mlm
18)	n-C17	14.277	817051	4.815 ug/mlm
19)	Pristane	14.384	426612	2.522 ug/mlm
20)	n-C18	15.449	652376	3.877 ug/mlm
21)	Phytane	15.605	253296	1.478 ug/mlm
22)	n-C19	16.686	618285	3.661 ug/mlm
24)	n-C20	17.962	507127	2.975 ug/mlm
25)	n-C21	19.258	431233	2.497 ug/mlm
26)	n-C22	20.556	374604	2.158 ug/mlm
27)	n-C23	21.839	336009	1.921 ug/mlm
28)	n-C24	23.100	299422	1.708 ug/mlm
29)	n-C25	24.329	249137	1.419 ug/mlm
30)	n-C26	25.526	210213	1.193 ug/mlm
31)	n-C27	26.684	163679	0.953 ug/mlm
32)	n-C28	27.810	136827	0.787 ug/mlm
33)	n-C29	28.901	130354	0.748 ug/mlm
35)	n-C30	29.960	112275	0.654 ug/mlm
36)	n-C31	30.985	93501	0.556 ug/mlm
37)	n-C32	31.979	66860	0.404 ug/mlm
38)	n-C33	32.943	77530	0.485 ug/mlm
39)	n-C34	33.886	70239	0.437 ug/mlm
40)	n-C35	34.882	52763	0.340 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10079\
Data File : FID10079C.D
Signal(s) : FID2B.CH
Acq On : 15-Aug-2013, 22:38:15
Operator : Meghan Dailey
Sample : AL-SRM2779-20-01
Misc :
ALS Vial : 53 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Aug 16 15:43:32 2013
Quant Method : P:\2005\J05453\Aliphatics\ENV3078\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Fri Aug 16 15:16:38 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.010	36402	0.219	ug/mlm
42)	n-C37	37.323	31529	0.210	ug/mlm
43)	n-C38	38.847	23415	0.159	ug/mlm
44)	n-C39	40.633	21143	0.149	ug/mlm
45)	n-C40	42.745	21265	0.165	ug/mlm
46)	TPH	7.596f	106256229	658.999	ug/mlm
47)	TRH1	7.596	20151420	124.979	ug/mlm
48)	TRH2	12.144f	12005615	74.459	ug/mlm
49)	TRH3	21.839f	1905085	11.815	ug/mlm
50)	TRH4	26.684f	1672963	10.376	ug/mlm
51)	TRH5	31.979f	1365429	8.468	ug/mlm
52)	TRH6	37.323f	212337	1.317	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

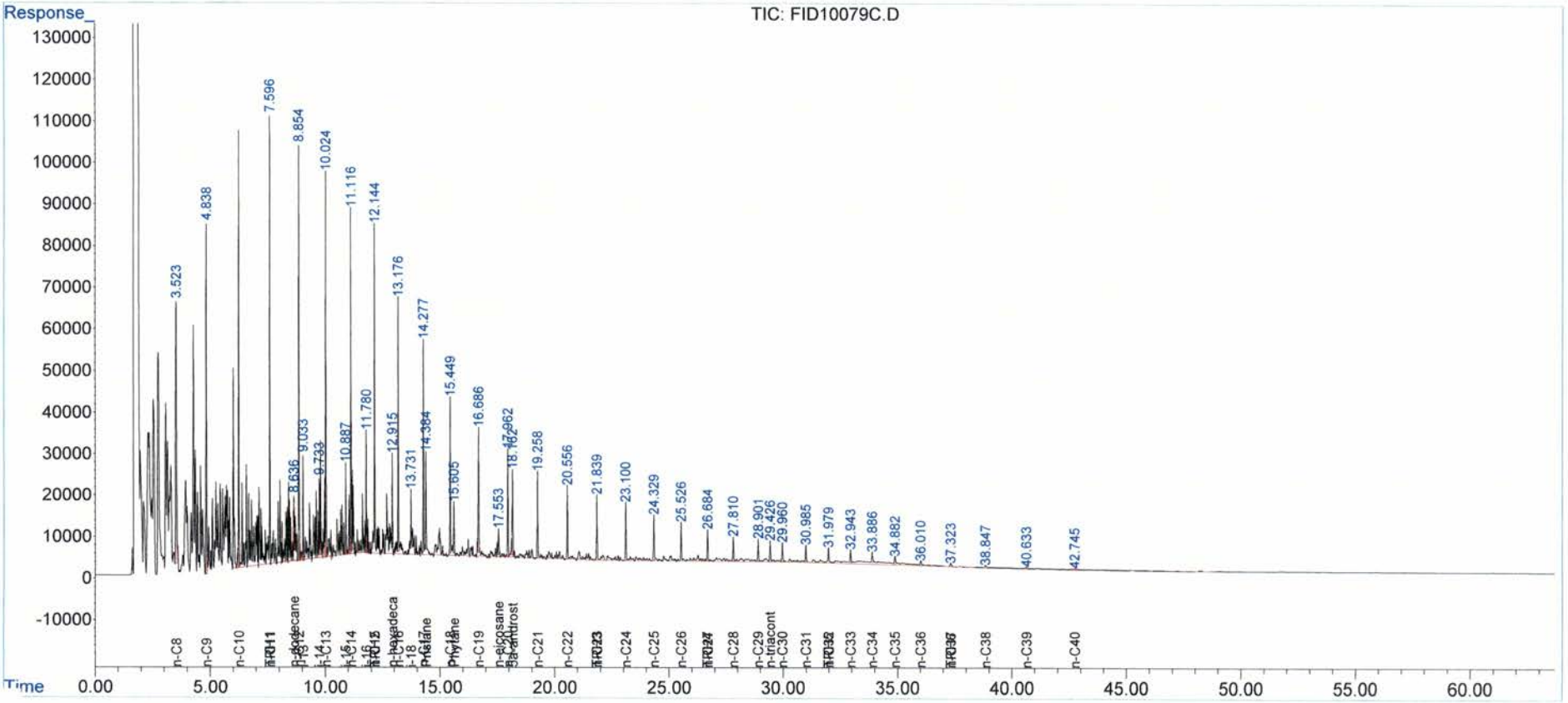
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10079\
Data File : FID10079C.D
Signal(s) : FID2B.CH
Acq On : 15-Aug-2013, 22:38:15
Operator : Meghan Dailey
Sample : AL-SRM2779-20-01
Misc :
ALS Vial : 53 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Aug 16 15:43:32 2013
Quant Method : P:\2005\J05453\Aliphatics\ENV3078\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Fri Aug 16 15:16:38 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**FID10079F.D**		FID10079F.D
Sample Name	**AL-WKPem-001**		AL-WKPem-001
Misc Info	**0**		16-Aug-2013, 02:10:37
Data File Path	**C:\msdchem\2\data\FID10079**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**16-Aug-2013, 02:10:37**		1
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	55
Vial Number	**55**	IS Area 1	302628
Sample Multiplier	**1**	IS Area 2	388762

#	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	9148860	1302.19	1302.190
47)	TRH1	8.63	133329	18.98	18.977
48)	TRH2	12.91	892417	127.02	127.021
49)	TRH3	26.15	6122.38	0.87	0.871
50)	TRH4	29.41	139727	19.89	19.888
51)	TRH5	35.96	166155	23.65	23.649
52)	TRH6	50.44	32383.3	4.61	4.609
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	8.63	122392	20.38	101.9
23)	n-eicosane-d42	17.54	120063	20.40	101.3
34)	n-triacontane-d62	29.41	119706	20.45	102.2
1)	n-hexadecane-d34	12.91	302628	50.00	302628.000
16)	5a-androstane	18.14	388762	50.07	388762.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10079\
Data File : FID10079F.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 02:10:37
Operator : Meghan Dailey
Sample : AL-WKPem-001
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 16 15:28:10 2013
Quant Method : P:\2005\J05453\Aliphatics\ENV3078\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
	Internal Standards				
1) I	n-hexadecane-d34	12.908	302628	50.000	ug/mlm
16) I	5a-androstane	18.145	388762	50.072	ug/mlm
	System Monitoring Compounds				
6) S	n-dodecane-d26	8.632	122392	20.379	ug/mlm
23) S	n-eicosane-d42	17.545	120063	20.395	ug/mlm
34) S	n-triacontane-d62	29.413	119706	20.452	ug/mlm
	Target Compounds				
2)	n-C8	0.000	0	N.D.	ug/mld
3)	n-C9	0.000	0	N.D.	ug/mld
4)	n-C10	0.000	0	N.D.	ug/mld
5)	n-C11	0.000	0	N.D.	ug/mld
7)	n-C12	0.000	0	N.D.	ug/mld
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	0.000	0	N.D.	ug/mld
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	0.000	0	N.D.	ug/mld
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	0.000	0	N.D.	ug/mld
15)	n-C16	0.000	0	N.D.	ug/mld
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	0.000	0	N.D.	ug/mld
19)	Pristane	0.000	0	N.D.	ug/mld
20)	n-C18	0.000	0	N.D.	ug/mld
21)	Phytane	0.000	0	N.D.	ug/mld
22)	n-C19	0.000	0	N.D.	ug/mld
24)	n-C20	0.000	0	N.D.	ug/mld
25)	n-C21	0.000	0	N.D.	ug/mld
26)	n-C22	0.000	0	N.D.	ug/mld
27)	n-C23	0.000	0	N.D.	ug/mld
28)	n-C24	0.000	0	N.D.	ug/mld
29)	n-C25	0.000	0	N.D.	ug/mld
30)	n-C26	0.000	0	N.D.	ug/mld
31)	n-C27	0.000	0	N.D.	ug/mld
32)	n-C28	0.000	0	N.D.	ug/mld
33)	n-C29	0.000	0	N.D.	ug/mld
35)	n-C30	0.000	0	N.D.	ug/mld
36)	n-C31	0.000	0	N.D.	ug/mld
37)	n-C32	0.000	0	N.D.	ug/mld
38)	n-C33	0.000	0	N.D.	ug/mld
39)	n-C34	0.000	0	N.D.	ug/mld
40)	n-C35	0.000	0	N.D.	ug/mld

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10079\
Data File : FID10079F.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 02:10:37
Operator : Meghan Dailey
Sample : AL-WKPem-001
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 16 15:28:10 2013
Quant Method : P:\2005\J05453\Aliphatics\ENV3078\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	0.000	0	N.D.	ug/mld
42)	n-C37	0.000	0	N.D.	ug/mld
43)	n-C38	0.000	0	N.D.	ug/mld
44)	n-C39	0.000	0	N.D.	ug/mld
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	12.908f	9148858	1302.187	ug/mlm
47)	TRH1	8.632	133329	18.977	ug/mlm
48)	TRH2	12.908f	892417	127.021	ug/mlm
49)	TRH3	26.150f	6122	0.871	ug/mlm
50)	TRH4	29.413	139727	19.888	ug/mlm
51)	TRH5	35.960f	166155	23.649	ug/mlm
52)	TRH6	50.443f	32383	4.609	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/ml

SemiQuant Compounds - Not Calibrated on this Instrument

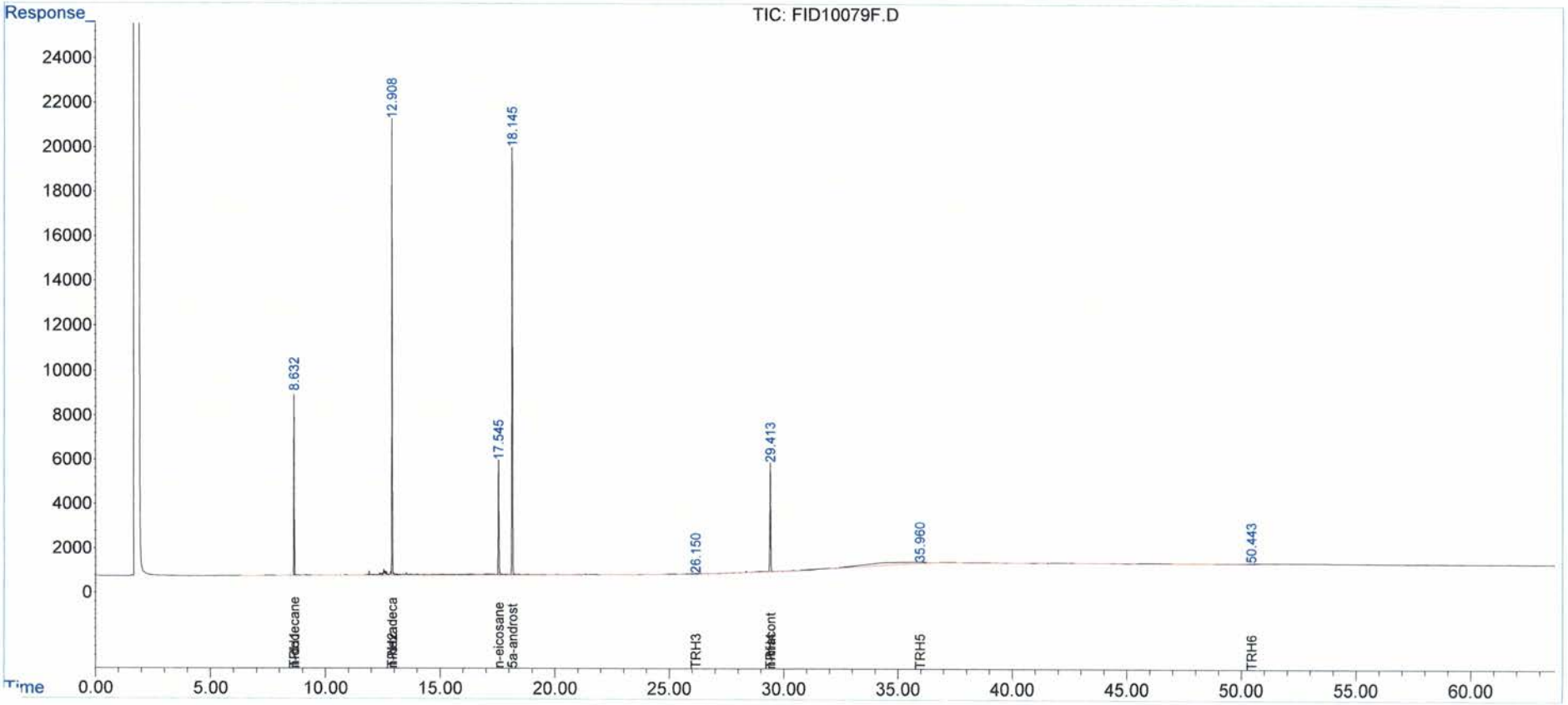
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10079\
Data File : FID10079F.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 02:10:37
Operator : Meghan Dailey
Sample : AL-WKPem-001
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 16 15:28:10 2013
Quant Method : P:\2005\J05453\Aliphatics\ENV3078\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



				Concentration
Data File Name	**ENV3080A.D**			ENV3080A.D
Sample Name	**Procedural Blank**			Procedural Blank
Misc Info	**0**			16-Aug-2013, 11:36:47
Data File Path	**C:\msdchem\2\data\FID10079**			ALI2012.M
Operator	**Meghan Dailey**			
Date Acquired	**16-Aug-2013, 11:36:47**			1
Instrument Name	**HP5890**			
Acq. Method File	**ALI2012.M**		Vial #	63
Vial Number	**63**		IS Area 1	273122
Sample Multiplier	**1**		IS Area 2	347809

#	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	12.90	7051240	1121.80	1121.800
47)	TRH1	8.63	119013	18.93	18.934
48)	TRH2	12.90	795815	126.61	126.608
49)	TRH3	24.49	18428.4	2.93	2.932
50)	TRH4	29.40	135286	21.52	21.523
51)	TRH5	36.00	94920	15.10	15.101
52)	TRH6	52.58	22670.7	3.61	3.607
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	8.63	86372.6	15.93	79.7
23)	n-eicosane-d42	17.54	103453	19.64	97.6
34)	n-triacontane-d62	29.40	103449	19.76	98.7
1)	n-hexadecane-d34	12.90	273122	50.00	273122.000
16)	5a-androstane	18.14	347809	50.07	347809.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10079\
Data File : ENV3080A.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 11:36:47
Operator : Meghan Dailey
Sample : Procedural Blank
Misc :
ALS Vial : 63 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 30 08:06:03 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3080\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	12.904	273122	50.000	ug/mlm
16) I	5a-androstane	18.136	347809	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.629	86373	15.935	ug/mlm
23) S	n-eicosane-d42	17.539	103453	19.643	ug/mlm
34) S	n-triacontane-d62	29.404	103449	19.755	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/mld
3)	n-C9	0.000	0	N.D.	ug/mld
4)	n-C10	0.000	0	N.D.	ug/mld
5)	n-C11	0.000	0	N.D.	ug/mld
7)	n-C12	0.000	0	N.D.	ug/mld
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	0.000	0	N.D.	ug/mld
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	0.000	0	N.D.	ug/mld
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	0.000	0	N.D.	ug/mld
15)	n-C16	0.000	0	N.D.	ug/mld
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	0.000	0	N.D.	ug/mld
19)	Pristane	0.000	0	N.D.	ug/mld
20)	n-C18	0.000	0	N.D.	ug/mld
21)	Phytane	0.000	0	N.D.	ug/mld
22)	n-C19	0.000	0	N.D.	ug/mld
24)	n-C20	0.000	0	N.D.	ug/mld
25)	n-C21	0.000	0	N.D.	ug/mld
26)	n-C22	0.000	0	N.D.	ug/mld
27)	n-C23	0.000	0	N.D.	ug/mld
28)	n-C24	0.000	0	N.D.	ug/mld
29)	n-C25	0.000	0	N.D.	ug/mld
30)	n-C26	0.000	0	N.D.	ug/mld
31)	n-C27	0.000	0	N.D.	ug/mld
32)	n-C28	0.000	0	N.D.	ug/mld
33)	n-C29	0.000	0	N.D.	ug/mld
35)	n-C30	0.000	0	N.D.	ug/mld
36)	n-C31	0.000	0	N.D.	ug/mld
37)	n-C32	0.000	0	N.D.	ug/mld
38)	n-C33	0.000	0	N.D.	ug/mld
39)	n-C34	0.000	0	N.D.	ug/mld
40)	n-C35	0.000	0	N.D.	ug/mld

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10079\
Data File : ENV3080A.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 11:36:47
Operator : Meghan Dailey
Sample : Procedural Blank
Misc :
ALS Vial : 63 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 30 08:06:03 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3080\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	0.000	0	N.D.	ug/mld
42)	n-C37	0.000	0	N.D.	ug/mld
43)	n-C38	0.000	0	N.D.	ug/mld
44)	n-C39	0.000	0	N.D.	ug/mld
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	12.904f	7051241	1121.797	ug/mlm
47)	TRH1	8.629	119013	18.934	ug/mlm
48)	TRH2	12.904f	795815	126.608	ug/mlm
49)	TRH3	24.493	18428	2.932	ug/mlm
50)	TRH4	29.404	135286	21.523	ug/mlm
51)	TRH5	35.996f	94920	15.101	ug/mlm
52)	TRH6	52.578f	22671	3.607	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

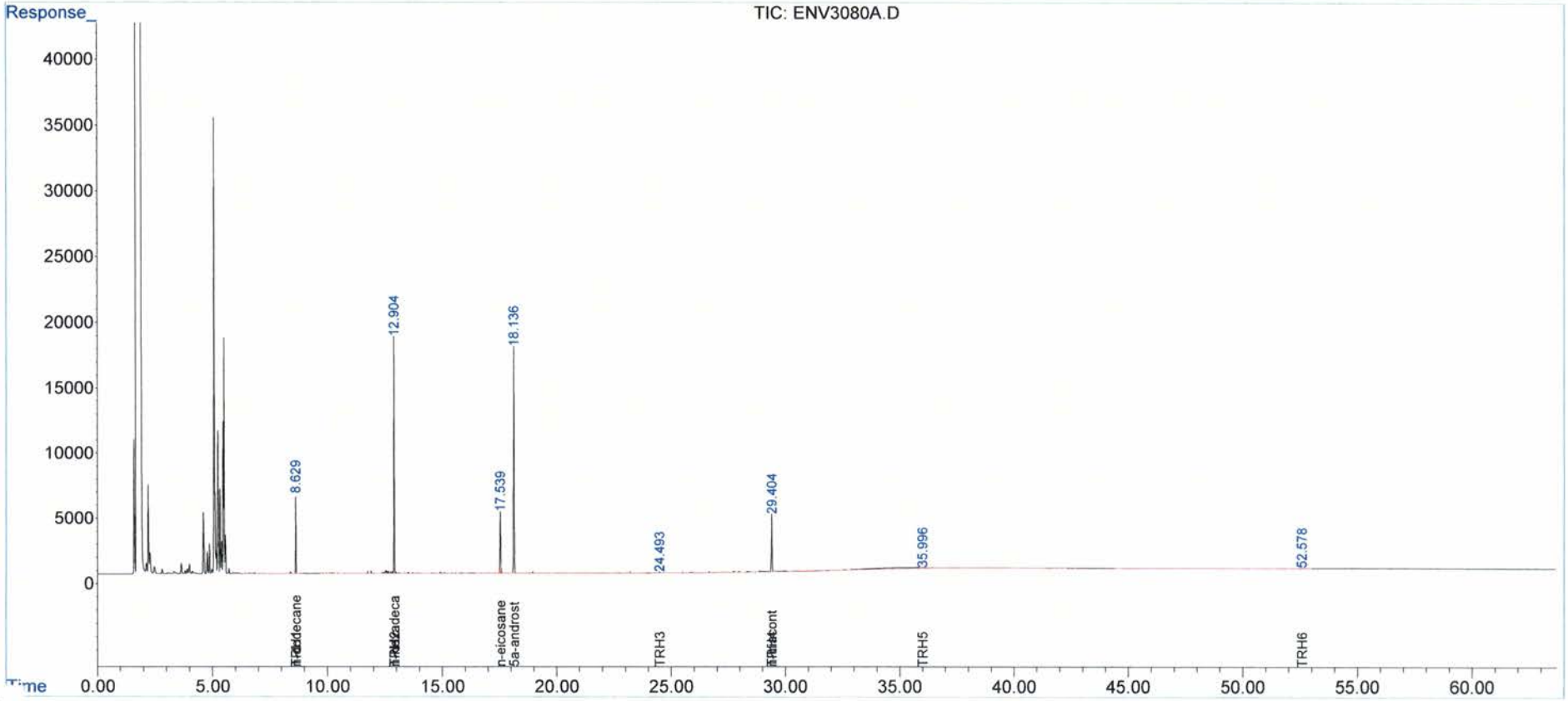
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10079\
Data File : ENV3080A.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 11:36:47
Operator : Meghan Dailey
Sample : Procedural Blank
Misc :
ALS Vial : 63 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 30 08:06:03 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3080\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ENV3080B.D**		ENV3080B.D
Sample Name	**Blank Spike**		Blank Spike
Misc Info	**0**		16-Aug-2013, 12:47:23
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3080\FID10079**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**16-Aug-2013, 12:47:23**		1
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	64
Vial Number	**64**	IS Area 1	269653
Sample Multiplier	**1**	IS Area 2	344098

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.51	19103	3.68	3.683
3)	n-C9	4.82	37095	6.80	6.805
4)	n-C10	6.23	41973.2	7.32	7.316
5)	n-C11	7.58	44619.6	7.74	7.742
7)	n-C12	8.83	46724.1	7.76	7.762
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	48602.2	8.04	8.035
11)	i-15	0.00	0	0.00	0.000
12)	n-C14	11.10	51646.6	8.23	8.228
13)	i-16	0.00	0	0.00	0.000
14)	n-C15	12.12	57125.9	8.91	8.912
15)	n-C16	13.15	61601.5	9.46	9.456
17)	i-18	0.00	0	0.00	0.000
18)	n-C17	14.25	65036.8	9.94	9.937
19)	Pristane	14.37	65159.2	9.99	9.989
20)	n-C18	15.42	67053.3	10.33	10.334
21)	Phytane	15.59	67810.7	10.26	10.256
22)	n-C19	16.66	67901.4	10.42	10.424
24)	n-C20	17.93	67990.5	10.34	10.340
25)	n-C21	19.23	68352.6	10.26	10.264
26)	n-C22	20.53	69317.6	10.36	10.356
27)	n-C23	21.81	68912.5	10.22	10.216
28)	n-C24	23.07	68901.7	10.19	10.194
29)	n-C25	24.30	69319	10.24	10.240
30)	n-C26	25.50	69868.5	10.28	10.283
31)	n-C27	26.66	67785	10.24	10.237
32)	n-C28	27.79	69342.9	10.34	10.340
33)	n-C29	28.88	67889.7	10.10	10.104
35)	n-C30	29.94	67254.4	10.15	10.155
36)	n-C31	30.96	66347.7	10.23	10.228
37)	n-C32	31.96	64681	10.13	10.133
38)	n-C33	32.92	63303.9	10.26	10.262
39)	n-C34	33.86	63930.7	10.30	10.305
40)	n-C35	34.86	62911	10.50	10.498
41)	n-C36	35.98	66863.8	10.41	10.411
42)	n-C37	37.29	62543.4	10.81	10.809
43)	n-C38	38.81	61829	10.88	10.885
44)	n-C39	40.59	59628.1	10.92	10.919
45)	n-C40	42.70	54884	11.06	11.056
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	8.63	76418.8	14.28	71.4
23)	n-eicosane-d42	17.54	97687.4	18.75	93.1
34)	n-triacontane-d62	29.40	102034	19.70	98.4
1)	n-hexadecane-d34	12.90	269653	50.00	269653.000
16)	5a-androstane	18.14	344098	50.07	344098.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10079\
Data File : ENV3080B.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 12:47:23
Operator : Meghan Dailey
Sample : Blank Spike
Misc :
ALS Vial : 64 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 19 11:35:51 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3080\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	Internal Standards			
1) I	n-hexadecane-d34	12.904	269653	50.000 ug/mlm
16) I	5a-androstane	18.136	344098	50.072 ug/mlm
	System Monitoring Compounds			
6) S	n-dodecane-d26	8.628	76419	14.280 ug/mlm
23) S	n-eicosane-d42	17.538	97687	18.748 ug/mlm
34) S	n-triacontane-d62	29.404	102034	19.695 ug/mlm
	Target Compounds			
2)	n-C8	3.506	19103	3.683 ug/mlm
3)	n-C9	4.821	37095	6.805 ug/ml
4)	n-C10	6.227	41973	7.316 ug/mlm
5)	n-C11	7.577	44620	7.742 ug/mlm
7)	n-C12	8.834	46724	7.762 ug/mlm
8)	i-13	0.000	0	N.D. ug/mld
9)	i-14	0.000	0	N.D. ug/mld
10)	n-C13	10.003	48602	8.035 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	11.095	51647	8.228 ug/mlm
13)	i-16	0.000	0	N.D. ug/mld
14)	n-C15	12.123	57126	8.912 ug/mlm
15)	n-C16	13.153	61601	9.456 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	14.251	65037	9.937 ug/mlm
19)	Pristane	14.369	65159	9.989 ug/mlm
20)	n-C18	15.424	67053	10.334 ug/mlm
21)	Phytane	15.586	67811	10.256 ug/mlm
22)	n-C19	16.658	67901	10.424 ug/mlm
24)	n-C20	17.933	67991	10.340 ug/mlm
25)	n-C21	19.229	68353	10.264 ug/mlm
26)	n-C22	20.529	69318	10.356 ug/mlm
27)	n-C23	21.812	68913	10.216 ug/mlm
28)	n-C24	23.072	68902	10.193 ug/mlm
29)	n-C25	24.302	69319	10.240 ug/mlm
30)	n-C26	25.498	69869	10.283 ug/mlm
31)	n-C27	26.660	67785	10.237 ug/mlm
32)	n-C28	27.787	69343	10.340 ug/mlm
33)	n-C29	28.877	67890	10.104 ug/mlm
35)	n-C30	29.937	67254	10.154 ug/mlm
36)	n-C31	30.962	66348	10.228 ug/mlm
37)	n-C32	31.955	64681	10.133 ug/mlm
38)	n-C33	32.922	63304	10.262 ug/mlm
39)	n-C34	33.862	63931	10.305 ug/mlm
40)	n-C35	34.855	62911	10.498 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10079\
Data File : ENV3080B.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 12:47:23
Operator : Meghan Dailey
Sample : Blank Spike
Misc :
ALS Vial : 64 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 19 11:35:51 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3080\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.984	66864	10.411	ug/mlm
42)	n-C37	37.288	62543	10.809	ug/mlm
43)	n-C38	38.806	61829	10.885	ug/mlm
44)	n-C39	40.587	59628	10.919	ug/mlm
45)	n-C40	42.696	54884	11.056	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

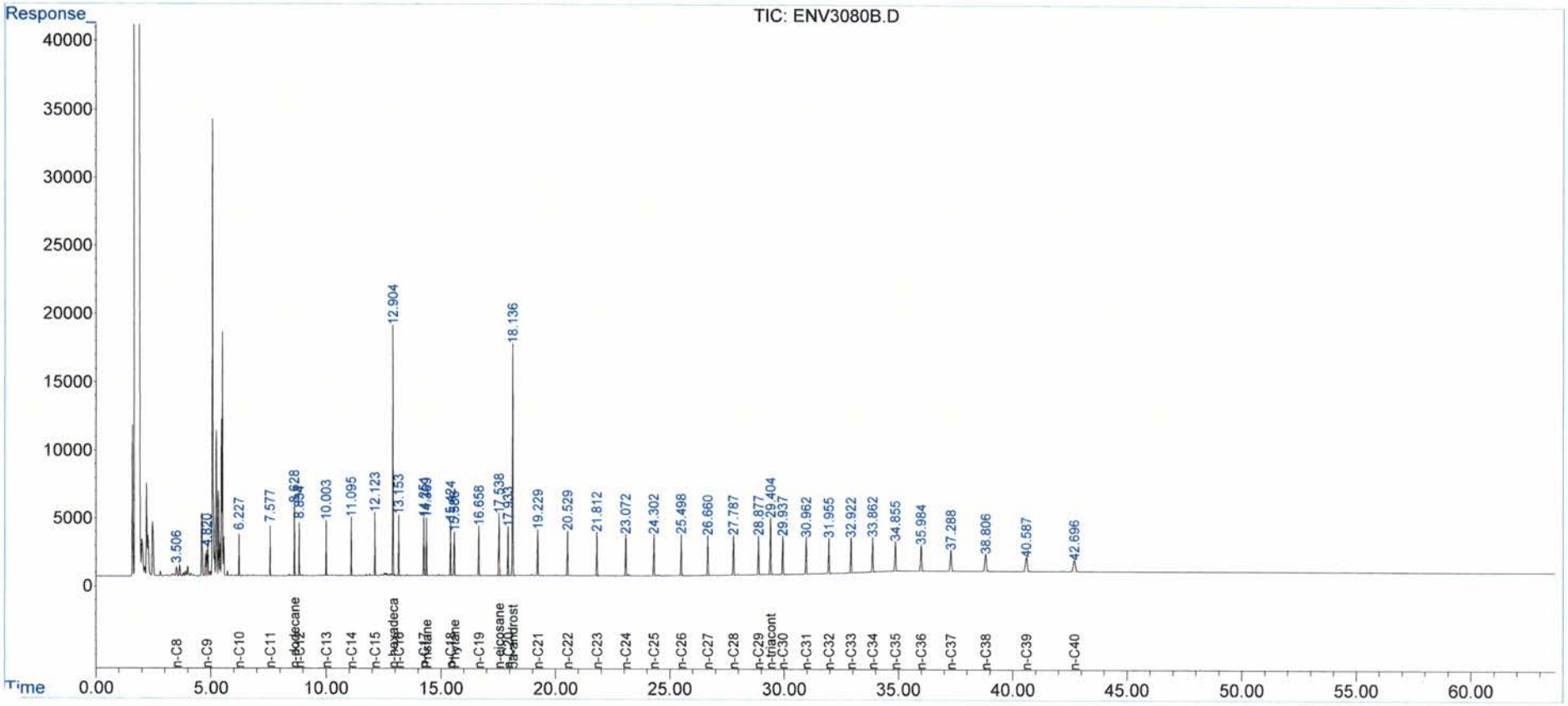
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10079\
Data File : ENV3080B.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 12:47:23
Operator : Meghan Dailey
Sample : Blank Spike
Misc :
ALS Vial : 64 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 19 11:35:51 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3080\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ENV3080C.D**		ENV3080C.D
Sample Name	**Blank Spike dUplicate**		Blank Spike dUplicate
Misc Info	**0**		16-Aug-2013, 13:58:00
Data File Path	**C:\msdchem\2\data\FID10079**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**16-Aug-2013, 13:58:00**		1
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	65
Vial Number	**65**	IS Area 1	278052
Sample Multiplier	**1**	IS Area 2	356721

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.50	18956.6	3.54	3.545
3)	n-C9	4.82	36465.6	6.49	6.487
4)	n-C10	6.23	40825.7	6.90	6.901
5)	n-C11	7.58	43414.1	7.31	7.305
7)	n-C12	8.83	45465.2	7.32	7.324
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	47397.9	7.60	7.599
11)	i-15	0.00	0	0.00	0.000
12)	n-C14	11.10	51607.4	7.97	7.973
13)	i-16	0.00	0	0.00	0.000
14)	n-C15	12.12	57941.3	8.77	8.767
15)	n-C16	13.15	62831.7	9.35	9.354
17)	i-18	0.00	0	0.00	0.000
18)	n-C17	14.25	66836.8	9.85	9.851
19)	Pristane	14.37	66903.6	9.89	9.893
20)	n-C18	15.42	69215.9	10.29	10.289
21)	Phytane	15.59	70002.7	10.21	10.213
22)	n-C19	16.66	69938.5	10.36	10.356
24)	n-C20	17.93	70517.1	10.35	10.345
25)	n-C21	19.23	70876.7	10.27	10.267
26)	n-C22	20.53	71859.1	10.36	10.355
27)	n-C23	21.81	71863.1	10.28	10.276
28)	n-C24	23.07	71931	10.27	10.265
29)	n-C25	24.30	72713.7	10.36	10.361
30)	n-C26	25.50	73298.9	10.41	10.406
31)	n-C27	26.66	71428.4	10.41	10.405
32)	n-C28	27.79	73422.5	10.56	10.561
33)	n-C29	28.88	72205.5	10.37	10.366
35)	n-C30	29.94	70576.9	10.28	10.279
36)	n-C31	30.96	69530.2	10.34	10.340
37)	n-C32	31.96	67618.5	10.22	10.219
38)	n-C33	32.92	66180.5	10.35	10.349
39)	n-C34	33.86	66810	10.39	10.388
40)	n-C35	34.85	65564	10.55	10.553
41)	n-C36	35.99	69411.8	10.43	10.426
42)	n-C37	37.29	64909.3	10.82	10.821
43)	n-C38	38.80	63549.1	10.79	10.792
44)	n-C39	40.59	59848.6	10.57	10.571
45)	n-C40	42.69	56204.8	10.92	10.921
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	8.63	84344.7	15.28	76.4
23)	n-eicosane-d42	17.54	108321	20.05	99.6
34)	n-triacontane-d62	29.40	106742	19.88	99.3
1)	n-hexadecane-d34	12.90	278052	50.00	278052.000
16)	5a-androstane	18.14	356721	50.07	356721.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10079\
Data File : ENV3080C.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 13:58:00
Operator : Meghan Dailey
Sample : Blank Spike dUplicate
Misc :
ALS Vial : 65 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 19 13:41:12 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3080\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
Internal Standards				
1) I	n-hexadecane-d34	12.904	278052	50.000 ug/mlm
16) I	5a-androstane	18.136	356721	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.629	84345	15.285 ug/mlm
23) S	n-eicosane-d42	17.537	108321	20.053 ug/mlm
34) S	n-triacontane-d62	29.402	106742	19.875 ug/mlm
Target Compounds				
2)	n-C8	3.501	18957	3.545 ug/mlm
3)	n-C9	4.821	36466	6.487 ug/ml
4)	n-C10	6.227	40826	6.901 ug/mlm
5)	n-C11	7.577	43414	7.305 ug/mlm
7)	n-C12	8.834	45465	7.324 ug/mlm
8)	i-13	0.000	0	N.D. ug/mld
9)	i-14	0.000	0	N.D. ug/mld
10)	n-C13	10.003	47398	7.599 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	11.095	51607	7.973 ug/mlm
13)	i-16	0.000	0	N.D. ug/mld
14)	n-C15	12.123	57941	8.767 ug/mlm
15)	n-C16	13.153	62832	9.354 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	14.252	66837	9.851 ug/mlm
19)	Pristane	14.369	66904	9.893 ug/mlm
20)	n-C18	15.424	69216	10.289 ug/mlm
21)	Phytane	15.586	70003	10.213 ug/mlm
22)	n-C19	16.658	69939	10.356 ug/mlm
24)	n-C20	17.933	70517	10.345 ug/mlm
25)	n-C21	19.230	70877	10.267 ug/mlm
26)	n-C22	20.527	71859	10.355 ug/mlm
27)	n-C23	21.812	71863	10.276 ug/mlm
28)	n-C24	23.072	71931	10.265 ug/mlm
29)	n-C25	24.303	72714	10.361 ug/mlm
30)	n-C26	25.499	73299	10.406 ug/mlm
31)	n-C27	26.658	71428	10.405 ug/mlm
32)	n-C28	27.786	73423	10.561 ug/mlm
33)	n-C29	28.879	72205	10.366 ug/mlm
35)	n-C30	29.936	70577	10.279 ug/mlm
36)	n-C31	30.962	69530	10.340 ug/mlm
37)	n-C32	31.957	67619	10.219 ug/mlm
38)	n-C33	32.923	66181	10.349 ug/mlm
39)	n-C34	33.862	66810	10.388 ug/mlm
40)	n-C35	34.855	65564	10.553 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10079\
Data File : ENV3080C.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 13:58:00
Operator : Meghan Dailey
Sample : Blank Spike dUplicate
Misc :
ALS Vial : 65 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 19 13:41:12 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3080\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.987	69412	10.426	ug/mlm
42)	n-C37	37.287	64909	10.821	ug/mlm
43)	n-C38	38.805	63549	10.792	ug/mlm
44)	n-C39	40.595	59849	10.571	ug/mlm
45)	n-C40	42.694	56205	10.921	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

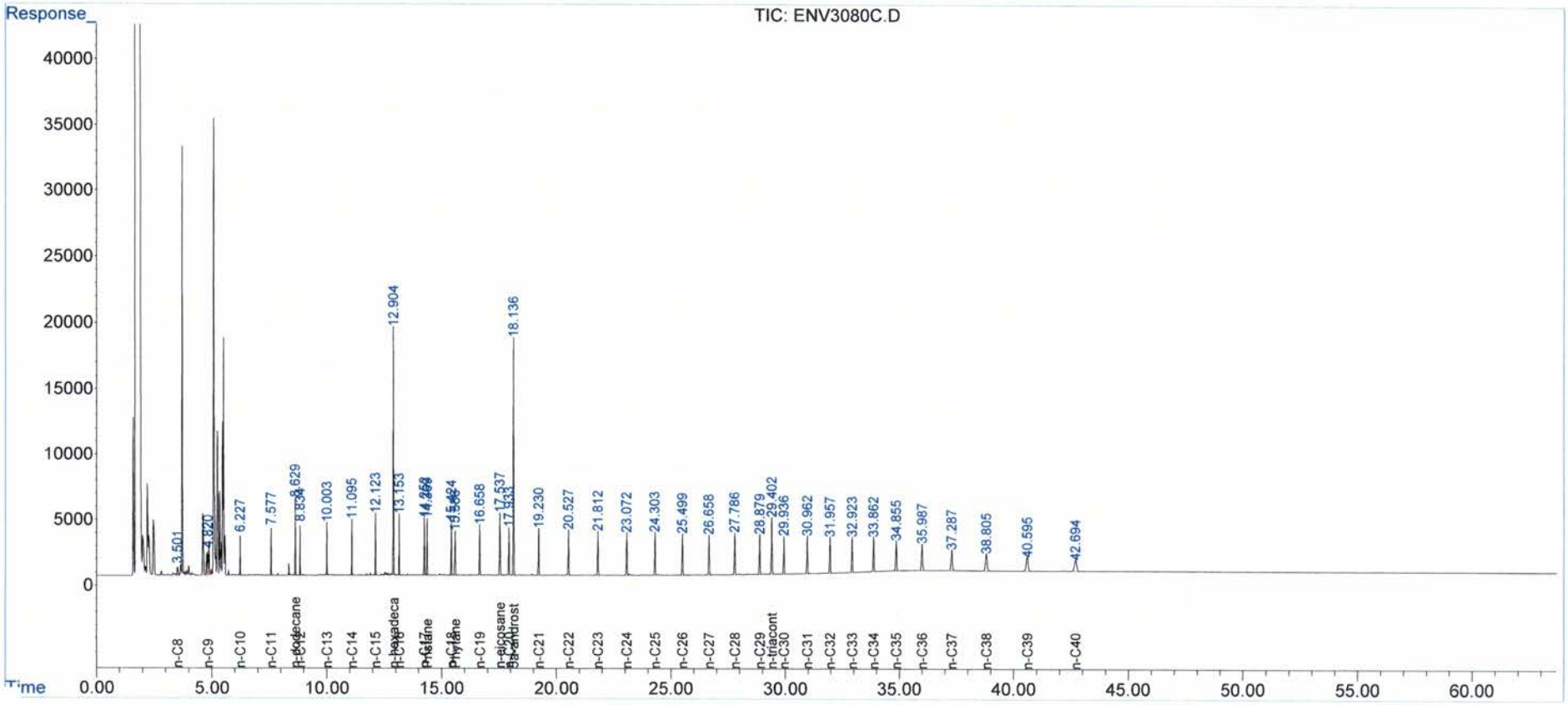
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10079\
Data File : ENV3080C.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 13:58:00
Operator : Meghan Dailey
Sample : Blank Spike dUplicate
Misc :
ALS Vial : 65 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 19 13:41:12 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3080\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC1765.D**		ARC1765.D
Sample Name	**SED-DA-EB-07-080913**		SED-DA-EB-07-080913
Misc Info	**0**		16-Aug-2013, 15:08:47
Data File Path	**C:\msdchem\2\data\FID10079**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**16-Aug-2013, 15:08:47**		0.934579
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	66
Vial Number	**66**	IS Area 1	262044
Sample Multiplier	**0.934579**	IS Area 2	334460

#	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	12.90	7294740	1127.91	1127.906
47)	TRH1	8.63	119376	18.46	18.458
48)	TRH2	12.90	776560	120.07	120.071
49)	TRH3	24.77	10883.1	1.68	1.683
50)	TRH4	29.40	105210	16.27	16.267
51)	TRH5	34.85	14473.8	2.24	2.238
52)	TRH6	35.72	11905.4	1.84	1.841
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	8.63	77542.6	13.94	74.6
23)	n-eicosane-d42	17.54	95899.2	17.70	94.1
34)	n-triacontane-d62	29.40	93184.8	17.29	92.4
1)	n-hexadecane-d34	12.90	262044	46.73	262044.000
16)	5a-androstane	18.13	334460	46.80	334460.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10079\
Data File : ARC1765.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 15:08:47
Operator : Meghan Dailey
Sample : SED-DA-EB-07-080913
Misc :
ALS Vial : 66 Sample Multiplier: 0.934579

Integration File: autoint1.e
Quant Time: Aug 30 08:13:57 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3080\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	12.903	262044	50.000	ug/mlm
16) I	5a-androstane	18.135	334460	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.629	77543	13.935	ug/mlm
23) S	n-eicosane-d42	17.536	95899	17.697	ug/mlm
34) S	n-triacontane-d62	29.403	93185	17.295	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/mld
3)	n-C9	0.000	0	N.D.	ug/mld
4)	n-C10	0.000	0	N.D.	ug/mld
5)	n-C11	0.000	0	N.D.	ug/mld
7)	n-C12	0.000	0	N.D.	ug/mld
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	0.000	0	N.D.	ug/mld
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	0.000	0	N.D.	ug/ml
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	0.000	0	N.D.	ug/mld
15)	n-C16	0.000	0	N.D.	ug/mld
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	0.000	0	N.D.	ug/mld
19)	Pristane	0.000	0	N.D.	ug/mld
20)	n-C18	0.000	0	N.D.	ug/mld
21)	Phytane	0.000	0	N.D.	ug/mld
22)	n-C19	0.000	0	N.D.	ug/mld
24)	n-C20	0.000	0	N.D.	ug/mld
25)	n-C21	0.000	0	N.D.	ug/mld
26)	n-C22	0.000	0	N.D.	ug/mld
27)	n-C23	0.000	0	N.D.	ug/mld
28)	n-C24	0.000	0	N.D.	ug/mld
29)	n-C25	0.000	0	N.D.	ug/mld
30)	n-C26	0.000	0	N.D.	ug/mld
31)	n-C27	0.000	0	N.D.	ug/mld
32)	n-C28	0.000	0	N.D.	ug/mld
33)	n-C29	0.000	0	N.D.	ug/mld
35)	n-C30	0.000	0	N.D.	ug/mld
36)	n-C31	0.000	0	N.D.	ug/mld
37)	n-C32	0.000	0	N.D.	ug/mld
38)	n-C33	0.000	0	N.D.	ug/mld
39)	n-C34	0.000	0	N.D.	ug/mld
40)	n-C35	0.000	0	N.D.	ug/mld

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10079\
Data File : ARC1765.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 15:08:47
Operator : Meghan Dailey
Sample : SED-DA-EB-07-080913
Misc :
ALS Vial : 66 Sample Multiplier: 0.934579

Integration File: autoint1.e
Quant Time: Aug 30 08:13:57 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3080\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	0.000	0	N.D.	ug/mld
42)	n-C37	0.000	0	N.D.	ug/mld
43)	n-C38	0.000	0	N.D.	ug/mld
44)	n-C39	0.000	0	N.D.	ug/mld
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	12.903f	7294735	1127.902	ug/mlm
47)	TRH1	8.629	119376	18.458	ug/mlm
48)	TRH2	12.903f	776560	120.071	ug/mlm
49)	TRH3	24.768f	10883	1.683	ug/mlm
50)	TRH4	29.403	105210	16.267	ug/mlm
51)	TRH5	34.853f	14474	2.238	ug/mlm
52)	TRH6	35.719f	11905	1.841	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

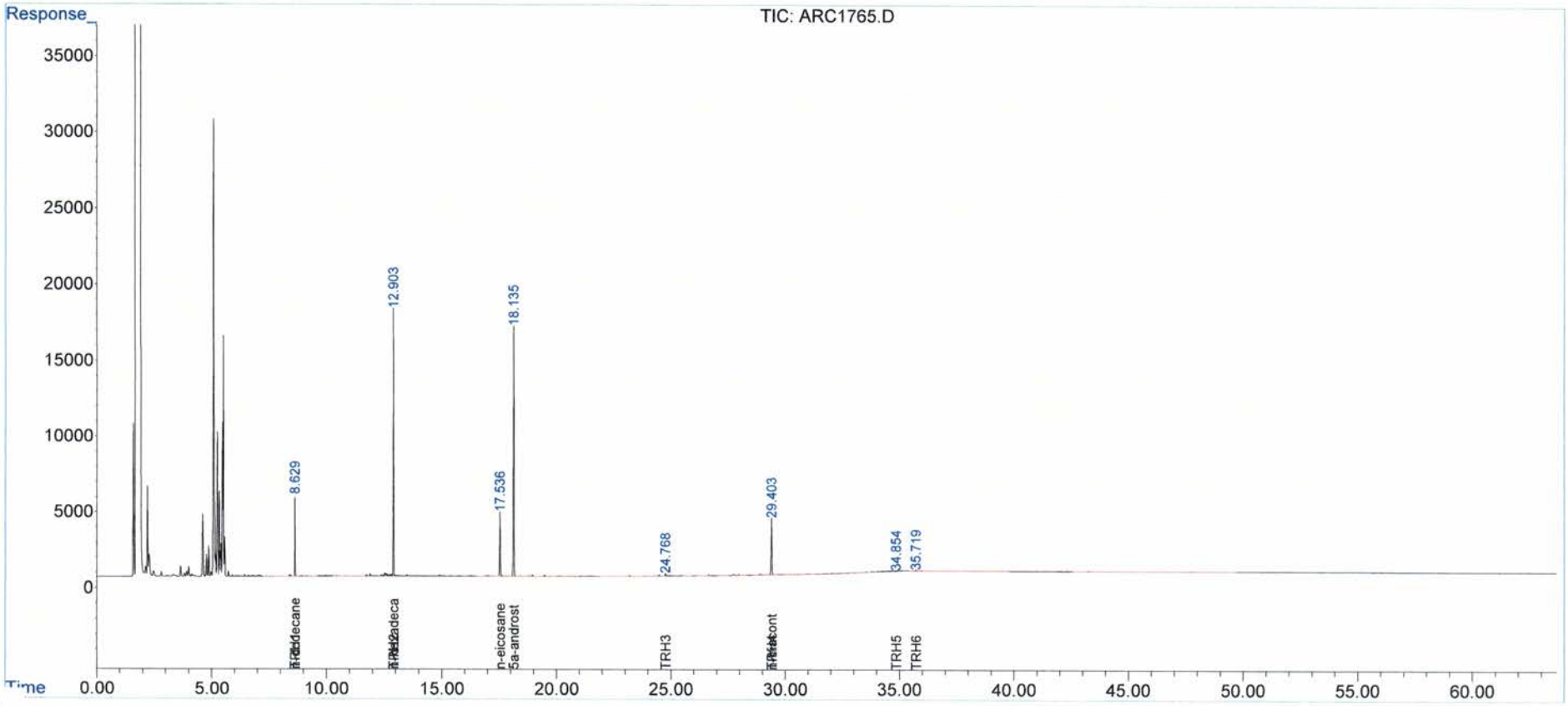
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10079\
Data File : ARC1765.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 15:08:47
Operator : Meghan Dailey
Sample : SED-DA-EB-07-080913
Misc :
ALS Vial : 66 Sample Multiplier: 0.934579

Integration File: autoint1.e
Quant Time: Aug 30 08:13:57 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3080\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC1767.D**		ARC1767.D
Sample Name	**SED-DA-DI-Water**		SED-DA-DI-Water
Misc Info	**0**		16-Aug-2013, 16:19:32
Data File Path	**C:\msdchem\2\data\FID10079**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**16-Aug-2013, 16:19:32**		0.952381
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	67
Vial Number	**67**	IS Area 1	281942
Sample Multiplier	**0.952381**	IS Area 2	360785

#	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	12.90	6982480	1019.91	1019.914
47)	TRH1	8.63	165869	24.23	24.228
48)	TRH2	12.90	847169	123.74	123.744
49)	TRH3	24.49	11851.8	1.73	1.731
50)	TRH4	29.40	134883	19.70	19.702
51)	TRH5	34.81	5343.47	0.78	0.781
52)	TRH6	37.48	9078.33	1.33	1.326
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	8.63	79860.4	13.59	71.4
23)	n-eicosane-d42	17.54	107568	18.75	97.8
34)	n-triacontane-d62	29.40	108057	18.95	99.4
1)	n-hexadecane-d34	12.90	281942	47.62	281942.000
16)	5a-androstane	18.14	360785	47.69	360785.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10079\
Data File : ARC1767.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 16:19:32
Operator : Meghan Dailey
Sample : SED-DA-DI-Water
Misc :
ALS Vial : 67 Sample Multiplier: 0.952381

Integration File: autoint1.e
Quant Time: Aug 30 08:15:23 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3080\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	12.903	281942	50.000	ug/mlm
16) I	5a-androstane	18.135	360785	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.629	79860	13.593	ug/mlm
23) S	n-eicosane-d42	17.537	107568	18.752	ug/mlm
34) S	n-triacontane-d62	29.402	108057	18.946	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/mld
3)	n-C9	0.000	0	N.D.	ug/mld
4)	n-C10	0.000	0	N.D.	ug/mld
5)	n-C11	0.000	0	N.D.	ug/mld
7)	n-C12	0.000	0	N.D.	ug/mld
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	0.000	0	N.D.	ug/mld
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	0.000	0	N.D.	ug/mld
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	0.000	0	N.D.	ug/mld
15)	n-C16	0.000	0	N.D.	ug/mld
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	0.000	0	N.D.	ug/mld
19)	Pristane	0.000	0	N.D.	ug/mld
20)	n-C18	0.000	0	N.D.	ug/mld
21)	Phytane	0.000	0	N.D.	ug/mld
22)	n-C19	0.000	0	N.D.	ug/mld
24)	n-C20	0.000	0	N.D.	ug/mld
25)	n-C21	0.000	0	N.D.	ug/mld
26)	n-C22	0.000	0	N.D.	ug/mld
27)	n-C23	0.000	0	N.D.	ug/mld
28)	n-C24	0.000	0	N.D.	ug/mld
29)	n-C25	0.000	0	N.D.	ug/mld
30)	n-C26	0.000	0	N.D.	ug/mld
31)	n-C27	0.000	0	N.D.	ug/mld
32)	n-C28	0.000	0	N.D.	ug/mld
33)	n-C29	0.000	0	N.D.	ug/mld
35)	n-C30	0.000	0	N.D.	ug/mld
36)	n-C31	0.000	0	N.D.	ug/mld
37)	n-C32	0.000	0	N.D.	ug/mld
38)	n-C33	0.000	0	N.D.	ug/mld
39)	n-C34	0.000	0	N.D.	ug/mld
40)	n-C35	0.000	0	N.D.	ug/mld

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10079\
Data File : ARC1767.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 16:19:32
Operator : Meghan Dailey
Sample : SED-DA-DI-Water
Misc :
ALS Vial : 67 Sample Multiplier: 0.952381

Integration File: autoint1.e
Quant Time: Aug 30 08:15:23 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3080\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	0.000	0	N.D.	ug/mld
42)	n-C37	0.000	0	N.D.	ug/mld
43)	n-C38	0.000	0	N.D.	ug/mld
44)	n-C39	0.000	0	N.D.	ug/mld
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	12.903f	6982485	1019.911	ug/mlm
47)	TRH1	8.629	165869	24.228	ug/mlm
48)	TRH2	12.903f	847169	123.743	ug/mlm
49)	TRH3	24.491	11852	1.731	ug/mlm
50)	TRH4	29.402	134883	19.702	ug/mlm
51)	TRH5	34.805f	5343	0.781	ug/mlm
52)	TRH6	37.484f	9078	1.326	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

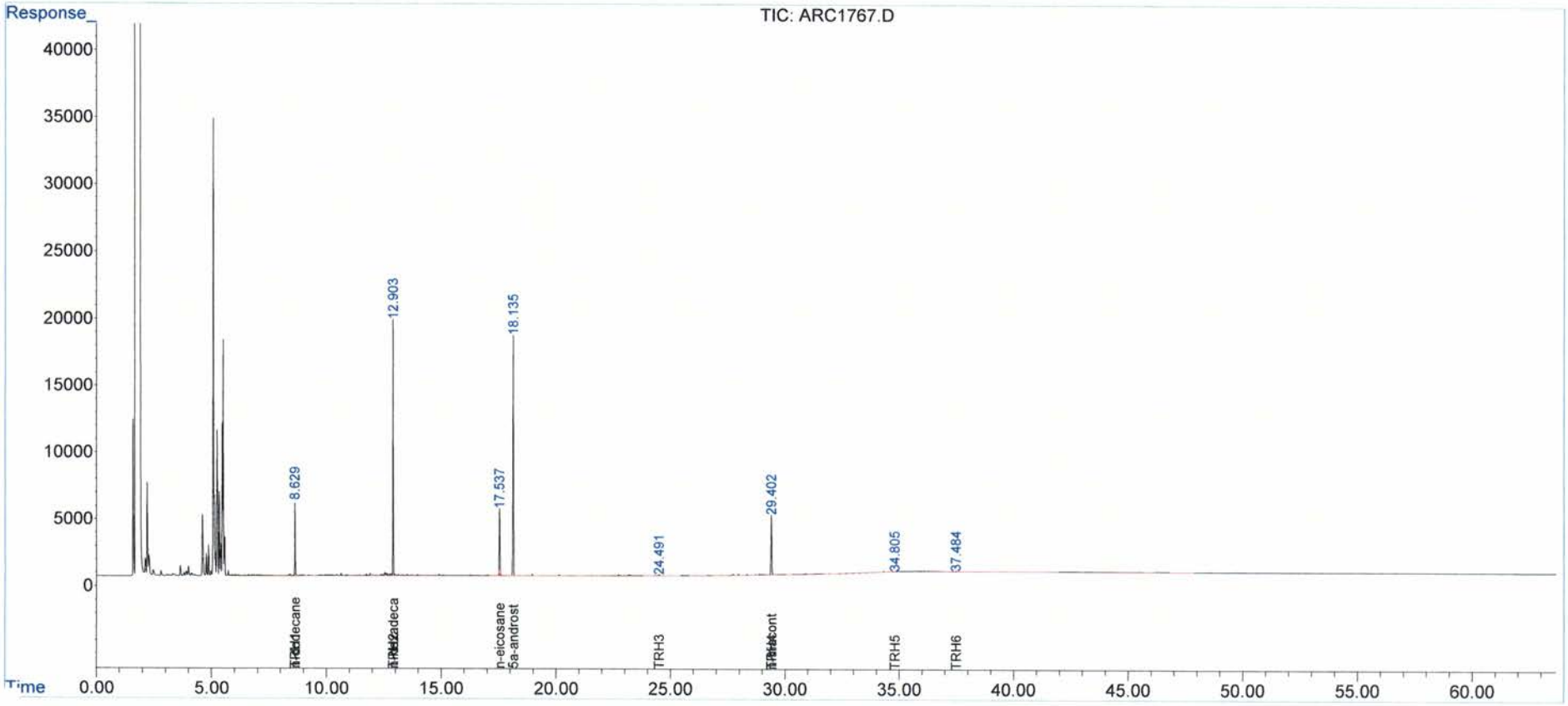
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10079\
Data File : ARC1767.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 16:19:32
Operator : Meghan Dailey
Sample : SED-DA-DI-Water
Misc :
ALS Vial : 67 Sample Multiplier: 0.952381

Integration File: autoint1.e
Quant Time: Aug 30 08:15:23 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3080\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC1769.D**		ARC1769.D
Sample Name	**SED-DA-EB-08-081013**		SED-DA-EB-08-081013
Misc Info	**0**		16-Aug-2013, 17:30:16
Data File Path	**C:\msdchem\2\data\FID10079**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**16-Aug-2013, 17:30:16**		0.934579
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	68
Vial Number	**68**	IS Area 1	260209
Sample Multiplier	**0.934579**	IS Area 2	332915

#	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	12.90	7420490	1152.67	1152.672
47)	TRH1	8.63	142931	22.20	22.202
48)	TRH2	12.90	787633	122.35	122.348
49)	TRH3	24.49	7583.87	1.18	1.178
50)	TRH4	29.40	124069	19.27	19.272
51)	TRH5	35.38	24939.8	3.87	3.874
52)	TRH6	35.72	11269	1.75	1.750
53)	GRO	0.00	0	0.00	0.000
54)	DRO	0.00	0	0.00	0.000
55)	RRO	0.00	0	0.00	0.000
6)	n-dodecane-d26	8.63	79216.2	14.34	76.7
23)	n-eicosane-d42	17.54	99411.6	18.43	98.0
34)	n-triacontane-d62	29.40	99648.1	18.58	99.3
1)	n-hexadecane-d34	12.90	260209	46.73	260209.000
16)	5a-androstane	18.13	332915	46.80	332915.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10079\
Data File : ARC1769.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 17:30:16
Operator : Meghan Dailey
Sample : SED-DA-EB-08-081013
Misc :
ALS Vial : 68 Sample Multiplier: 0.934579

Integration File: autoint1.e
Quant Time: Aug 30 08:24:50 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3080\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	12.903	260209	50.000	ug/mlm
16) I	5a-androstane	18.134	332915	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.628	79216	14.336	ug/mlm
23) S	n-eicosane-d42	17.536	99412	18.430	ug/mlm
34) S	n-triacontane-d62	29.403	99648	18.580	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/mld
3)	n-C9	0.000	0	N.D.	ug/mld
4)	n-C10	0.000	0	N.D.	ug/mld
5)	n-C11	0.000	0	N.D.	ug/mld
7)	n-C12	0.000	0	N.D.	ug/mld
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	0.000	0	N.D.	ug/mld
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	0.000	0	N.D.	ug/mld
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	0.000	0	N.D.	ug/mld
15)	n-C16	0.000	0	N.D.	ug/mld
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	0.000	0	N.D.	ug/mld
19)	Pristane	0.000	0	N.D.	ug/mld
20)	n-C18	0.000	0	N.D.	ug/mld
21)	Phytane	0.000	0	N.D.	ug/mld
22)	n-C19	0.000	0	N.D.	ug/mld
24)	n-C20	0.000	0	N.D.	ug/mld
25)	n-C21	0.000	0	N.D.	ug/mld
26)	n-C22	0.000	0	N.D.	ug/ml
27)	n-C23	0.000	0	N.D.	ug/mld
28)	n-C24	0.000	0	N.D.	ug/mld
29)	n-C25	0.000	0	N.D.	ug/mld
30)	n-C26	0.000	0	N.D.	ug/mld
31)	n-C27	0.000	0	N.D.	ug/mld
32)	n-C28	0.000	0	N.D.	ug/mld
33)	n-C29	0.000	0	N.D.	ug/mld
35)	n-C30	0.000	0	N.D.	ug/mld
36)	n-C31	0.000	0	N.D.	ug/mld
37)	n-C32	0.000	0	N.D.	ug/mld
38)	n-C33	0.000	0	N.D.	ug/mld
39)	n-C34	0.000	0	N.D.	ug/ml
40)	n-C35	0.000	0	N.D.	ug/mld

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10079\
Data File : ARC1769.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 17:30:16
Operator : Meghan Dailey
Sample : SED-DA-EB-08-081013
Misc :
ALS Vial : 68 Sample Multiplier: 0.934579

Integration File: autoint1.e
Quant Time: Aug 30 08:24:50 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3080\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	0.000	0	N.D.	ug/mld
42)	n-C37	0.000	0	N.D.	ug/mld
43)	n-C38	0.000	0	N.D.	ug/mld
44)	n-C39	0.000	0	N.D.	ug/mld
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	12.903f	7420487	1152.669	ug/mlm
47)	TRH1	8.628	142931	22.202	ug/mlm
48)	TRH2	12.903f	787633	122.348	ug/mlm
49)	TRH3	24.490	7584	1.178	ug/mlm
50)	TRH4	29.403	124069	19.272	ug/mlm
51)	TRH5	35.376f	24940	3.874	ug/mlm
52)	TRH6	35.717f	11269	1.750	ug/mlm
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

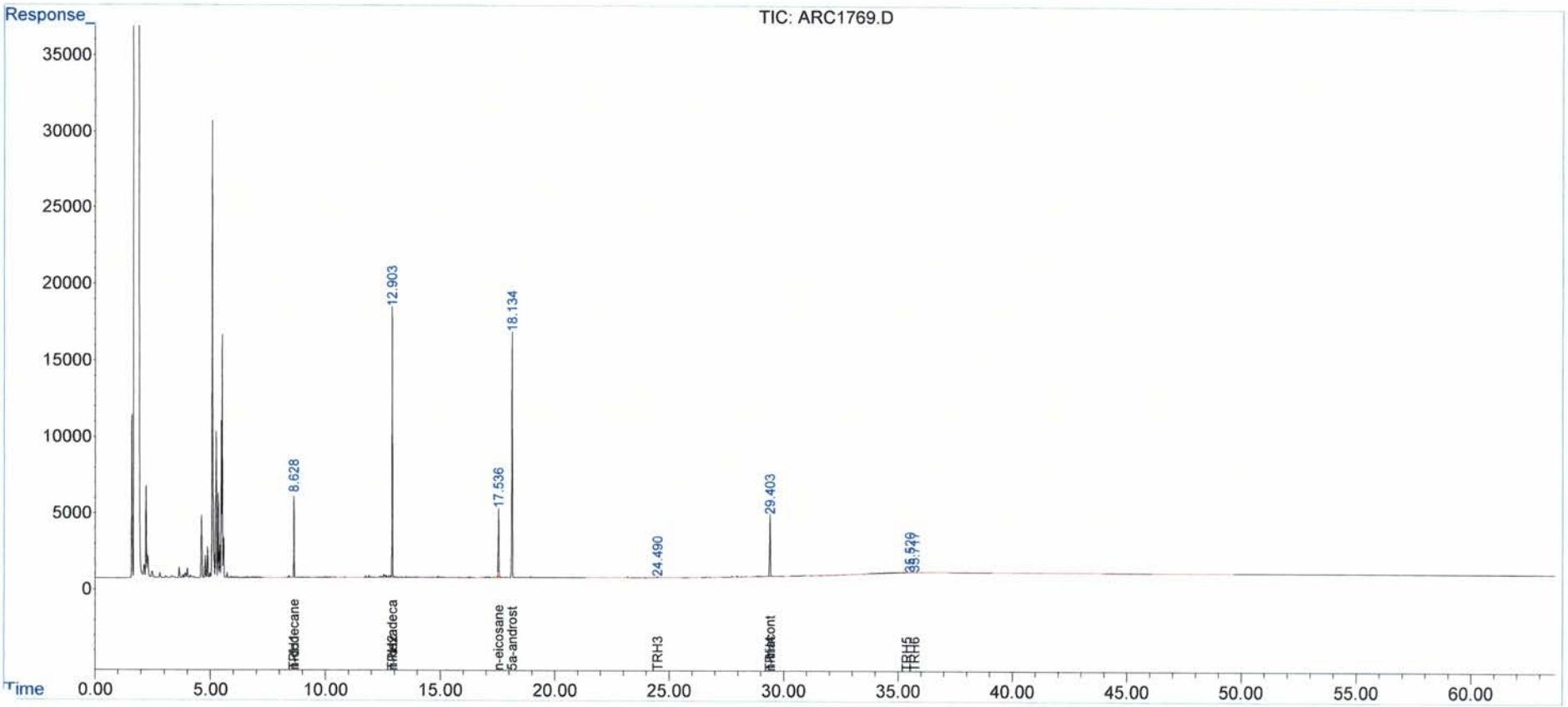
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10079\
Data File : ARC1769.D
Signal(s) : FID2B.CH
Acq On : 16-Aug-2013, 17:30:16
Operator : Meghan Dailey
Sample : SED-DA-EB-08-081013
Misc :
ALS Vial : 68 Sample Multiplier: 0.934579

Integration File: autoint1.e
Quant Time: Aug 30 08:24:50 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3080\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Polycyclic Aromatic Hydrocarbon Raw Data

B&B LABORATORIES PAHs QA FORM

Extraction Page: ENV 3080 | Analyst: Y. Miao

Client: Aracadis Mayflower | Date: 9/13/2013

Job: #: J13034 | Project Quality Manager: W Juan

SDG #: 13080901 and 13081301 | Date: 09/13/13

Initial Calibration:	ICV
No failures	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

Matirx Spike Duplicate:
NA

SRM/LCS (Solution, Tissue, Sediment):
Solution no failures

CCC (from a second source):
No failures

SRM-2279 Reference Oil
No failures

Mass Discrimination Check (benzo(ghi)perylene/phenanthrene >0.7)
No failures

Sequence Name: C:\msdchem\1\data\MS70057\MS70058.s
Comment: Arcadis-Mayflower AR-Water-PAH (08/19/13)
Operator: YM
Data Path: C:\MSDCHEM\1\DATA\MS70058\
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

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

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

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

Line		Sample Name/Misc Info		
1)	Sample	1	MS70058A	PAH-2012 Solvent rinse
2)	Sample	2	MS70058B	PAH-2012 AR-WKC1-020-030
3)	Sample	3	MS70058C	PAH-2012 AR-WKC2-100-030
4)	Sample	4	MS70058D	PAH-2012 AR-WKC3-250-030
5)	Sample	5	MS70058E	PAH-2012 AR-WKC4-500-030
6)	Sample	6	MS70058F	PAH-2012 AR-WKC5-1000-030
7)	Sample	7	MS70058G	PAH-2012 AR-WKC6-5000-030
8)	Sample	8	MS70058H	PAH-2012 AR-WKISSU-250-002
9)	Sample	9	MS70058I	PAH-2012 AR-WKICV-250-004
10)	Sample	10	MS70058J	PAH-2012 AR-WKCC-250-038
11)	Sample	11	MS70058K	PAH-2012 AR-SRM2779-WK4.0-002
12)	Sample	12	ENV3080A	PAH-2012
13)	Sample	13	ENV3080B	PAH-2012
14)	Sample	14	ENV3080C	PAH-2012
15)	Sample	15	ARC1762	PAH-2012
16)	Sample	16	ARC1763	PAH-2012
17)	Sample	17	ARC1765	PAH-2012
18)	Sample	18	ARC1767	PAH-2012
19)	Sample	19	MS70058L	PAH-2012 AR-WKCC-250-038
20)	Sample	20	ARC1769	PAH-2012
21)	Sample	21	ARC1771	PAH-2012
22)	Sample	22	ENV3084A	PAH-2012
23)	Sample	23	ENV3084B	PAH-2012
24)	Sample	24	ENV3084C	PAH-2012
25)	Sample	25	ARC1768	PAH-2012
26)	Sample	26	ARC1854	PAH-2012
27)	Sample	27	MS70058M	PAH-2012 AR-WKCC-250-038

} In separate folder

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70058\
Data File : MS70058J.D
Acq On : 20 Aug 2013 5:20 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 22 06:42:05 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 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	84	0.00
2	S	Naphthalene-d8	1.671	1.604	4.0	87	0.00
3	T	cis/trans Decalin	0.292	0.283	3.1	83	0.00
4	un	C1-Decalins	0.292	0.000	100.0#	0#	-12.32#
5	un	C2-Decalins	0.292	0.000	100.0#	0#	-13.52#
6	un	C3-Decalins	0.292	0.000	100.0#	0#	-15.88#
7	un	C4-Decalins	0.292	0.000	100.0#	0#	-18.33#
8	T	Naphthalene	1.823	1.775	2.6	88	0.00
9	T	2-Methylnaphthalene	1.196	1.129	5.6	86	0.00
10	T	1-Methylnaphthalene	1.109	1.056	4.8	86	0.00
11	T	2,6-Dimethylnaphthalene	1.048	0.995	5.1	86	0.00
12	T	1,6,7-Trimethylnaphthalene	0.954	0.881	7.7	85	0.00
13	un	C2-Naphthalenes	1.823	0.000	100.0#	0#	-18.89#
14	un	C3-Naphthalenes	1.823	0.000	100.0#	0#	-20.37#
15	un	C4-Naphthalenes	1.823	0.000	100.0#	0#	-22.26#
16	T	Benzothiophene	1.510	1.472	2.5	89	0.03
17	un	C1-Benzothiophenes	1.510	0.000	100.0#	0#	-15.49#
18	un	C2-Benzothiophenes	1.510	0.000	100.0#	0#	-17.92#
19	un	C3-Benzothiophenes	1.510	0.000	100.0#	0#	-20.31#
20	un	C4-Benzothiophenes	1.510	0.000	100.0#	0#	-22.23#
21	S	Acenaphthene-d10	0.969	0.899	7.2	85	0.00
22	T	Biphenyl	1.535	1.501	2.2	88	0.00
23	T	Acenaphthylene	1.633	1.519	7.0	87	0.00
24	T	Acenaphthene	1.047	0.971	7.3	85	0.00
25	T	Dibenzofuran	1.752	1.682	4.0	87	0.00
26	T	Fluorene	1.345	1.270	5.6	85	0.00
27	T	1-Methylfluorene	0.721	0.642	11.0	83	0.00
28	un	C1-Fluorenes	1.345	0.000	100.0#	0#	-23.51#
29	un	C2-Fluorenes	1.345	0.000	100.0#	0#	-24.79#
30	un	C3-Fluorenes	1.345	0.000	100.0#	0#	-27.59#
31	I	Pyrene-d10	1.000	1.000	0.0	82	0.00
32	S	Phenanthrene-d10	0.885	0.905	-2.3	88	0.00
33	T	Carbazole	0.917	0.835	8.9	80	0.00
34	T	Dibenzothiophene	1.122	1.121	0.1	86	0.00
35	T	4-Methyldibenzothiophene	0.708	0.678	4.2	86	0.00
36	un	2/3-Methyldibenzothiophene	0.708	0.000	100.0#	0#	-26.21#
37	un	1-Methyldibenzothiophene	0.708	0.000	100.0#	0#	-26.52#
38	un	C2-Dibenzothiophenes	1.122	0.000	100.0#	0#	-27.83#
39	un	C3-Dibenzothiophenes	1.122	0.000	100.0#	0#	-28.49#
40	un	C4-Dibenzothiophenes	1.122	0.000	100.0#	0#	-31.09#
41	T	Phenanthrene	0.993	0.992	0.1	88	0.00
42	T	Anthracene	0.907	0.865	4.6	83	0.00
43	un	3-Methylphenanthrene	0.816	0.000	100.0#	0#	-26.93#
44	un	2-Methylphenanthrene	0.816	0.000	100.0#	0#	-26.93#
45	un	2-Methylanthracene	0.816	0.000	100.0#	0#	-26.73#
46	un	4/9-Methylphenanthrene	0.816	0.000	100.0#	0#	-26.93#

Data Path : C:\GCMS7\MS70058\
Data File : MS70058J.D
Acq On : 20 Aug 2013 5:20 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 22 06:42:05 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
47	T	1-Methylphenanthrene	0.816	0.737	9.7	82	0.00
48	T	3,6-Dimethylphenanthrene	0.810	0.719	11.2	80	0.00
49	T	Retene	0.371	0.343	7.5	82	0.00
50	un	C2-Phenanthrenes/Anthracene	0.993	0.000	100.0#	0#	-28.56#
51	un	C3-Phenanthrenes/Anthracene	0.993	0.000	100.0#	0#	-29.43#
52	un	C4-Phenanthrenes/Anthracene	0.993	0.000	100.0#	0#	-32.06#
53	T	Naphthobenzothiophene	1.302	1.129	13.3	78	0.00
54	un	C1-Naphthobenzothiophenes	1.302	0.000	100.0#	0#	-34.55#
55	un	C2-Naphthobenzothiophenes	1.302	0.000	100.0#	0#	-36.02#
56	un	C3-Naphthobenzothiophenes	1.302	0.000	100.0#	0#	-37.42#
57	un	C4-Naphthobenzothiophenes	1.302	0.000	100.0#	0#	-37.92#
58	T	Fluoranthene	1.295	1.197	7.6	81	0.00
59	T	Pyrene	1.217	1.186	2.5	86	-0.03
60	T	2-Methylfluoranthene	0.792	0.742	6.3	83	0.00
61	T	Benzo(b)fluorene	0.893	0.760	14.9	77	0.00
62	un	C1-Fluoranthenes/Pyrenes	1.295	0.000	100.0#	0#	-30.71#
63	un	C2-Fluoranthenes/Pyrenes	1.295	0.000	100.0#	0#	-32.18#
64	un	C3-Fluoranthenes/Pyrenes	1.295	0.000	100.0#	0#	-34.00#
65	un	C4-Fluoranthenes/Pyrenes	1.295	0.000	100.0#	0#	-35.09#
66	S	Chrysene-d12	1.235	1.116	9.6	82	0.00
67	T	Benz(a)anthracene	1.018	0.962	5.5	91	0.00
68	T	Chrysene/Triphenylene	1.450	1.311	9.6	80	0.00
69	un	C1-Chrysenes	1.450	0.000	100.0#	0#	-35.83#
70	un	C2-Chrysenes	1.450	0.000	100.0#	0#	-36.99#
71	un	C3-Chrysenes	1.450	0.000	100.0#	0#	-38.11#
72	un	C4-Chrysenes	1.450	0.000	100.0#	0#	-39.74#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	77	0.00
74	un	C29-Hopane	0.393	0.000	100.0#	0#	-40.28#
75	un	18a-Oleanane	0.393	0.000	100.0#	0#	-42.34#
76	T	C30-Hopane	0.393	0.388	1.3	82	0.00
77	T	Benzo(b)fluoranthene	1.350	1.235	8.5	80	0.00
78	T	Benzo(k,j)fluoranthene	1.469	1.347	8.3	79	0.00
79	un	Benzo(a)fluoranthene	1.469	0.000	100.0#	0#	-37.34#
80	T	Benzo(e)pyrene	1.395	1.292	7.4	81	0.00
81	T	Benzo(a)pyrene	1.313	1.210	7.8	80	-0.04
82	T	Indeno(1,2,3-c,d)pyrene	1.633	1.497	8.3	80	0.00
83	T	Dibenzo(a,h)anthracene	1.302	1.206	7.4	81	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.302	0.000	100.0#	0#	-48.31#
85	un	C2-Dibenzo(a,h)anthracenes	1.302	0.000	100.0#	0#	-50.30#
86	un	C3-Dibenzo(a,h)anthracenes	1.302	0.000	100.0#	0#	-51.23#
87	T	Benzo(g,h,i)perylene	1.444	1.386	4.0	83	-0.04
88	S	Perylene-d12	1.215	1.168	3.9	81	0.00
89	T	Perylene	1.347	1.256	6.8	82	-0.04
90	S	5(b)H-Cholane	0.262	0.239	8.8	79	0.00
91	un	C20-TAS	1.496	0.000	100.0#	0#	-33.30#
92	un	C21-TAS	1.496	0.000	100.0#	0#	-34.24#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70058\
Data File : MS70058J.D
Acq On : 20 Aug 2013 5:20 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 22 06:42:05 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

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

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
93 un	C26(20S)-TAS	1.496	0.000	100.0#	0#	-38.70#
94 T	C26(20R)/C27(20S)-TAS	1.496	1.322	11.6	77	-0.04
95 un	C28(20S)-TAS	1.496	0.000	100.0#	0#	-40.24#
96 un	C27(20R)-TAS	1.496	0.000	100.0#	0#	-41.09#
97 un	C28(20R)-TAS	1.496	0.000	100.0#	0#	-41.42#

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058J.D
Acq On : 20 Aug 2013 5:20 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 22 06:42:05 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.399	176	363550m	251.05		0.00
31) Pyrene-d10	29.600	212	668267m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	669193m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.766	136	580957m	240.12		0.00
21) Acenaphthene-d10	19.616	164	325634m	232.15		0.00
32) Phenanthrene-d10	24.683	188	603510m	255.68		0.00
66) Chrysene-d12	33.770	240	743978m	225.91		0.00
88) Perylene-d12	38.619	264	780613m	240.27		0.00
90) 5(b)H-Cholane	34.158	217	159529m	227.60		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.120	138	101260m	239.32		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.822	128	642580m	243.38		
9) 2-Methylnaphthalene	16.078	142	409276m	236.37		
10) 1-Methylnaphthalene	16.413	142	381806m	237.79		
11) 2,6-Dimethylnaphthalene	18.168	156	360334m	237.38		
12) 1,6,7-Trimethylnaphtha...	21.037	170	319064m	230.91		
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	14.017	134	529535m	242.21		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.638	154	538681m	242.39		
23) Acenaphthylene	19.115	152	545412m	230.57		
24) Acenaphthene	19.728	154	352129m	232.15		
25) Dibenzofuran	20.313	168	605813m	238.83		
26) Fluorene	21.483	166	460706m	236.49		
27) 1-Methylfluorene	23.471	180	234071m	224.12		
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	25.514	167	551331m	225.59		
34) Dibenzothiophene	24.337	184	736622m	246.20		
35) 4-Methyldibenzothiophene	25.860	198	455711m	241.49		
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	24.787	178	655326m	247.54		
42) Anthracene	24.960	178	578073m	239.13		

Data Path : C:\GCMS7\MS70058\
Data File : MS70058J.D
Acq On : 20 Aug 2013 5:20 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 22 06:42:05 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D.	d	
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	26.899	192	485994m	223.47		
48) 3,6-Dimethylphenanthrene	27.973	206	480056m	222.24		
49) Retene	30.639	234	204289m	206.43		
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.		
53) Naphthobenzothiophene	32.916	234	757550m	218.22		
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.873	202	798429m	231.18		
59) Pyrene	29.635	202	790314m	243.55		
60) 2-Methylfluoranthene	30.397	216	497837m	235.68		
61) Benzo(b)fluorene	31.020	216	511185m	214.62		
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	33.731	228	640218m	235.79		
68) Chrysene/Triphenylene	33.847	228	868411m	224.62		
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	42.672	191	259480m	246.74		
77) Benzo(b)fluoranthene	37.261	252	827143m	229.22		
78) Benzo(k,j)fluoranthene	37.339	252	896953m	228.46		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.231	252	860107m	230.63		
81) Benzo(a)pyrene	38.386	252	806989m	229.92		
82) Indeno(1,2,3-c,d)pyrene	43.078	276	983229m	225.23		
83) Dibenzo(a,h)anthracene	43.152	278	798433m	229.44		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.405	276	918284m	237.83		
89) Perylene	38.697	252	840225m	233.40		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.317	231	883697m	220.94		
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058J.D
Acq On : 20 Aug 2013 5:20 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 22 06:42:05 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

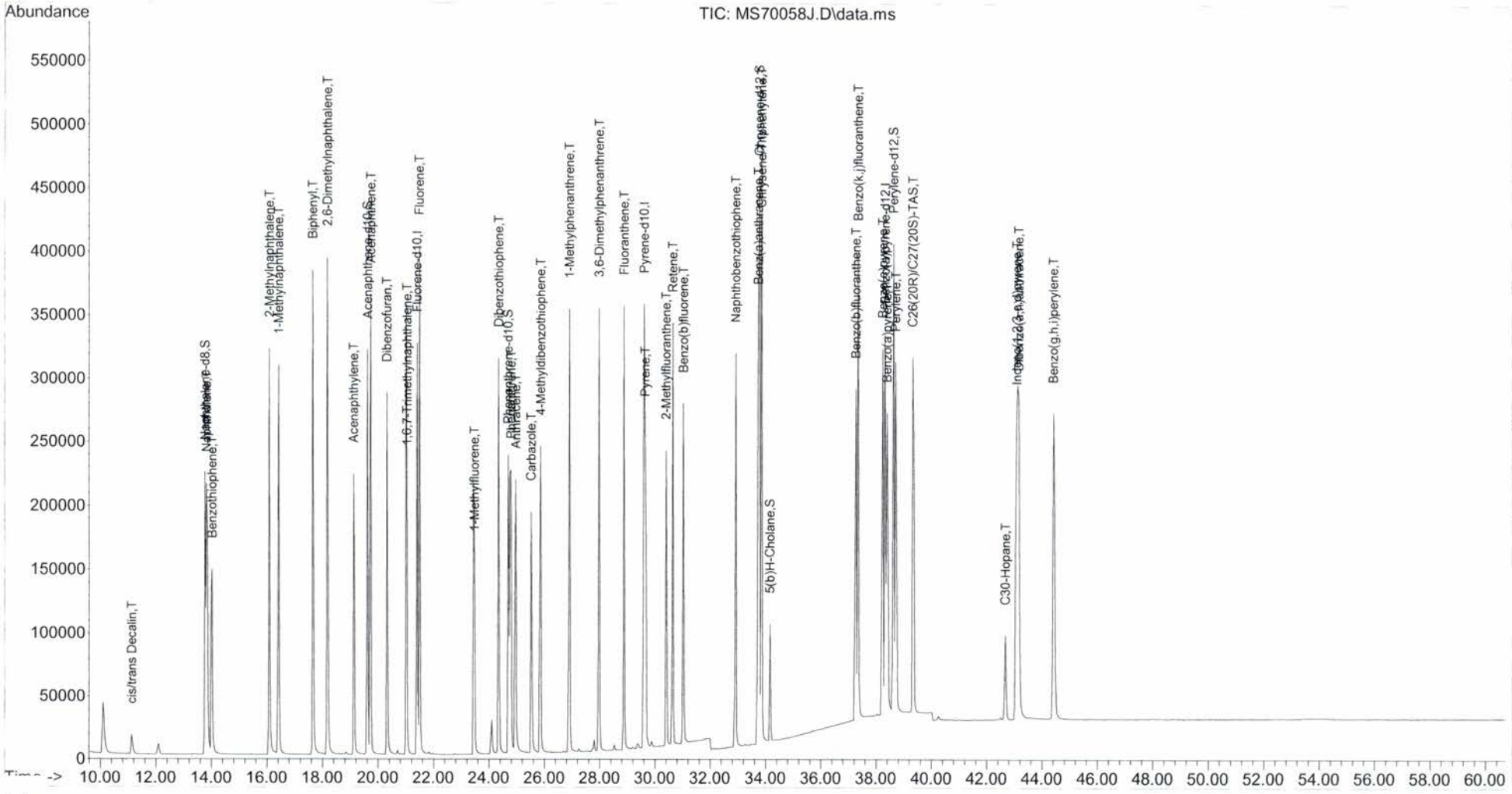
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058J.D
Acq On : 20 Aug 2013 5:20 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 22 06:42:05 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration



Data Path : C:\GCMS7\MS70058\
Data File : MS70058L.D
Acq On : 21 Aug 2013 3:37 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Aug 21 19:57:32 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 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	88	0.00
2	S	Naphthalene-d8	1.671	1.619	3.1	92	0.00
3	T	cis/trans Decalin	0.292	0.330	-13.0	101	0.00
4	un	C1-Decalins	0.292	0.000	100.0#	0#	-12.32#
5	un	C2-Decalins	0.292	0.000	100.0#	0#	-13.52#
6	un	C3-Decalins	0.292	0.000	100.0#	0#	-15.88#
7	un	C4-Decalins	0.292	0.000	100.0#	0#	-18.33#
8	T	Naphthalene	1.823	1.812	0.6	95	0.00
9	T	2-Methylnaphthalene	1.196	1.118	6.5	89	0.00
10	T	1-Methylnaphthalene	1.109	1.046	5.7	89	0.00
11	T	2,6-Dimethylnaphthalene	1.048	1.022	2.5	92	0.00
12	T	1,6,7-Trimethylnaphthalene	0.954	0.907	4.9	91	-0.03
13	un	C2-Naphthalenes	1.823	0.000	100.0#	0#	-18.89#
14	un	C3-Naphthalenes	1.823	0.000	100.0#	0#	-20.37#
15	un	C4-Naphthalenes	1.823	0.000	100.0#	0#	-22.26#
16	T	Benzothiophene	1.510	1.499	0.7	95	0.00
17	un	C1-Benzothiophenes	1.510	0.000	100.0#	0#	-15.49#
18	un	C2-Benzothiophenes	1.510	0.000	100.0#	0#	-17.92#
19	un	C3-Benzothiophenes	1.510	0.000	100.0#	0#	-20.31#
20	un	C4-Benzothiophenes	1.510	0.000	100.0#	0#	-22.23#
21	S	Acenaphthene-d10	0.969	0.896	7.5	89	0.00
22	T	Biphenyl	1.535	1.511	1.6	93	0.00
23	T	Acenaphthylene	1.633	1.593	2.4	96	0.00
24	T	Acenaphthene	1.047	0.977	6.7	89	0.00
25	T	Dibenzofuran	1.752	1.696	3.2	92	0.00
26	T	Fluorene	1.345	1.310	2.6	92	0.00
27	T	1-Methylfluorene	0.721	0.700	2.9	95	-0.03
28	un	C1-Fluorenes	1.345	0.000	100.0#	0#	-23.51#
29	un	C2-Fluorenes	1.345	0.000	100.0#	0#	-24.79#
30	un	C3-Fluorenes	1.345	0.000	100.0#	0#	-27.59#
31	I	Pyrene-d10	1.000	1.000	0.0	84	0.00
32	S	Phenanthrene-d10	0.885	1.020	-15.3	101	0.00
33	T	Carbazole	0.917	0.934	-1.9	91	0.00
34	T	Dibenzothiophene	1.122	1.196	-6.6	93	0.00
35	T	4-Methyldibenzothiophene	0.708	0.709	-0.1	91	-0.03
36	un	2/3-Methyldibenzothiophene	0.708	0.000	100.0#	0#	-26.21#
37	un	1-Methyldibenzothiophene	0.708	0.000	100.0#	0#	-26.52#
38	un	C2-Dibenzothiophenes	1.122	0.000	100.0#	0#	-27.83#
39	un	C3-Dibenzothiophenes	1.122	0.000	100.0#	0#	-28.49#
40	un	C4-Dibenzothiophenes	1.122	0.000	100.0#	0#	-31.09#
41	T	Phenanthrene	0.993	1.096	-10.4	99	-0.03
42	T	Anthracene	0.907	0.935	-3.1	91	-0.03
43	un	3-Methylphenanthrene	0.816	0.000	100.0#	0#	-26.93#
44	un	2-Methylphenanthrene	0.816	0.000	100.0#	0#	-26.93#
45	un	2-Methylanthracene	0.816	0.000	100.0#	0#	-26.73#
46	un	4/9-Methylphenanthrene	0.816	0.000	100.0#	0#	-26.93#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70058\
Data File : MS70058L.D
Acq On : 21 Aug 2013 3:37 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Aug 21 19:57:32 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
47	T	1-Methylphenanthrene	0.816	0.719	11.9	81	0.00
48	T	3,6-Dimethylphenanthrene	0.810	0.716	11.6	81	0.00
49	T	Retene	0.371	0.372	-0.3	91	0.00
50	un	C2-Phenanthrenes/Anthracene	0.993	0.000	100.0#	0#	-28.56#
51	un	C3-Phenanthrenes/Anthracene	0.993	0.000	100.0#	0#	-29.43#
52	un	C4-Phenanthrenes/Anthracene	0.993	0.000	100.0#	0#	-32.06#
53	T	Naphthobenzothiophene	1.302	1.056	18.9	74	0.00
54	un	C1-Naphthobenzothiophenes	1.302	0.000	100.0#	0#	-34.55#
55	un	C2-Naphthobenzothiophenes	1.302	0.000	100.0#	0#	-36.02#
56	un	C3-Naphthobenzothiophenes	1.302	0.000	100.0#	0#	-37.42#
57	un	C4-Naphthobenzothiophenes	1.302	0.000	100.0#	0#	-37.92#
58	T	Fluoranthene	1.295	1.167	9.9	80	0.00
59	T	Pyrene	1.217	1.343	-10.4	99	-0.03
60	T	2-Methylfluoranthene	0.792	0.843	-6.4	96	0.00
61	T	Benzo(b)fluorene	0.893	0.768	14.0	79	0.00
62	un	C1-Fluoranthenes/Pyrenes	1.295	0.000	100.0#	0#	-30.71#
63	un	C2-Fluoranthenes/Pyrenes	1.295	0.000	100.0#	0#	-32.18#
64	un	C3-Fluoranthenes/Pyrenes	1.295	0.000	100.0#	0#	-34.00#
65	un	C4-Fluoranthenes/Pyrenes	1.295	0.000	100.0#	0#	-35.09#
66	S	Chrysene-d12	1.235	1.042	15.6	77	0.00
67	T	Benz(a)anthracene	1.018	0.927	8.9	89	0.00
68	T	Chrysene/Triphenylene	1.450	1.286	11.3	80	0.00
69	un	C1-Chrysenes	1.450	0.000	100.0#	0#	-35.83#
70	un	C2-Chrysenes	1.450	0.000	100.0#	0#	-36.99#
71	un	C3-Chrysenes	1.450	0.000	100.0#	0#	-38.11#
72	un	C4-Chrysenes	1.450	0.000	100.0#	0#	-39.74#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	82	0.00
74	un	C29-Hopane	0.393	0.000	100.0#	0#	-40.28#
75	un	18a-Oleanane	0.393	0.000	100.0#	0#	-42.34#
76	T	C30-Hopane	0.393	0.377	4.1	86	0.00
77	T	Benzo(b)fluoranthene	1.350	1.268	6.1	88	0.00
78	T	Benzo(k,j)fluoranthene	1.469	1.166	20.6	73	0.00
79	un	Benzo(a)fluoranthene	1.469	0.000	100.0#	0#	-37.34#
80	T	Benzo(e)pyrene	1.395	1.242	11.0	83	0.00
81	T	Benzo(a)pyrene	1.313	1.273	3.0	90	-0.04
82	T	Indeno(1,2,3-c,d)pyrene	1.633	1.466	10.2	84	-0.04
83	T	Dibenzo(a,h)anthracene	1.302	1.174	9.8	84	-0.04
84	un	C1-Dibenzo(a,h)anthracenes	1.302	0.000	100.0#	0#	-48.31#
85	un	C2-Dibenzo(a,h)anthracenes	1.302	0.000	100.0#	0#	-50.30#
86	un	C3-Dibenzo(a,h)anthracenes	1.302	0.000	100.0#	0#	-51.23#
87	T	Benzo(g,h,i)perylene	1.444	1.331	7.8	85	-0.04
88	S	Perylene-d12	1.215	1.117	8.1	83	0.00
89	T	Perylene	1.347	1.299	3.6	91	-0.04
90	S	5(b)H-Cholane	0.262	0.248	5.3	88	0.00
91	un	C20-TAS	1.496	0.000	100.0#	0#	-33.30#
92	un	C21-TAS	1.496	0.000	100.0#	0#	-34.24#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70058\
Data File : MS70058L.D
Acq On : 21 Aug 2013 3:37 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Aug 21 19:57:32 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

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

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
93 un	C26(20S)-TAS	1.496	0.000	100.0#	0#	-38.70#
94 T	C26(20R)/C27(20S)-TAS	1.496	1.306	12.7	81	-0.04
95 un	C28(20S)-TAS	1.496	0.000	100.0#	0#	-40.24#
96 un	C27(20R)-TAS	1.496	0.000	100.0#	0#	-41.09#
97 un	C28(20R)-TAS	1.496	0.000	100.0#	0#	-41.42#

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058L.D
Acq On : 21 Aug 2013 3:37 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Aug 21 19:57:32 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.399	176	380945m	251.05	0.00
31) Pyrene-d10	29.600	212	680436m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	715683m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.766	136	614444m	242.37	0.00
21) Acenaphthene-d10	19.616	164	340192m	231.45	0.00
32) Phenanthrene-d10	24.683	188	692626m	288.19	0.00
66) Chrysene-d12	33.770	240	707203m	210.91	0.00
88) Perylene-d12	38.619	264	798607m	229.84	0.00
90) 5(b)H-Cholane	34.158	217	177451m	236.73	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.120	138	123926m	279.51	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	687276m	248.42	
9) 2-Methylnaphthalene	16.078	142	424653m	234.06	
10) 1-Methylnaphthalene	16.413	142	396298m	235.54	
11) 2,6-Dimethylnaphthalene	18.168	156	387887m	243.86	
12) 1,6,7-Trimethylnaphtha...	21.009	170	344170m	237.71	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.989	134	565112m	246.68	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.638	154	568077m	243.94	
23) Acenaphthylene	19.115	152	599586m	241.90	
24) Acenaphthene	19.728	154	371354m	233.64	
25) Dibenzofuran	20.313	168	640194m	240.86	
26) Fluorene	21.483	166	498064m	243.99	
27) 1-Methylfluorene	23.436	180	267480m	244.41	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.514	167	628275m	252.48	
34) Dibenzothiophene	24.337	184	800368m	262.72	
35) 4-Methyldibenzothiophene	25.826	198	485196m	252.52	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.752	178	736992m	273.41	
42) Anthracene	24.925	178	636222m	258.48	

Data Path : C:\GCMS7\MS70058\
Data File : MS70058L.D
Acq On : 21 Aug 2013 3:37 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Aug 21 19:57:32 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0		N.D.	d
44) 2-Methylphenanthrene	0.000		0		N.D.	d
45) 2-Methylanthracene	0.000		0		N.D.	d
46) 4/9-Methylphenanthrene	0.000		0		N.D.	d
47) 1-Methylphenanthrene	26.899	192	482377m	217.84		
48) 3,6-Dimethylphenanthrene	27.973	206	486526m	221.21		
49) Retene	30.639	234	225465m	223.75		
50) C2-Phenanthrenes/Anthr...	0.000		0		N.D.	d
51) C3-Phenanthrenes/Anthr...	0.000		0		N.D.	d
52) C4-Phenanthrenes/Anthr...	0.000		0		N.D.	
53) Naphthobenzothiophene	32.916	234	721191m	204.03		
54) C1-Naphthobenzothiophenes	0.000		0		N.D.	d
55) C2-Naphthobenzothiophenes	0.000		0		N.D.	d
56) C3-Naphthobenzothiophenes	0.000		0		N.D.	d
57) C4-Naphthobenzothiophenes	0.000		0		N.D.	d
58) Fluoranthene	28.873	202	792925m	225.48		
59) Pyrene	29.635	202	911586m	275.90		
60) 2-Methylfluoranthene	30.397	216	575848m	267.73		
61) Benzo(b)fluorene	31.020	216	525965m	216.87		
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	33.731	228	628107m	227.19		
68) Chrysene/Triphenylene	33.847	228	867788m	220.44		
69) C1-Chrysenes	0.000		0		N.D.	d
70) C2-Chrysenes	0.000		0		N.D.	d
71) C3-Chrysenes	0.000		0		N.D.	d
72) C4-Chrysenes	0.000		0		N.D.	d
74) C29-Hopane	0.000		0		N.D.	d
75) 18a-Oleanane	0.000		0		N.D.	d
76) C30-Hopane	42.672	191	269606m	239.72		
77) Benzo(b)fluoranthene	37.261	252	907869m	235.25		
78) Benzo(k,j)fluoranthene	37.339	252	829910m	197.65		
79) Benzo(a)fluoranthene	0.000		0		N.D.	d
80) Benzo(e)pyrene	38.231	252	884291m	221.71		
81) Benzo(a)pyrene	38.386	252	907994m	241.89		
82) Indeno(1,2,3-c,d)pyrene	43.041	276	1030069m	220.63		
83) Dibenzo(a,h)anthracene	43.115	278	831709m	223.47		
84) C1-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
85) C2-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
86) C3-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
87) Benzo(g,h,i)perylene	44.405	276	942702m	228.30		
89) Perylene	38.697	252	929230m	241.36		
91) C20-TAS	0.000		0		N.D.	d
92) C21-TAS	0.000		0		N.D.	d
93) C26(20S)-TAS	0.000		0		N.D.	d
94) C26(20R)/C27(20S)-TAS	39.318	231	933354m	218.20		
95) C28(20S)-TAS	0.000		0		N.D.	d
96) C27(20R)-TAS	0.000		0		N.D.	d
97) C28(20R)-TAS	0.000		0		N.D.	d

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058L.D
Acq On : 21 Aug 2013 3:37 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Aug 21 19:57:32 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

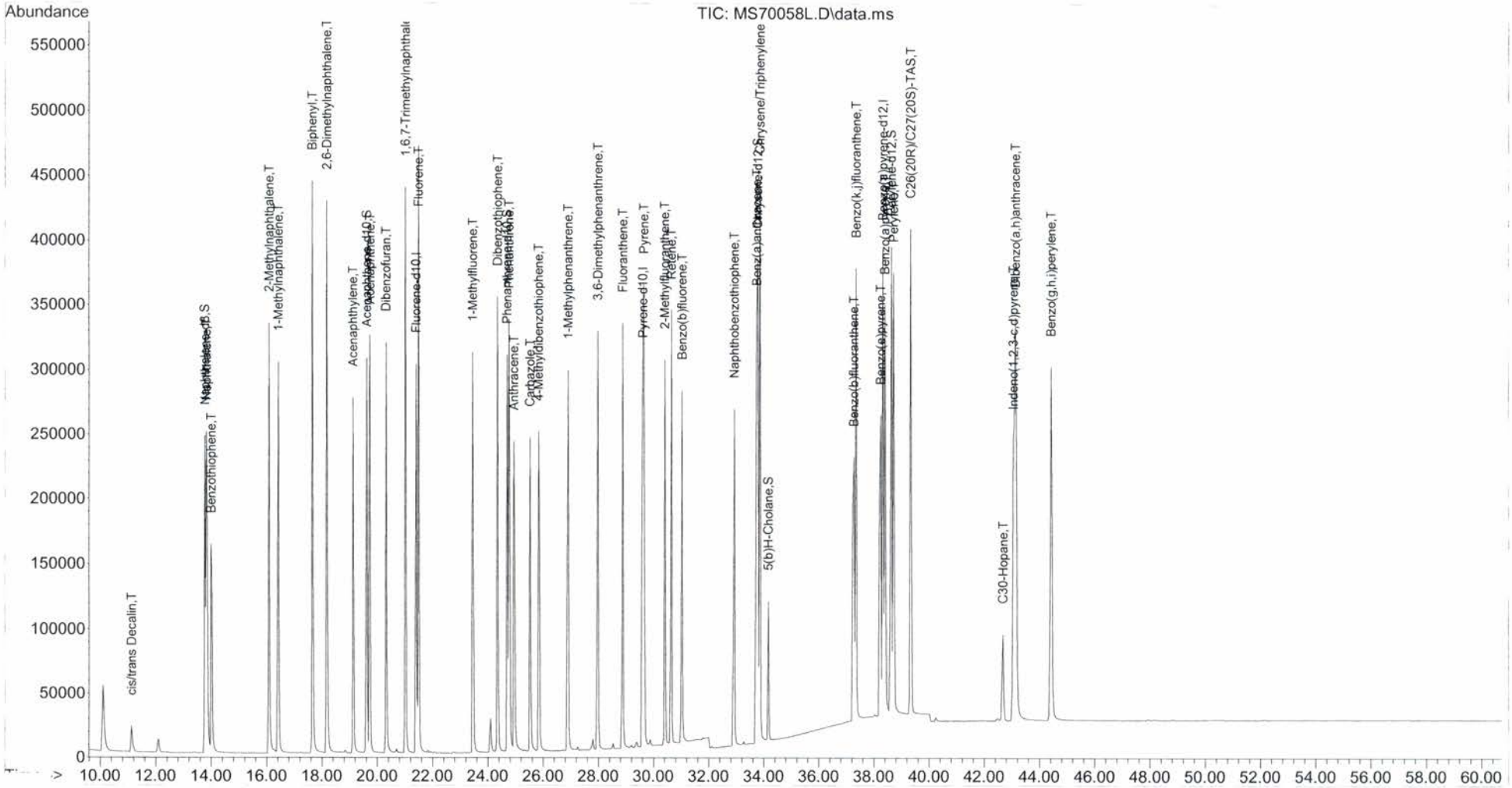
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058L.D
Acq On : 21 Aug 2013 3:37 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Aug 21 19:57:32 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70058\
Data File : MS70058M.D
Acq On : 21 Aug 2013 12:46 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 21 20:07:40 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 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	88	0.00
2	S	Naphthalene-d8	1.671	1.610	3.7	91	0.00
3	T	cis/trans Decalin	0.292	0.309	-5.8	94	0.00
4	un	C1-Decalins	0.292	0.000	100.0#	0#	-12.32#
5	un	C2-Decalins	0.292	0.000	100.0#	0#	-13.52#
6	un	C3-Decalins	0.292	0.000	100.0#	0#	-15.88#
7	un	C4-Decalins	0.292	0.000	100.0#	0#	-18.33#
8	T	Naphthalene	1.823	1.823	0.0	95	0.00
9	T	2-Methylnaphthalene	1.196	1.100	8.0	87	0.00
10	T	1-Methylnaphthalene	1.109	1.048	5.5	89	0.00
11	T	2,6-Dimethylnaphthalene	1.048	1.024	2.3	92	0.00
12	T	1,6,7-Trimethylnaphthalene	0.954	0.929	2.6	93	-0.03
13	un	C2-Naphthalenes	1.823	0.000	100.0#	0#	-18.89#
14	un	C3-Naphthalenes	1.823	0.000	100.0#	0#	-20.37#
15	un	C4-Naphthalenes	1.823	0.000	100.0#	0#	-22.26#
16	T	Benzothiophene	1.510	1.500	0.7	94	0.00
17	un	C1-Benzothiophenes	1.510	0.000	100.0#	0#	-15.49#
18	un	C2-Benzothiophenes	1.510	0.000	100.0#	0#	-17.92#
19	un	C3-Benzothiophenes	1.510	0.000	100.0#	0#	-20.31#
20	un	C4-Benzothiophenes	1.510	0.000	100.0#	0#	-22.23#
21	S	Acenaphthene-d10	0.969	0.898	7.3	88	0.00
22	T	Biphenyl	1.535	1.552	-1.1	95	0.00
23	T	Acenaphthylene	1.633	1.564	4.2	94	0.00
24	T	Acenaphthene	1.047	0.994	5.1	90	-0.03
25	T	Dibenzofuran	1.752	1.681	4.1	90	0.00
26	T	Fluorene	1.345	1.321	1.8	92	0.00
27	T	1-Methylfluorene	0.721	0.738	-2.4	99	-0.03
28	un	C1-Fluorenes	1.345	0.000	100.0#	0#	-23.51#
29	un	C2-Fluorenes	1.345	0.000	100.0#	0#	-24.79#
30	un	C3-Fluorenes	1.345	0.000	100.0#	0#	-27.59#
31	I	Pyrene-d10	1.000	1.000	0.0	83	0.00
32	S	Phenanthrene-d10	0.885	1.044	-18.0	103	0.00
33	T	Carbazole	0.917	0.918	-0.1	89	0.00
34	T	Dibenzothiophene	1.122	1.196	-6.6	93	0.00
35	T	4-Methyldibenzothiophene	0.708	0.742	-4.8	95	-0.03
36	un	2/3-Methyldibenzothiophene	0.708	0.000	100.0#	0#	-26.21#
37	un	1-Methyldibenzothiophene	0.708	0.000	100.0#	0#	-26.52#
38	un	C2-Dibenzothiophenes	1.122	0.000	100.0#	0#	-27.83#
39	un	C3-Dibenzothiophenes	1.122	0.000	100.0#	0#	-28.49#
40	un	C4-Dibenzothiophenes	1.122	0.000	100.0#	0#	-31.09#
41	T	Phenanthrene	0.993	1.155	-16.3	104	-0.03
42	T	Anthracene	0.907	0.973	-7.3	95	-0.03
43	un	3-Methylphenanthrene	0.816	0.000	100.0#	0#	-26.93#
44	un	2-Methylphenanthrene	0.816	0.000	100.0#	0#	-26.93#
45	un	2-Methylanthracene	0.816	0.000	100.0#	0#	-26.73#
46	un	4/9-Methylphenanthrene	0.816	0.000	100.0#	0#	-26.93#

Data Path : C:\GCMS7\MS70058\
Data File : MS70058M.D
Acq On : 21 Aug 2013 12:46 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 21 20:07:40 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
47	T	1-Methylphenanthrene	0.816	0.702	14.0	79	0.00
48	T	3,6-Dimethylphenanthrene	0.810	0.671	17.2	75	0.00
49	T	Retene	0.371	0.359	3.2	87	0.00
50	un	C2-Phenanthrenes/Anthracene	0.993	0.000	100.0#	0#	-28.56#
51	un	C3-Phenanthrenes/Anthracene	0.993	0.000	100.0#	0#	-29.43#
52	un	C4-Phenanthrenes/Anthracene	0.993	0.000	100.0#	0#	-32.06#
53	T	Naphthobenzothiophene	1.302	0.996	23.5	70	0.00
54	un	C1-Naphthobenzothiophenes	1.302	0.000	100.0#	0#	-34.55#
55	un	C2-Naphthobenzothiophenes	1.302	0.000	100.0#	0#	-36.02#
56	un	C3-Naphthobenzothiophenes	1.302	0.000	100.0#	0#	-37.42#
57	un	C4-Naphthobenzothiophenes	1.302	0.000	100.0#	0#	-37.92#
58	T	Fluoranthene	1.295	1.118	13.7	76	0.00
59	T	Pyrene	1.217	1.437	-18.1	105	-0.03
60	T	2-Methylfluoranthene	0.792	0.854	-7.8	97	0.00
61	T	Benzo(b)fluorene	0.893	0.700	21.6	72	0.00
62	un	C1-Fluoranthenes/Pyrenes	1.295	0.000	100.0#	0#	-30.71#
63	un	C2-Fluoranthenes/Pyrenes	1.295	0.000	100.0#	0#	-32.18#
64	un	C3-Fluoranthenes/Pyrenes	1.295	0.000	100.0#	0#	-34.00#
65	un	C4-Fluoranthenes/Pyrenes	1.295	0.000	100.0#	0#	-35.09#
66	S	Chrysene-d12	1.235	0.976	21.0	72	0.00
67	T	Benz(a)anthracene	1.018	0.920	9.6	88	0.00
68	T	Chrysene/Triphenylene	1.450	1.135	21.7	70	0.00
69	un	C1-Chrysenes	1.450	0.000	100.0#	0#	-35.83#
70	un	C2-Chrysenes	1.450	0.000	100.0#	0#	-36.99#
71	un	C3-Chrysenes	1.450	0.000	100.0#	0#	-38.11#
72	un	C4-Chrysenes	1.450	0.000	100.0#	0#	-39.74#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	79	0.00
74	un	C29-Hopane	0.393	0.000	100.0#	0#	-40.28#
75	un	18a-Oleanane	0.393	0.000	100.0#	0#	-42.34#
76	T	C30-Hopane	0.393	0.372	5.3	80	0.00
77	T	Benzo(b)fluoranthene	1.350	1.434	-6.2	95	-0.04
78	T	Benzo(k,j)fluoranthene	1.469	1.067	27.4#	64	0.00
79	un	Benzo(a)fluoranthene	1.469	0.000	100.0#	0#	-37.34#
80	T	Benzo(e)pyrene	1.395	1.297	7.0	83	-0.04
81	T	Benzo(a)pyrene	1.313	1.346	-2.5	91	-0.04
82	T	Indeno(1,2,3-c,d)pyrene	1.633	1.485	9.1	81	-0.04
83	T	Dibenzo(a,h)anthracene	1.302	1.199	7.9	82	-0.04
84	un	C1-Dibenzo(a,h)anthracenes	1.302	0.000	100.0#	0#	-48.31#
85	un	C2-Dibenzo(a,h)anthracenes	1.302	0.000	100.0#	0#	-50.30#
86	un	C3-Dibenzo(a,h)anthracenes	1.302	0.000	100.0#	0#	-51.23#
87	T	Benzo(g,h,i)perylene	1.444	1.348	6.6	82	-0.04
88	S	Perylene-d12	1.215	1.107	8.9	79	0.00
89	T	Perylene	1.347	1.351	-0.3	90	-0.04
90	S	5(b)H-Cholane	0.262	0.241	8.0	81	0.00
91	un	C20-TAS	1.496	0.000	100.0#	0#	-33.30#
92	un	C21-TAS	1.496	0.000	100.0#	0#	-34.24#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70058\
Data File : MS70058M.D
Acq On : 21 Aug 2013 12:46 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 21 20:07:40 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

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

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
93 un	C26(20S)-TAS	1.496	0.000	100.0#	0#	-38.70#
94 T	C26(20R)/C27(20S)-TAS	1.496	1.339	10.5	79	-0.04
95 un	C28(20S)-TAS	1.496	0.000	100.0#	0#	-40.24#
96 un	C27(20R)-TAS	1.496	0.000	100.0#	0#	-41.09#
97 un	C28(20R)-TAS	1.496	0.000	100.0#	0#	-41.42#

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058M.D
Acq On : 21 Aug 2013 12:46 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 21 20:07:40 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.399	176	378279m	251.05		0.00
31) Pyrene-d10	29.600	212	677095m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	682402m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.766	136	606751m	241.02		0.00
21) Acenaphthene-d10	19.616	164	338450m	231.89		0.00
32) Phenanthrene-d10	24.683	188	705822m	295.13		0.00
66) Chrysene-d12	33.770	240	659432m	197.63		0.00
88) Perylene-d12	38.619	264	754335m	227.68		0.00
90) 5(b)H-Cholane	34.158	217	164386m	229.99		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.120	138	115247m	261.77		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.822	128	686567m	249.91		
9) 2-Methylnaphthalene	16.078	142	414681m	230.17		
10) 1-Methylnaphthalene	16.413	142	394230m	235.96		
11) 2,6-Dimethylnaphthalene	18.168	156	385847m	244.29		
12) 1,6,7-Trimethylnaphtha...	21.009	170	349876m	243.35		
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.		
16) Benzothiophene	13.989	134	561733m	246.93		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.638	154	579252m	250.49		
23) Acenaphthylene	19.115	152	584266m	237.38		
24) Acenaphthene	19.700	154	375248m	237.76		
25) Dibenzofuran	20.313	168	630206m	238.78		
26) Fluorene	21.483	166	498684m	246.02		
27) 1-Methylfluorene	23.436	180	280056m	257.71		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.514	167	614614m	248.21		
34) Dibenzothiophene	24.337	184	796615m	262.78		
35) 4-Methyldibenzothiophene	25.826	198	505383m	264.32		
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.		
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.752	178	773025m	288.19		
42) Anthracene	24.925	178	659120m	269.11		

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058M.D
Acq On : 21 Aug 2013 12:46 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 21 20:07:40 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D.	d	
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	26.899	192	468750m	212.73		
48) 3,6-Dimethylphenanthrene	27.973	206	453421m	207.17		
49) Retene	30.639	234	216597m	216.01		
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.		
53) Naphthobenzothiophene	32.916	234	676786m	192.41		
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.873	202	756144m	216.08		
59) Pyrene	29.635	202	970385m	295.15		
60) 2-Methylfluoranthene	30.397	216	581103m	271.51		
61) Benzo(b)fluorene	31.020	216	477176m	197.73		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.731	228	620046m	225.38		
68) Chrysene/Triphenylene	33.847	228	762313m	194.60		
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	42.672	191	253343m	236.24		
77) Benzo(b)fluoranthene	37.223	252	979131m	266.09		
78) Benzo(k,j)fluoranthene	37.339	252	723932m	180.82		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.192	252	880360m	231.49		
81) Benzo(a)pyrene	38.386	252	915517m	255.79		
82) Indeno(1,2,3-c,d)pyrene	43.041	276	994653m	223.43		
83) Dibenzo(a,h)anthracene	43.115	278	809587m	228.14		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.405	276	910235m	231.19		
89) Perylene	38.697	252	921633m	251.06		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.317	231	912321m	223.68		
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	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058M.D
Acq On : 21 Aug 2013 12:46 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 21 20:07:40 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

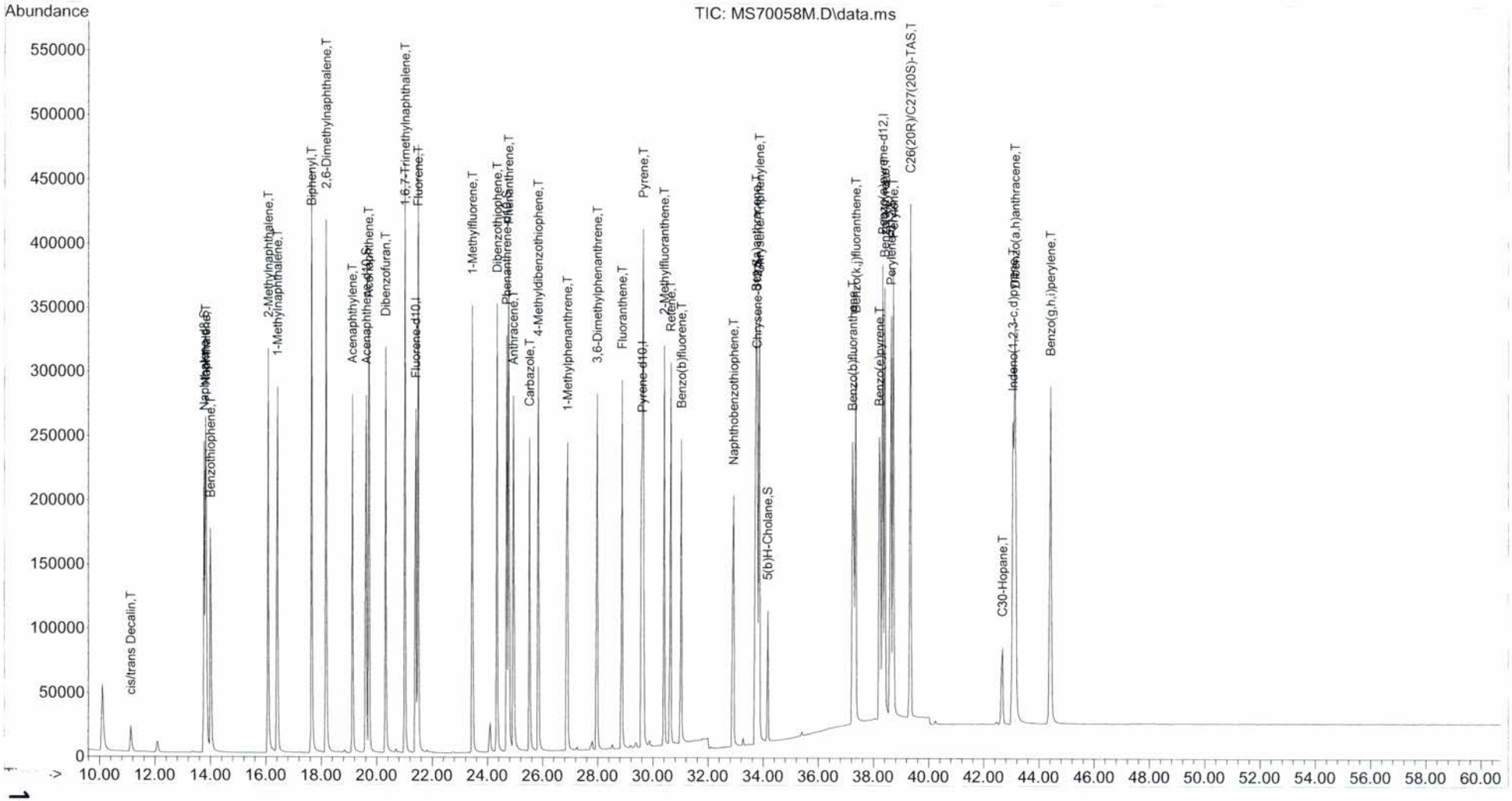
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058M.D
Acq On : 21 Aug 2013 12:46 pm
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 21 20:07:40 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration



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

Data File Name MS70058H.D
Data File Path C:\msdchem\2\data\MS70058\
Operator YM
Date Acquired 8/20/2013 15:03
Acq. Method File PAH-2012.M
Sample Name AR-WKISSU-250-002
Misc Info 0
Instrument Name GCMSD
Vial Number 8
Sample Multiplier 1
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

MS70058H.D
AR-WKISSU-250-002
8/20/2013
PAH-2012.M
1

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

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	0.00	0	0.0000	0.0000
10)	1-Methylnaphthalene	0.00	0	0.0000	0.0000
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	0.00	0	0.0000	0.0000
36)	2/3-Methyldibenzothiophene	0.00	0	0.0000	0.0000
37)	1-Methyldibenzothiophene	0.00	0	0.0000	0.0000
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	0.00	0	0.0000	0.0000
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.77	549145	235.34	94.09
21)	Acenaphthene-d10	19.62	311487	230.25	92.04
32)	Phenanthrene-d10	24.68	556103	240.84	96.26
66)	Chrysene-d12	33.77	691395	214.62	85.83
88)	Perylene-d12	38.62	754927	232.20	92.87
90)	5(b)H-Cholane	34.16	160076	228.22	91.29
	Internal Standards				
1)	Fluorene-d10	21.40	350628	251.05	
31)	Pyrene-d10	29.60	653720	250.63	
73)	Benzo(a)pyrene-d12	38.31	669669	250.33	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : MS70058H.D
Acq On : 20 Aug 2013 3:03 pm
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 21 19:38:12 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.399	176	350628m	251.05		0.00
31) Pyrene-d10	29.600	212	653720m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	669669m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.766	136	549145m	235.34		0.00
21) Acenaphthene-d10	19.616	164	311487m	230.25		0.00
32) Phenanthrene-d10	24.683	188	556103m	240.84		0.00
66) Chrysene-d12	33.770	240	691395m	214.62		0.00
88) Perylene-d12	38.619	264	754927m	232.19		0.00
90) 5(b)H-Cholane	34.158	217	160076m	228.22		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	0.000		0	N.D.	d	
9) 2-Methylnaphthalene	0.000		0	N.D.	d	
10) 1-Methylnaphthalene	0.000		0	N.D.	d	
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.		
16) Benzothiophene	0.000		0	N.D.	d	
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	0.000		0	N.D.	d	
23) Acenaphthylene	0.000		0	N.D.	d	
24) Acenaphthene	0.000		0	N.D.	d	
25) Dibenzofuran	0.000		0	N.D.	d	
26) Fluorene	0.000		0	N.D.	d	
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	0.000		0	N.D.	d	
34) Dibenzothiophene	0.000		0	N.D.	d	
35) 4-Methyldibenzothiophene	0.000		0	N.D.	d	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	0.000		0	N.D.	d	
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : MS70058H.D
Acq On : 20 Aug 2013 3:03 pm
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 21 19:38:12 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : MS70058H.D
Acq On : 20 Aug 2013 3:03 pm
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 21 19:38:12 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

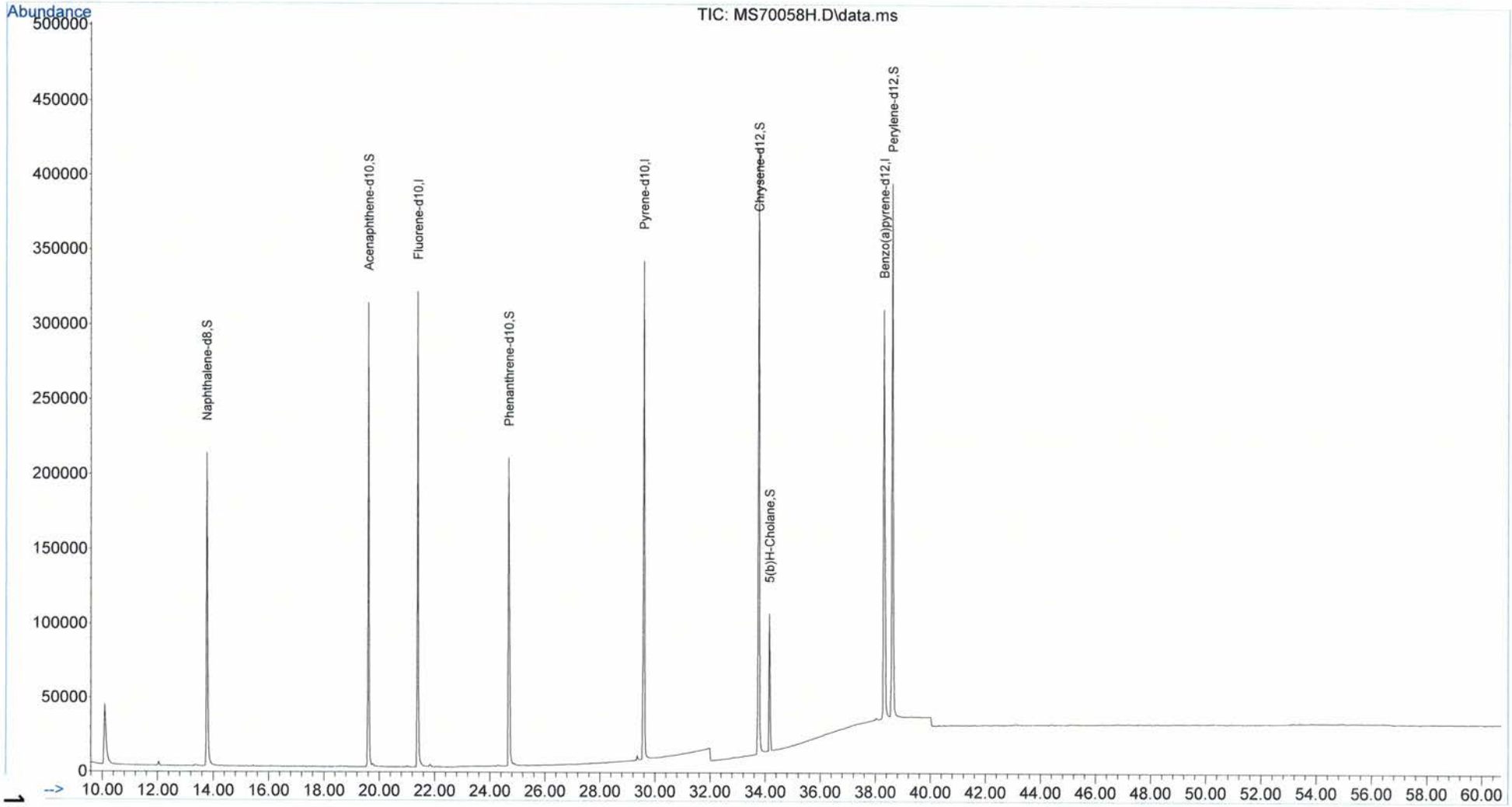
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : MS70058H.D
Acq On : 20 Aug 2013 3:03 pm
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 21 19:38:12 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration



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

Data File Name MS70058K.D
Data File Path C:\msdchem\2\data\MS70058\
Operator YM
Date Acquired 8/20/2013 18:28
Acq. Method File PAH-2012.M
Sample Name AR-SRM2779-WK4.0-002
Misc Info 0
Instrument Name GCMSD
Vial Number 11
Sample Multiplier 0.24461
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

MS70058K.D
AR-SRM2779-WK4.0-002
8/20/2013
PAH-2012.M
4.088140305

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.12	1648980	607.7287	674.3006
4)	C1-Decalins	12.29	2417040	890.7987	988.3787
5)	C2-Decalins	13.77	2160900	796.3988	883.6381
6)	C3-Decalins	16.64	1900720	700.5092	777.2445
7)	C4-Decalins	17.67	1228780	452.8661	502.4740
8)	Naphthalene	13.82	10920700	645.0023	715.6573
9)+10)	C1-Naphthalenes	16.25	23429700	1383.8134	1535.3994
13)	C2-Naphthalenes	18.45	27429500	1620.0496	1797.5134
14)	C3-Naphthalenes	20.45	18307900	1081.3058	1199.7545
15)	C4-Naphthalenes	22.76	10259000	605.9210	672.2949
16)	Benzothiophene	14.05	94243	6.7220	7.4583
17)	C1-Benzothiophenes	15.58	421643	30.0741	33.3684
18)	C2-Benzothiophenes	18.20	290453	20.7169	22.9862
19)	C3-Benzothiophenes	20.28	444271	31.6880	35.1592
20)	C4-Benzothiophenes	22.04	345706	24.6579	27.3590
22)	Biphenyl	17.64	1883700	132.1738	146.6524
23)	Acenaphthylene	19.12	129080	8.5094	9.4415
24)	Acenaphthene	19.73	108446	11.1489	12.3702
25)	Dibenzofuran	20.31	399086	24.5346	27.2222
26)	Fluorene	21.48	1327050	106.2261	117.8623
28)	C1-Fluorenes	23.47	2856030	228.6157	253.6588
29)	C2-Fluorenes	25.20	4305020	344.6041	382.3528
30)	C3-Fluorenes	26.83	3706350	296.6826	329.1818
33)	Carbazole	25.51	68814	3.8365	4.2568
42)	Anthracene	24.96	67934	3.8291	4.2485
41)	Phenanthrene	24.79	3860870	198.7133	220.4808
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.67	9624150	495.3409	549.6017
50)	C2-Phenanthrenes/Anthracenes	28.35	10942100	563.1729	624.8641
51)	C3-Phenanthrenes/Anthracenes	29.88	7722070	397.4448	440.9818
52)	C4-Phenanthrenes/Anthracenes	31.33	4405180	226.7283	251.5646
34)	Dibenzothiophene	24.34	790666	36.0068	39.9511
35)+36)+37)	C1-Dibenzothiophenes	26.16	1992881	90.7556	100.6971
38)	C2-Dibenzothiophenes	27.25	2907470	132.4062	146.9102
39)	C3-Dibenzothiophenes	28.77	2249370	102.4363	113.6574
40)	C4-Dibenzothiophenes	30.19	863138	39.3074	43.6132
58)	Fluoranthene	28.91	88990	3.5107	3.8953
59)	Pyrene	29.67	270793	11.3705	12.6161
62)	C1-Fluoranthenes/Pyrenes	31.47	1691050	66.7135	74.0214
63)	C2-Fluoranthenes/Pyrenes	32.57	2788690	110.0163	122.0677
64)	C3-Fluoranthenes/Pyrenes	33.96	2666210	105.1840	116.7061
65)	C4-Fluoranthenes/Pyrenes	35.09	2143580	84.5658	93.8294
53)	Naphthobenzothiophene	32.92	469357	18.4220	20.4400
54)	C1-Naphthobenzothiophenes	34.08	1252090	49.1439	54.5272
55)	C2-Naphthobenzothiophenes	35.75	1484330	58.2590	64.6408
56)	C3-Naphthobenzothiophenes	37.15	1064580	41.7840	46.3612
57)	C4-Naphthobenzothiophenes	38.11	455615	17.8827	19.8416
67)	Benz(a)anthracene	33.73	126528	6.3493	7.0448
68)	Chrysene/Triphenylene	33.81	956687	33.7161	37.4094
69)	C1-Chrysenes	35.21	2401180	84.6236	93.8934
70)	C2-Chrysenes	36.25	2949480	103.9470	115.3336
71)	C3-Chrysenes	37.96	1879480	66.2375	73.4932
72)	C4-Chrysenes	39.36	1170930	41.2664	45.7869
77)	Benzo(b)fluoranthene	37.26	116144	4.1527	4.6076
78)	Benzo(k,j)fluoranthene	37.30	7620	0.2504	0.2778
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.23	228067	7.8903	8.7546
81)	Benzo(a)pyrene	38.39	35285	1.2971	1.4392
89)	Perylene	38.74	12899	0.4623	0.5129
82)	Indeno(1,2,3-c,d)pyrene	43.11	21960	0.6490	0.7201
83)	Dibenzo(a,h)anthracene	43.15	9916	0.3676	0.4079
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.44	42218	1.4108	1.5653

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.08	14401900	1297.0665	1439.1501
10)	1-Methylnaphthalene	16.41	9027800	876.7654	972.8082
11)	2,6-Dimethylnaphthalene	18.20	7639230	784.7700	870.7355
12)	1,6,7-Trimethylnaphthalene	21.04	2517390	284.1023	315.2235
27)	1-Methylfluorene	23.47	1297010	193.6563	214.8698
35)	4-Methyldibenzothiophene	25.86	1111440	80.2514	89.0423
36)	2/3-Methyldibenzothiophene	26.14	514725	37.1656	41.2368
37)	1-Methyldibenzothiophene	26.48	366716	26.4788	29.3793
43)	3-Methylphenanthrene	26.45	2023050	126.7469	140.6310
44)	2-Methylphenanthrene	26.52	2605190	163.2190	181.0983
45)	2-Methylanthracene	26.69	156540	9.8075	10.8818
46)	4/9-Methylphenanthrene	26.80	2819570	176.6505	196.0012
47)	1-Methylphenanthrene	26.90	2019800	126.5438	140.4057
48)	3,6-Dimethylphenanthrene	27.97	612712	38.6486	42.8823
49)	Retene	30.71	149114	20.5302	22.7792
60)	2-Methylfluoranthene	30.43	45871	2.9589	3.2830
61)	Benzo(b)fluorene	31.02	199350	11.4038	12.6530
74)	C29-Hopane	40.68	202848	24.8871	27.6133
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	41.97	353599	43.3826	48.1348
91)	C20-TAS	33.30	188349	6.0758	6.7414
92)	C21-TAS	34.39	225099	7.2613	8.0567
93)	C26(20S)-TAS	38.50	105261	3.3955	3.7675
94)	C26(20R)/C27(20S)-TAS	39.40	326497	10.5322	11.6859
95)	C28(20S)-TAS	40.17	229039	7.3884	8.1977
96)	C27(20R)-TAS	40.61	206177	6.6509	7.3795
97)	C28(20R)-TAS	41.75	155049	5.0016	5.5495
	Surrogate Standards				
2)	Naphthalene-d8	13.77	885153	57.05	93.25
21)	Acenaphthene-d10	19.62	513581	57.10	93.31
32)	Phenanthrene-d10	24.68	955527	55.16	90.13
66)	Chrysene-d12	33.77	1440560	59.60	97.45
88)	Perylene-d12	38.62	1399870	55.59	90.90
90)	5(b)H-Cholane	34.16	348352	64.12	104.86
	Internal Standards				
1)	Fluorene-d10	21.40	570271	61.41	
31)	Pyrene-d10	29.60	1199700	61.31	
73)	Benzo(a)pyrene-d12	38.31	1268700	61.23	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : MS70058K.D
Acq On : 20 Aug 2013 6:28 pm
Operator : YM
Sample : AR-SRM2779-WK4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Aug 21 20:33:38 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.399	176	570271m	251.05		0.00
31) Pyrene-d10	29.600	212	1199703m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	1268702m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.766	136	885153m	57.05		0.00
21) Acenaphthene-d10	19.616	164	513581m	57.10		0.00
32) Phenanthrene-d10	24.683	188	955527m	55.16		0.00
66) Chrysene-d12	33.770	240	1440562m	59.60		0.00
88) Perylene-d12	38.619	264	1399874m	55.59		0.00
90) 5(b)H-Cholane	34.158	217	348352m	64.12		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.120	138	1648977m	607.73		
4) C1-Decalins	12.290	152	2417041m	890.80		
5) C2-Decalins	13.766	166	2160900m	796.40		
6) C3-Decalins	16.636	180	1900724m	700.51		
7) C4-Decalins	17.666	194	1228782m	452.87		
8) Naphthalene	13.822	128	10920673m	645.00		
9) 2-Methylnaphthalene	16.079	142	14401916m	1297.07		
10) 1-Methylnaphthalene	16.413	142	9027798m	876.76		
11) 2,6-Dimethylnaphthalene	18.196	156	7639226m	784.77		
12) 1,6,7-Trimethylnaphtha...	21.037	170	2517391m	284.10		
13) C2-Naphthalenes	18.446	156	27429460m	1620.05		
14) C3-Naphthalenes	20.452	170	18307864m	1081.31		
15) C4-Naphthalenes	22.764	184	10258996m	605.92		
16) Benzothiophene	14.045	134	94243m	6.72		
17) C1-Benzothiophenes	15.577	148	421643m	30.07		
18) C2-Benzothiophenes	18.196	162	290453m	20.72		
19) C3-Benzothiophenes	20.285	176	444271m	31.69		
20) C4-Benzothiophenes	22.040	190	345706m	24.66		
22) Biphenyl	17.639	154	1883701m	132.17		
23) Acenaphthylene	19.115	152	129080m	8.51		
24) Acenaphthene	19.728	154	108446m	11.15		
25) Dibenzofuran	20.313	168	399086m	24.53		
26) Fluorene	21.483	166	1327050m	106.23		
27) 1-Methylfluorene	23.471	180	1297008m	193.66		
28) C1-Fluorenes	23.471	180	2856025m	228.62		
29) C2-Fluorenes	25.202	194	4305022m	344.60		
30) C3-Fluorenes	26.830	208	3706354m	296.68		
33) Carbazole	25.514	167	68814m	3.84		
34) Dibenzothiophene	24.337	184	790666m	36.01		
35) 4-Methyldibenzothiophene	25.860	198	1111442m	80.25		
36) 2/3-Methyldibenzothiop...	26.137	198	514725m	37.17		
37) 1-Methyldibenzothiophene	26.484	198	366716m	26.48		
38) C2-Dibenzothiophenes	27.246	212	2907471m	132.41		
39) C3-Dibenzothiophenes	28.769	226	2249373m	102.44		
40) C4-Dibenzothiophenes	30.189	240	863138m	39.31		
41) Phenanthrene	24.787	178	3860866m	198.71		
42) Anthracene	24.960	178	67934m	3.83		
43) 3-Methylphenanthrene	26.449	192	2023045m	126.75		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : MS70058K.D
Acq On : 20 Aug 2013 6:28 pm
Operator : YM
Sample : AR-SRM2779-WK4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Aug 21 20:33:38 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.518	192	2605188m	163.22		
45) 2-Methylanthracene	26.691	192	156540m	9.81		
46) 4/9-Methylphenanthrene	26.795	192	2819572m	176.65		
47) 1-Methylphenanthrene	26.899	192	2019804m	126.54		
48) 3,6-Dimethylphenanthrene	27.973	206	612712m	38.65		
49) Retene	30.708	234	149114m	20.53		
50) C2-Phenanthrenes/Anthr...	28.354	206	10942070m	563.17		
51) C3-Phenanthrenes/Anthr...	29.877	220	7722071m	397.44		
52) C4-Phenanthrenes/Anthr...	31.332	234	4405177m	226.73		
53) Naphthobenzothiophene	32.916	234	469357m	18.42		
54) C1-Naphthobenzothiophenes	34.080	248	1252092m	49.14		
55) C2-Naphthobenzothiophenes	35.748	262	1484329m	58.26		
56) C3-Naphthobenzothiophenes	37.145	276	1064576m	41.78		
57) C4-Naphthobenzothiophenes	38.115	290	455615m	17.88		
58) Fluoranthene	28.908	202	88990m	3.51		
59) Pyrene	29.669	202	270793m	11.37		
60) 2-Methylfluoranthene	30.431	216	45871m	2.96		
61) Benzo(b)fluorene	31.020	216	199350m	11.40		
62) C1-Fluoranthenes/Pyrenes	31.470	216	1691052m	66.71		
63) C2-Fluoranthenes/Pyrenes	32.567	230	2788692m	110.02		
64) C3-Fluoranthenes/Pyrenes	33.964	244	2666209m	105.18		
65) C4-Fluoranthenes/Pyrenes	35.089	258	2143577m	84.57		
67) Benz(a)anthracene	33.731	228	126528m	6.35		
68) Chrysene/Triphenylene	33.809	228	956687m	33.72		
69) C1-Chrysenes	35.205	242	2401181m	84.62		
70) C2-Chrysenes	36.253	256	2949483m	103.95		
71) C3-Chrysenes	37.960	270	1879477m	66.24		
72) C4-Chrysenes	39.356	284	1170931m	41.27		
74) C29-Hopane	40.681	191	202848m	24.89		
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	41.972	191	353599m	43.38		
77) Benzo(b)fluoranthene	37.261	252	116144m	4.15		
78) Benzo(k,j)fluoranthene	37.300	252	7620m	0.25		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.231	252	228067m	7.89		
81) Benzo(a)pyrene	38.386	252	35285m	1.30		
82) Indeno(1,2,3-c,d)pyrene	43.115	276	21960m	0.65		
83) Dibenzo(a,h)anthracene	43.152	278	9916m	0.37		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.442	276	42218m	1.41		
89) Perylene	38.736	252	12899m	0.46		
91) C20-TAS	33.304	231	188349m	6.08		
92) C21-TAS	34.391	231	225099m	7.26		
93) C26(20S)-TAS	38.503	231	105261m	3.40		
94) C26(20R)/C27(20S)-TAS	39.395	231	326497m	10.53		
95) C28(20S)-TAS	40.165	231	229039m	7.39		
96) C27(20R)-TAS	40.608	231	206177m	6.65		
97) C28(20R)-TAS	41.751	231	155049m	5.00		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : MS70058K.D
Acq On : 20 Aug 2013 6:28 pm
Operator : YM
Sample : AR-SRM2779-WK4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Aug 21 20:33:38 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

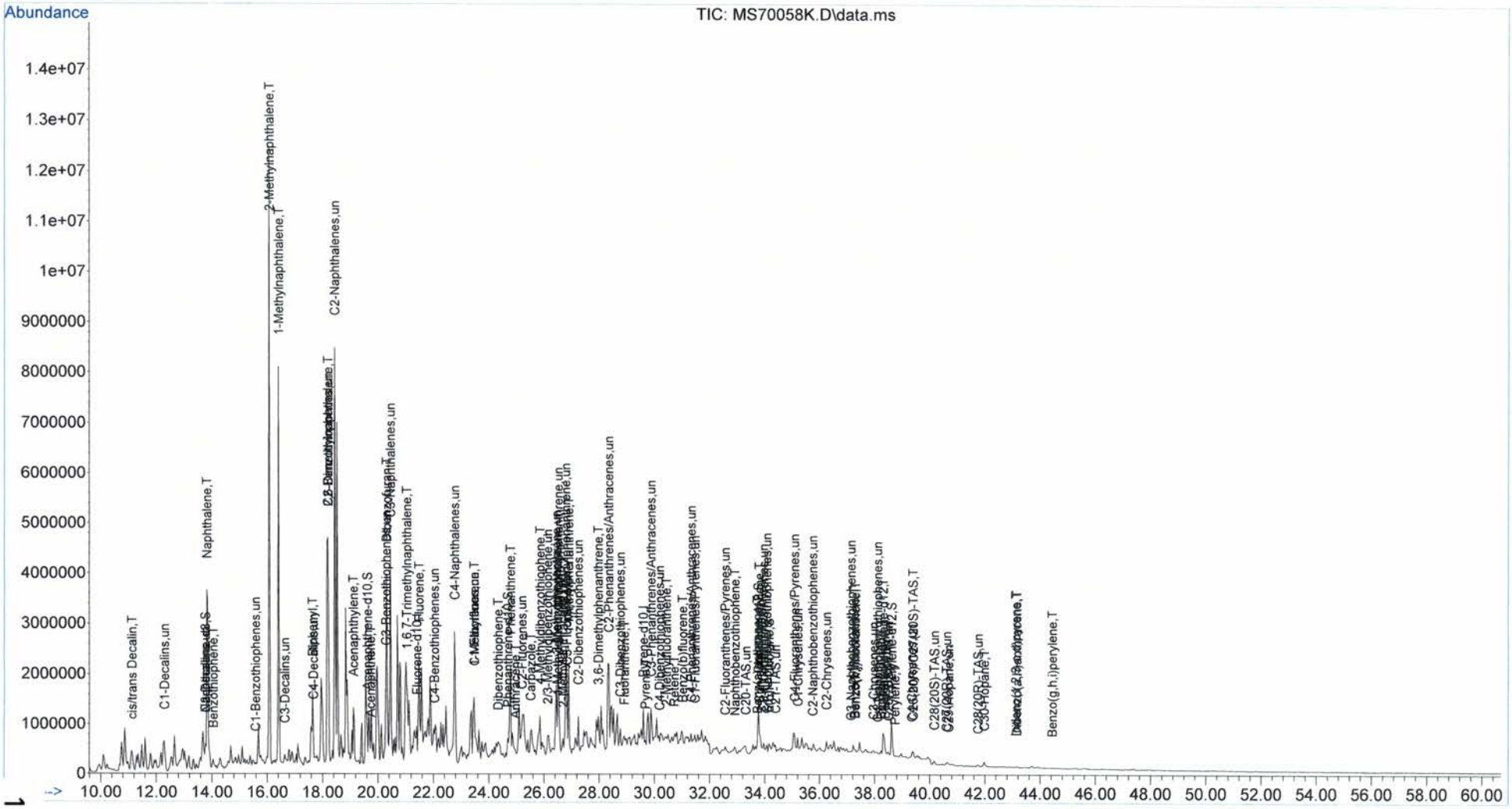
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : MS70058K.D
Acq On : 20 Aug 2013 6:28 pm
Operator : YM
Sample : AR-SRM2779-WK4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Aug 21 20:33:38 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration



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

Data File Name ENV3080A.D
Data File Path C:\GCMS7\MS70058\
Operator YM
Date Acquired 8/20/2013 19:37
Acq. Method File PAH-2012.M
Sample Name Procedural Blank
Misc Info 0
Instrument Name GCMSD
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

ENV3080A.D
Procedural Blank
8/20/2013
PAH-2012.M
1

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.85	11201	4.5104	4.6839
9)+10)	C1-Naphthalenes	16.25	3965	1.5966	1.6580
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	17.67	2537	1.2137	1.2604
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	4255	1.6291	1.6917
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	16.08	2377	1.4596	1.5157
10)	1-Methylnaphthalene	16.41	1588	1.0515	1.0919
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	0.00	0	0.0000	0.0000
36)	2/3-Methyldibenzothiophene	0.00	0	0.0000	0.0000
37)	1-Methyldibenzothiophene	0.00	0	0.0000	0.0000
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	0.00	0	0.0000	0.0000
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.77	482343	211.96	84.74
21)	Acenaphthene-d10	19.62	283801	215.11	85.99
32)	Phenanthrene-d10	24.68	561084	240.93	96.30
66)	Chrysene-d12	33.77	681591	209.77	83.90
88)	Perylene-d12	38.62	765904	222.44	88.97
90)	5(b)H-Cholane	34.16	176821	238.05	95.22
	Internal Standards				
1)	Fluorene-d10	21.40	341947	251.05	
31)	Pyrene-d10	29.60	659337	250.63	
73)	Benzo(a)pyrene-d12	38.31	709186	250.33	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ENV3080A.D
Acq On : 20 Aug 2013 7:37 pm
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 21 20:42:52 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.399	176	341947m	251.05		0.00
31) Pyrene-d10	29.600	212	659337m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	709186m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.766	136	482343m	211.96		0.00
21) Acenaphthene-d10	19.616	164	283801m	215.11		0.00
32) Phenanthrene-d10	24.683	188	561084m	240.93		0.00
66) Chrysene-d12	33.770	240	681591m	209.77		0.00
88) Perylene-d12	38.619	264	765904m	222.44		0.00
90) 5(b)H-Cholane	34.158	217	176821m	238.05		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	13.850	128	11201m	4.51		
9) 2-Methylnaphthalene	16.079	142	2377m	1.46		
10) 1-Methylnaphthalene	16.413	142	1588m	1.05		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	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	17.666	154	2537m	1.21		
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	24.787	178	4255m	1.63		
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : C:\msdchem\2\data\MS70058\
Data File : ENV3080A.D
Acq On : 20 Aug 2013 7:37 pm
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 21 20:42:52 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 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.		
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	0.000		0	N.D.	d	
59) Pyrene	0.000		0	N.D.	d	
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	0.000		0	N.D.	d	
68) Chrysene/Triphenylene	0.000		0	N.D.	d	
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	0.000		0	N.D.	d	
78) Benzo(k,j)fluoranthene	0.000		0	N.D.	d	
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	0.000		0	N.D.	d	
81) Benzo(a)pyrene	0.000		0	N.D.	d	
82) Indeno(1,2,3-c,d)pyrene	0.000		0	N.D.	d	
83) Dibenzo(a,h)anthracene	0.000		0	N.D.	d	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	0.000		0	N.D.	d	
89) Perylene	0.000		0	N.D.	d	
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ENV3080A.D
Acq On : 20 Aug 2013 7:37 pm
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 21 20:42:52 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

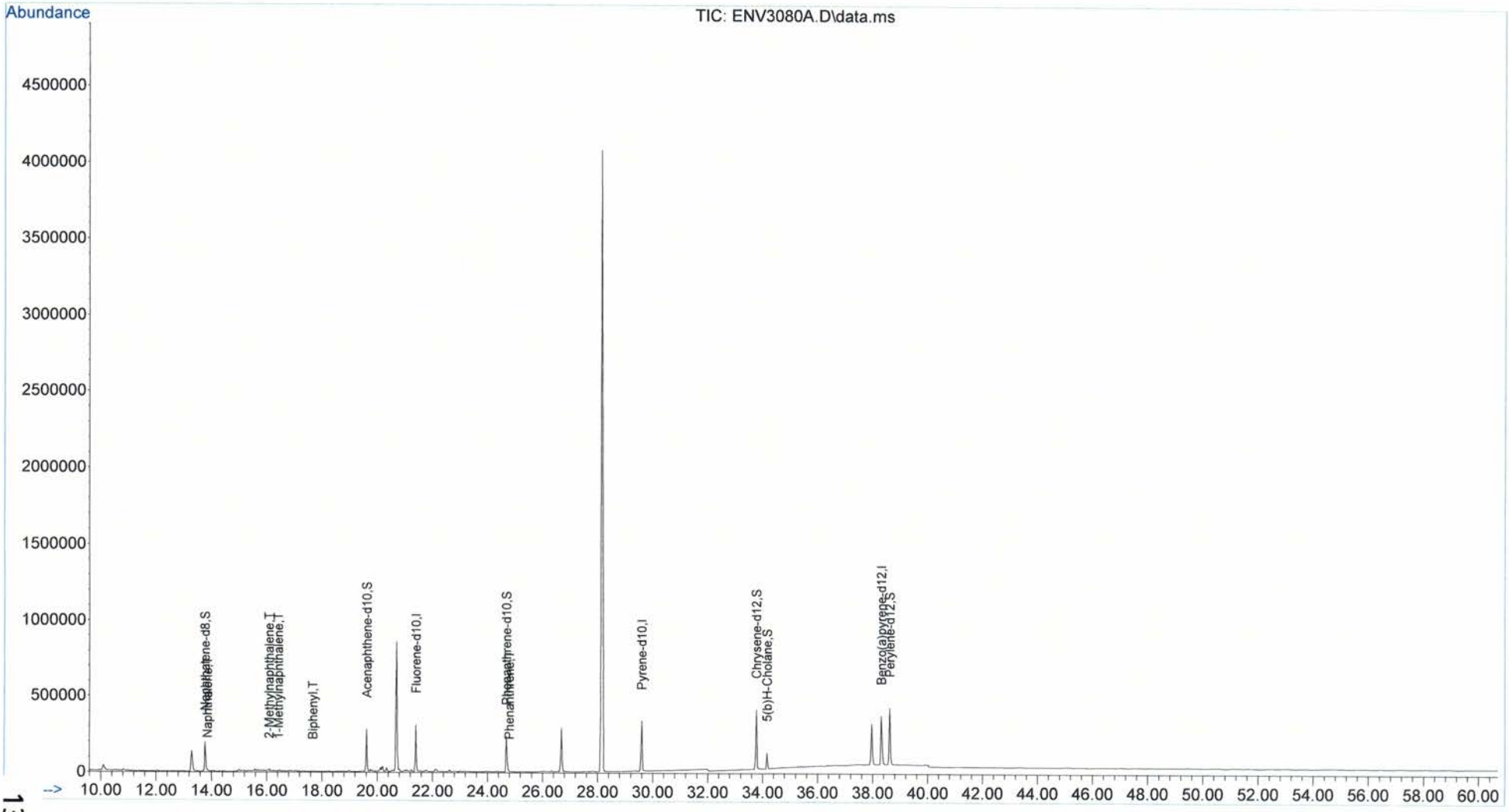
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ENV3080A.D
Acq On : 20 Aug 2013 7:37 pm
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 21 20:42:52 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration



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

Data File Name ENV3080B.D
Data File Path C:\msdchem\2\data\MS70058\
Operator YM
Date Acquired 8/20/2013 20:46
Acq. Method File PAH-2012.M
Sample Name Blank Spike
Misc Info 0
Instrument Name GCMSD
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

ENV3080B.D
Blank Spike
8/20/2013
PAH-2012.M
1

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.12	32101	77.5894	80.6407
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.82	210280	81.4512	84.6544
9)+10)	C1-Naphthalenes	16.25	247294	95.7884	99.5555
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	14.02	159249	74.4926	77.4221
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	17.64	167310	76.9916	80.0194
23)	Acenaphthylene	19.12	181167	78.3261	81.4064
24)	Acenaphthene	19.73	115332	77.7603	80.8184
25)	Dibenzofuran	20.31	194677	78.4902	81.5770
26)	Fluorene	21.48	150399	78.9546	82.0596
28)	C1-Fluorenes	0.00	0	0.0000	0.0000
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	25.51	193892	79.8703	83.0113
42)	Anthracene	24.96	188246	78.3973	81.4804
41)	Phenanthrene	24.79	218595	83.1279	86.3970
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	5.38	173858	66.1152	68.7153
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	296206	99.6669	103.5865
35)+36)+37)	C1-Dibenzothiophenes	8.62	159012	53.5041	55.6082
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	28.87	280658	81.8084	85.0257
59)	Pyrene	29.63	273536	84.8637	88.2011
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	32.92	266781	77.3665	80.4091
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.73	236689	87.7570	91.2082
68)	Chrysene/Triphenylene	33.85	291838	75.9927	78.9812
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.26	294524	74.5785	77.5114
78)	Benzo(k,j)fluoranthene	37.34	301046	70.0640	72.8194
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.23	311227	76.2537	79.2525
81)	Benzo(a)pyrene	38.39	284451	74.0524	76.9646
89)	Perylene	38.70	306921	77.9024	80.9660
82)	Indeno(1,2,3-c,d)pyrene	43.08	351277	73.5254	76.4169
83)	Dibenzo(a,h)anthracene	43.15	291287	76.4831	79.4909
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.41	313070	74.0896	77.0033

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.08	128432	75.8583	78.8416
10)	1-Methylnaphthalene	16.41	118862	75.7064	78.6837
11)	2,6-Dimethylnaphthalene	18.17	108851	73.3354	76.2194
12)	1,6,7-Trimethylnaphthalene	21.04	106798	79.0454	82.1540
27)	1-Methylfluorene	23.47	82842	81.1200	84.3102
35)	4-Methyldibenzothiophene	25.86	159012	84.8321	88.1683
36)	2/3-Methyldibenzothiophene	0.00	0	0.0000	0.0000
37)	1-Methyldibenzothiophene	0.00	0	0.0000	0.0000
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	26.90	173858	80.4804	83.6454
48)	3,6-Dimethylphenanthrene	27.97	157797	73.5430	76.4352
49)	Retene	30.64	75633	76.9398	79.9656
60)	2-Methylfluoranthene	30.40	187644	89.4301	92.9471
61)	Benzo(b)fluorene	31.02	207318	87.6264	91.0725
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	42.67	98100	85.2368	88.5889
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	39.32	359260	82.0736	85.3013
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.77	477475	201.83	80.69
21)	Acenaphthene-d10	19.62	285222	207.95	83.13
32)	Phenanthrene-d10	24.68	564412	240.73	96.22
66)	Chrysene-d12	33.77	668551	204.38	81.74
88)	Perylene-d12	38.62	756658	212.80	85.11
90)	5(b)H-Cholane	34.16	166838	217.50	87.00
	Internal Standards				
1)	Fluorene-d10	21.40	355483	251.05	
31)	Pyrene-d10	29.60	663797	250.63	
73)	Benzo(a)pyrene-d12	38.31	732371	250.33	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ENV3080B.D
Acq On : 20 Aug 2013 8:46 pm
Operator : YM
Sample : Blank Spike
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 21 20:50:34 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.399	176	355483m	251.05		0.00
31) Pyrene-d10	29.600	212	663797m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	732371m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.766	136	477475m	201.83		0.00
21) Acenaphthene-d10	19.616	164	285222m	207.95		0.00
32) Phenanthrene-d10	24.683	188	564412m	240.73		0.00
66) Chrysene-d12	33.770	240	668551m	204.38		0.00
88) Perylene-d12	38.619	264	756658m	212.80		0.00
90) 5(b)H-Cholane	34.158	217	166838m	217.50		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.120	138	32101m	77.59		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.822	128	210280m	81.45		
9) 2-Methylnaphthalene	16.079	142	128432m	75.86		
10) 1-Methylnaphthalene	16.413	142	118862m	75.71		
11) 2,6-Dimethylnaphthalene	18.168	156	108851m	73.34		
12) 1,6,7-Trimethylnaphtha...	21.037	170	106798m	79.05		
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	14.017	134	159249m	74.49		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.639	154	167310m	76.99		
23) Acenaphthylene	19.115	152	181167m	78.33		
24) Acenaphthene	19.728	154	115332m	77.76		
25) Dibenzofuran	20.313	168	194677m	78.49		
26) Fluorene	21.483	166	150399m	78.95		
27) 1-Methylfluorene	23.471	180	82842m	81.12		
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	25.514	167	193892m	79.87		
34) Dibenzothiophene	24.337	184	296206m	99.67		
35) 4-Methyldibenzothiophene	25.860	198	159012m	84.83		
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	24.787	178	218595m	83.13		
42) Anthracene	24.960	178	188246m	78.40		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ENV3080B.D
Acq On : 20 Aug 2013 8:46 pm
Operator : YM
Sample : Blank Spike
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 21 20:50:34 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 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	26.899	192	173858m	80.48		
48) 3,6-Dimethylphenanthrene	27.973	206	157797m	73.54		
49) Retene	30.639	234	75633m	76.94		
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	32.916	234	266781m	77.37		
54) C1-Naphthobenzothiophenes	0.000		0		N.D.	d
55) C2-Naphthobenzothiophenes	0.000		0		N.D.	d
56) C3-Naphthobenzothiophenes	0.000		0		N.D.	d
57) C4-Naphthobenzothiophenes	0.000		0		N.D.	d
58) Fluoranthene	28.873	202	280658m	81.81		
59) Pyrene	29.635	202	273536m	84.86		
60) 2-Methylfluoranthene	30.397	216	187644m	89.43		
61) Benzo(b)fluorene	31.020	216	207318m	87.63		
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	33.731	228	236689m	87.76		
68) Chrysene/Triphenylene	33.848	228	291838m	75.99		
69) C1-Chrysenes	0.000		0		N.D.	d
70) C2-Chrysenes	0.000		0		N.D.	d
71) C3-Chrysenes	0.000		0		N.D.	d
72) C4-Chrysenes	0.000		0		N.D.	d
74) C29-Hopane	0.000		0		N.D.	d
75) 18a-Oleanane	0.000		0		N.D.	d
76) C30-Hopane	42.673	191	98100m	85.24		
77) Benzo(b)fluoranthene	37.261	252	294524m	74.58		
78) Benzo(k,j)fluoranthene	37.339	252	301046m	70.06		
79) Benzo(a)fluoranthene	0.000		0		N.D.	d
80) Benzo(e)pyrene	38.231	252	311227m	76.25		
81) Benzo(a)pyrene	38.387	252	284451m	74.05		
82) Indeno(1,2,3-c,d)pyrene	43.078	276	351277m	73.53		
83) Dibenzo(a,h)anthracene	43.152	278	291287m	76.48		
84) C1-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
85) C2-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
86) C3-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
87) Benzo(g,h,i)perylene	44.405	276	313070m	74.09		
89) Perylene	38.697	252	306921m	77.90		
91) C20-TAS	0.000		0		N.D.	d
92) C21-TAS	0.000		0		N.D.	d
93) C26(20S)-TAS	0.000		0		N.D.	d
94) C26(20R)/C27(20S)-TAS	39.318	231	359260m	82.07		
95) C28(20S)-TAS	0.000		0		N.D.	d
96) C27(20R)-TAS	0.000		0		N.D.	d
97) C28(20R)-TAS	0.000		0		N.D.	d

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ENV3080B.D
Acq On : 20 Aug 2013 8:46 pm
Operator : YM
Sample : Blank Spike
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 21 20:50:34 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

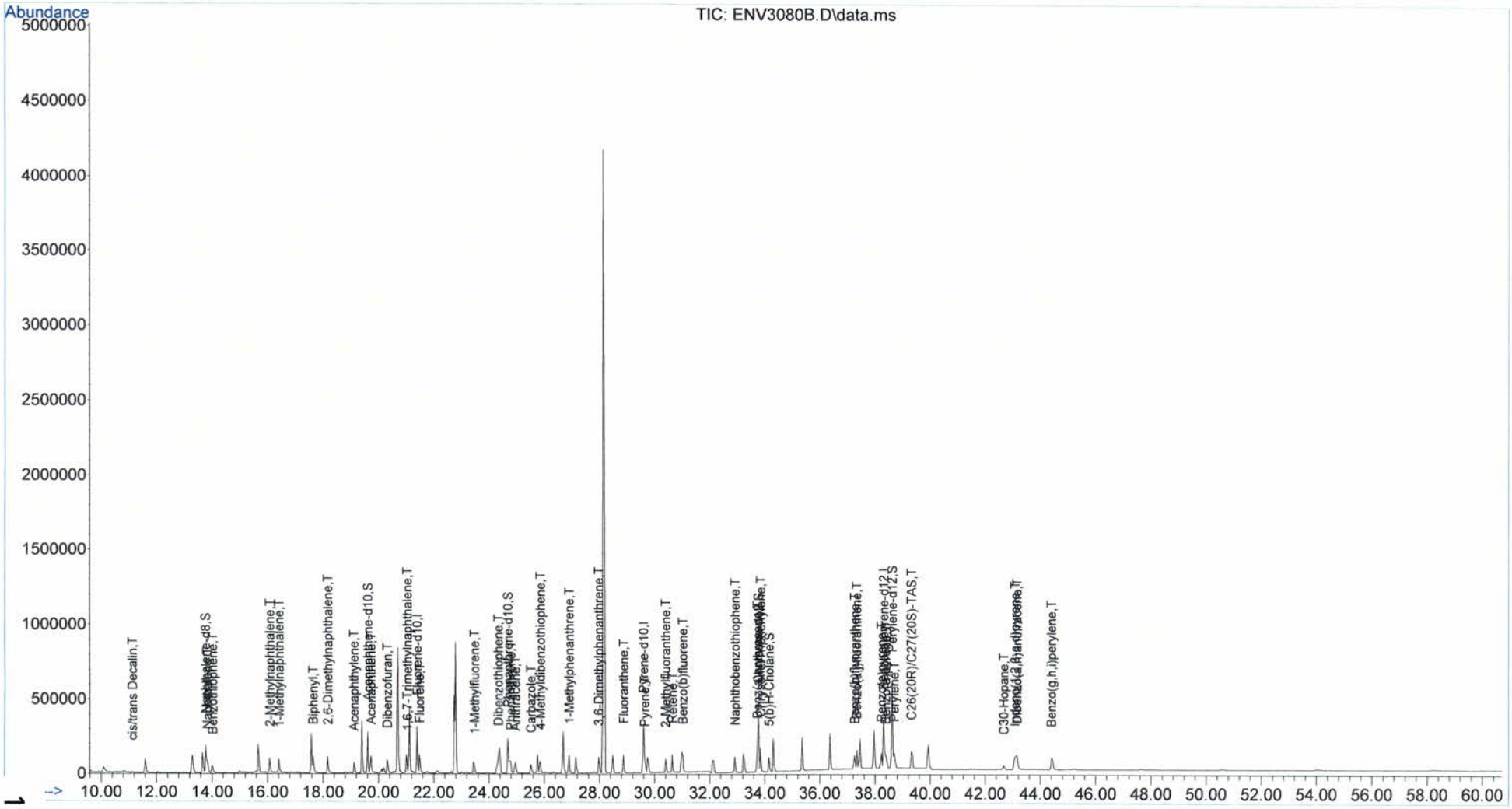
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ENV3080B.D
Acq On : 20 Aug 2013 8:46 pm
Operator : YM
Sample : Blank Spike
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 21 20:50:34 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration



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

Data File Name ENV3080C.D
Data File Path C:\msdchem\2\data\MS70058\
Operator YM
Date Acquired 8/20/2013 21:54
Acq. Method File PAH-2012.M
Sample Name Blank Spike Dupl.
Misc Info 0
Instrument Name GCMSD
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

ENV3080C.D
Blank Spike Dupl.
8/20/2013
PAH-2012.M
1

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.12	34140	80.0054	80.5307
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.82	221651	83.2417	83.7882
9)+10)	C1-Naphthalenes	16.25	260290	97.7527	98.3945
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	14.02	168908	76.6053	77.1083
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.64	176850	78.9039	79.4220
23)	Acenaphthylene	19.12	192412	80.6551	81.1847
24)	Acenaphthene	19.73	119882	78.3672	78.8817
25)	Dibenzofuran	20.31	203792	79.6636	80.1867
26)	Fluorene	21.48	160140	81.5087	82.0439
28)	C1-Fluorenes	0.00	0	0.0000	0.0000
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	25.51	208182	83.0964	83.6420
42)	Anthracene	24.96	200130	80.7609	81.2912
41)	Phenanthrene	24.79	235769	86.8774	87.4478
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	5.38	183916	67.7703	68.2153
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	320171	104.3890	105.0744
35)+36)+37)	C1-Dibenzothiophenes	8.62	170862	55.7081	56.0739
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	28.87	297985	84.1644	84.7170
59)	Pyrene	29.63	288745	86.8032	87.3731
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	32.92	269388	75.6990	76.1960
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.73	238050	85.5235	86.0850
68)	Chrysene/Triphenylene	33.85	304160	76.7443	77.2482
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.26	313653	76.3760	76.8775
78)	Benzo(k,j)fluoranthene	37.34	298593	66.8277	67.2665
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.23	322994	76.1014	76.6011
81)	Benzo(a)pyrene	38.39	297179	74.3985	74.8870
89)	Perylene	38.70	325887	79.5437	80.0660
82)	Indeno(1,2,3-c,d)pyrene	43.08	370253	74.5248	75.0141
83)	Dibenzo(a,h)anthracene	43.15	307032	77.5251	78.0341
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.41	327199	74.4633	74.9522

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.08	134557	77.0563	77.5622
10)	1-Methylnaphthalene	16.41	125733	77.6445	78.1543
11)	2,6-Dimethylnaphthalene	18.17	118327	77.2924	77.7999
12)	1,6,7-Trimethylnaphthalene	21.04	112301	80.5878	81.1169
27)	1-Methylfluorene	23.47	90019	85.4640	86.0251
35)	4-Methyldibenzothiophene	25.86	170862	88.3262	88.9061
36)	2/3-Methyldibenzothiophene	0.00	0	0.0000	0.0000
37)	1-Methyldibenzothiophene	0.00	0	0.0000	0.0000
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	26.90	183916	82.4952	83.0368
48)	3,6-Dimethylphenanthrene	27.97	168483	76.0873	76.5869
49)	Retene	30.64	78731	77.6067	78.1162
60)	2-Methylfluoranthene	30.40	200541	92.6117	93.2198
61)	Benzo(b)fluorene	31.02	218162	89.3492	89.9358
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	42.67	98826	82.5741	83.1163
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	39.32	376169	82.6404	83.1830
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.77	496304	203.40	81.32
21)	Acenaphthene-d10	19.62	299752	211.89	84.70
32)	Phenanthrene-d10	24.68	601439	248.56	99.35
66)	Chrysene-d12	33.77	663756	196.62	78.63
88)	Perylene-d12	38.62	796496	215.41	86.15
90)	5(b)H-Cholane	34.16	175604	220.14	88.06
	Internal Standards				
1)	Fluorene-d10	21.40	366646	251.05	
31)	Pyrene-d10	29.60	685049	250.63	
73)	Benzo(a)pyrene-d12	38.31	761582	250.33	

Data Path : C:\msdchem\2\data\MS70058\
Data File : ENV3080C.D
Acq On : 20 Aug 2013 9:54 pm
Operator : YM
Sample : Blank Spike Dupl.
Misc :
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Aug 21 20:58:40 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.399	176	366646m	251.05		0.00
31) Pyrene-d10	29.600	212	685049m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	761582m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.766	136	496304m	203.40		0.00
21) Acenaphthene-d10	19.616	164	299752m	211.89		0.00
32) Phenanthrene-d10	24.683	188	601439m	248.56		0.00
66) Chrysene-d12	33.770	240	663756m	196.62		0.00
88) Perylene-d12	38.619	264	796496m	215.41		0.00
90) 5(b)H-Cholane	34.158	217	175604m	220.14		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.120	138	34140m	80.01		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.822	128	221651m	83.24		
9) 2-Methylnaphthalene	16.079	142	134557m	77.06		
10) 1-Methylnaphthalene	16.413	142	125733m	77.64		
11) 2,6-Dimethylnaphthalene	18.168	156	118327m	77.29		
12) 1,6,7-Trimethylnaphtha...	21.037	170	112301m	80.59		
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	14.017	134	168908m	76.61		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.639	154	176850m	78.90		
23) Acenaphthylene	19.115	152	192412m	80.66		
24) Acenaphthene	19.728	154	119882m	78.37		
25) Dibenzofuran	20.313	168	203792m	79.66		
26) Fluorene	21.483	166	160140m	81.51		
27) 1-Methylfluorene	23.471	180	90019m	85.46		
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	25.514	167	208182m	83.10		
34) Dibenzothiophene	24.337	184	320171m	104.39		
35) 4-Methyldibenzothiophene	25.860	198	170862m	88.33		
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.787	178	235769m	86.88		
42) Anthracene	24.960	178	200130m	80.76		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ENV3080C.D
Acq On : 20 Aug 2013 9:54 pm
Operator : YM
Sample : Blank Spike Dupl.
Misc :
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Aug 21 20:58:40 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 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	26.899	192	183916m	82.50		
48) 3,6-Dimethylphenanthrene	27.973	206	168483m	76.09		
49) Retene	30.639	234	78731m	77.61		
50) C2-Phenanthrenes/Anthr...	0.000		0		N.D.	d
51) C3-Phenanthrenes/Anthr...	0.000		0		N.D.	d
52) C4-Phenanthrenes/Anthr...	0.000		0		N.D.	d
53) Naphthobenzothiophene	32.916	234	269388m	75.70		
54) C1-Naphthobenzothiophenes	0.000		0		N.D.	d
55) C2-Naphthobenzothiophenes	0.000		0		N.D.	d
56) C3-Naphthobenzothiophenes	0.000		0		N.D.	d
57) C4-Naphthobenzothiophenes	0.000		0		N.D.	d
58) Fluoranthene	28.873	202	297985m	84.16		
59) Pyrene	29.635	202	288745m	86.80		
60) 2-Methylfluoranthene	30.397	216	200541m	92.61		
61) Benzo(b)fluorene	31.020	216	218162m	89.35		
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	33.731	228	238050m	85.52		
68) Chrysene/Triphenylene	33.848	228	304160m	76.74		
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	42.672	191	98826m	82.57		
77) Benzo(b)fluoranthene	37.261	252	313653m	76.38		
78) Benzo(k,j)fluoranthene	37.339	252	298593m	66.83		
79) Benzo(a)fluoranthene	0.000		0		N.D.	d
80) Benzo(e)pyrene	38.231	252	322994m	76.10		
81) Benzo(a)pyrene	38.387	252	297179m	74.40		
82) Indeno(1,2,3-c,d)pyrene	43.078	276	370253m	74.52		
83) Dibenzo(a,h)anthracene	43.152	278	307032m	77.53		
84) C1-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
85) C2-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
86) C3-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
87) Benzo(g,h,i)perylene	44.405	276	327199m	74.46		
89) Perylene	38.697	252	325887m	79.54		
91) C20-TAS	0.000		0		N.D.	d
92) C21-TAS	0.000		0		N.D.	d
93) C26(20S)-TAS	0.000		0		N.D.	d
94) C26(20R)/C27(20S)-TAS	39.318	231	376169m	82.64		
95) C28(20S)-TAS	0.000		0		N.D.	d
96) C27(20R)-TAS	0.000		0		N.D.	d
97) C28(20R)-TAS	0.000		0		N.D.	d

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ENV3080C.D
Acq On : 20 Aug 2013 9:54 pm
Operator : YM
Sample : Blank Spike Dupl.
Misc :
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Aug 21 20:58:40 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

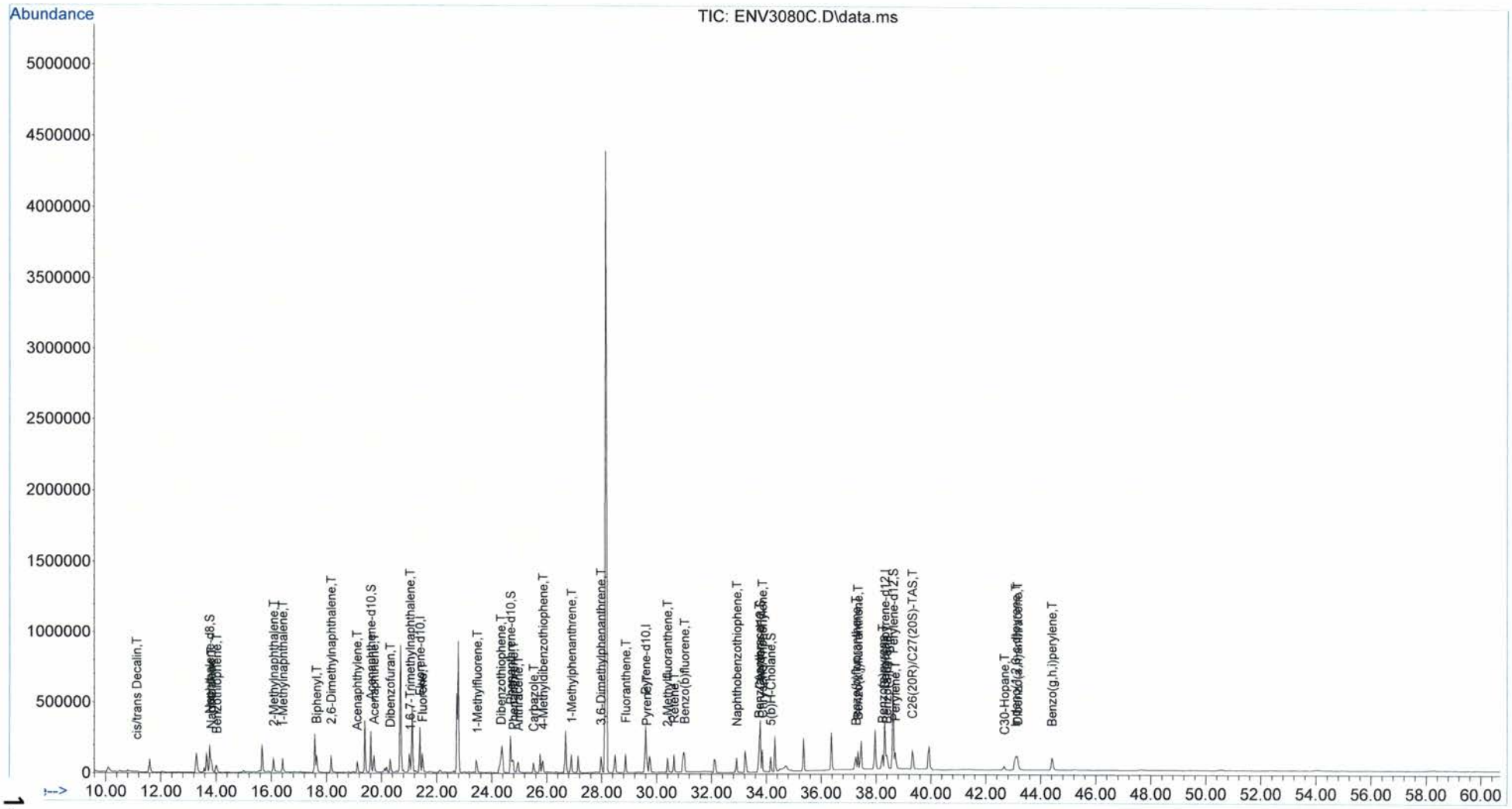
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ENV3080C.D
Acq On : 20 Aug 2013 9:54 pm
Operator : YM
Sample : Blank Spike Dupl.
Misc :
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Aug 21 20:58:40 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration



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

Data File Name	ARC1762.D
Data File Path	C:\GCMS7\MS70058\
Operator	YM
Date Acquired	8/20/2013 23:03
Acq. Method File	PAH-2012.M
Sample Name	SO-DA-EB-02-080713
Misc Info	0
Instrument Name	GCMSD
Vial Number	15
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

ARC1762.D
SO-DA-EB-02-080713
8/20/2013
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	13.82	281890	115.6136	117.5651
9)+10)	C1-Naphthalenes	16.25	4304	1.7652	1.7950
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	1175	0.6531	0.6642
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	7261	3.0375	3.0888
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	28.87	3156	1.0120	1.0291
59)	Pyrene	29.63	3193	1.0897	1.1081
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	16.08	2713	1.6967	1.7254
10)	1-Methylnaphthalene	16.41	1591	1.0730	1.0911
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	0.00	0	0.0000	0.0000
36)	2/3-Methyldibenzothiophene	0.00	0	0.0000	0.0000
37)	1-Methyldibenzothiophene	0.00	0	0.0000	0.0000
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	0.00	0	0.0000	0.0000
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.77	443218	198.37	82.48
21)	Acenaphthene-d10	19.62	258256	199.37	82.88
32)	Phenanthrene-d10	24.68	504236	236.58	98.34
66)	Chrysene-d12	33.77	537378	180.71	75.16
88)	Perylene-d12	38.62	641926	190.76	79.35
90)	5(b)H-Cholane	34.16	147409	203.06	84.47
	Internal Standards				
1)	Fluorene-d10	21.40	322818	241.39	
31)	Pyrene-d10	29.60	580218	240.99	
73)	Benzo(a)pyrene-d12	38.31	666439	240.70	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ARC1762.D
Acq On : 20 Aug 2013 11:03 pm
Operator : YM
Sample : SO-DA-EB-02-080713
Misc :
ALS Vial : 15 Sample Multiplier: 0.96154

Quant Time: Aug 21 21:09:30 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.399	176	322818m	251.05		0.00
31) Pyrene-d10	29.600	212	580218m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	666439m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.766	136	443218m	198.37		0.00
21) Acenaphthene-d10	19.616	164	258256m	199.37		0.00
32) Phenanthrene-d10	24.683	188	504236m	236.58		0.00
66) Chrysene-d12	33.770	240	537378m	180.71		0.00
88) Perylene-d12	38.619	264	641926m	190.77		0.00
90) 5(b)H-Cholane	34.158	217	147409m	203.06		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.822	128	281890m	115.61		
9) 2-Methylnaphthalene	16.078	142	2713m	1.70		
10) 1-Methylnaphthalene	16.413	142	1591m	1.07		
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	21.483	166	1175m	0.65		
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	24.787	178	7261m	3.04		
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ARC1762.D
Acq On : 20 Aug 2013 11:03 pm
Operator : YM
Sample : SO-DA-EB-02-080713
Misc :
ALS Vial : 15 Sample Multiplier: 0.96154

Quant Time: Aug 21 21:09:30 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 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.		
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.873	202	3156m	1.01		
59) Pyrene	29.635	202	3193m	1.09		
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\MS70058\
Data File : ARC1762.D
Acq On : 20 Aug 2013 11:03 pm
Operator : YM
Sample : SO-DA-EB-02-080713
Misc :
ALS Vial : 15 Sample Multiplier: 0.96154

Quant Time: Aug 21 21:09:30 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

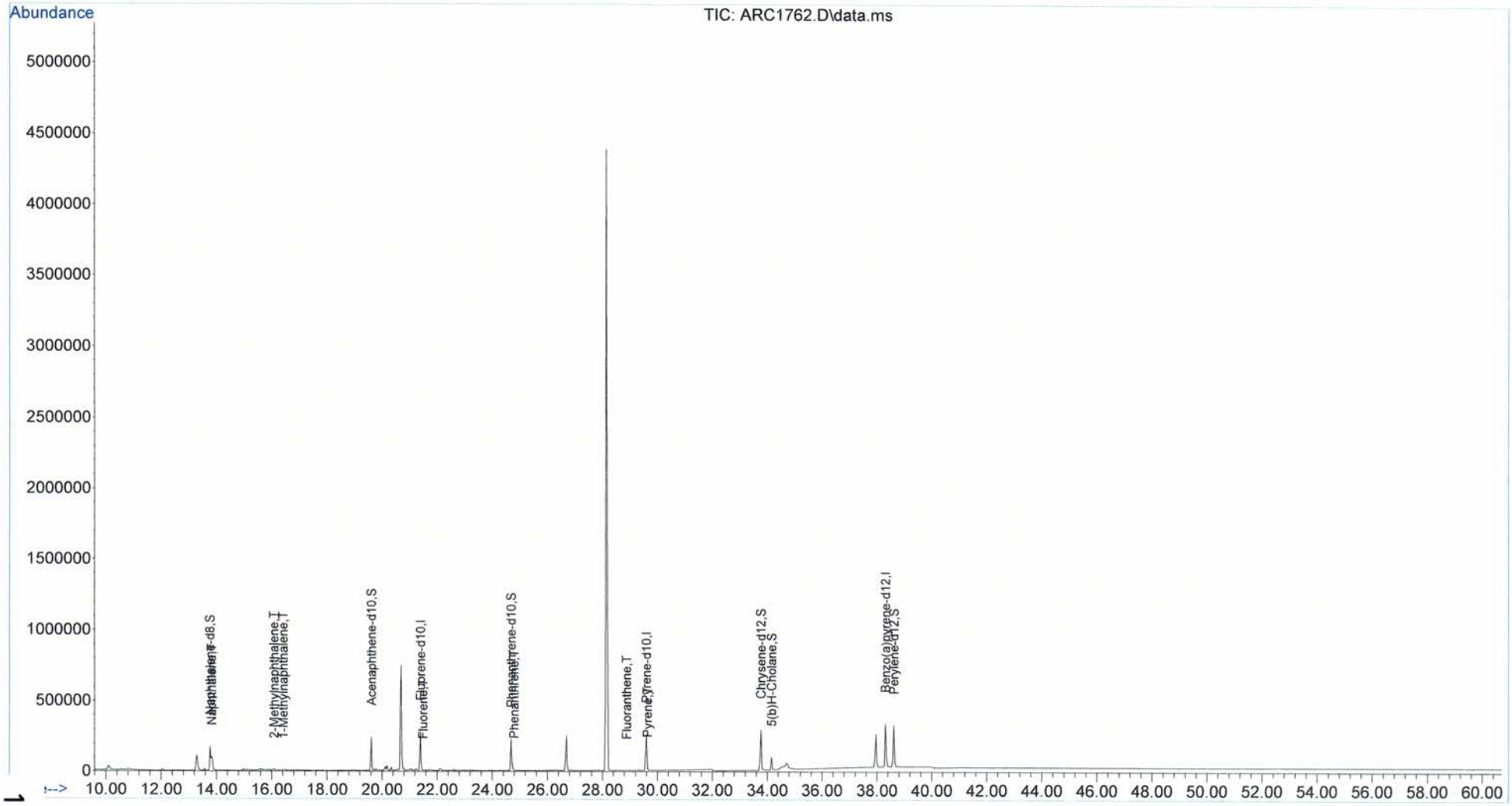
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ARC1762.D
Acq On : 20 Aug 2013 11:03 pm
Operator : YM
Sample : SO-DA-EB-02-080713
Misc :
ALS Vial : 15 Sample Multiplier: 0.96154

Quant Time: Aug 21 21:09:30 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration



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

Data File Name ARC1763.D
Data File Path C:\msdchem\2\data\MS70058\
Operator YM
Date Acquired 8/21/2013 0:11
Acq. Method File PAH-2012.M
Sample Name SO-DA-EB-03-080813
Misc Info 0
Instrument Name GCMSD
Vial Number 16
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

ARC1763.D
SO-DA-EB-03-080813
8/21/2013
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	13.85	196872	75.8149	77.4326
9)+10)	C1-Naphthalenes	16.25	3876	1.4926	1.5245
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	1240	0.6472	0.6610
28)	C1-Fluorenes	0.00	0	0.0000	0.0000
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	0.00	0	0.0000	0.0000
42)	Anthracene	24.96	424	0.1822	0.1861
41)	Phenanthrene	24.79	7586	2.9766	3.0401
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	28.87	2637	0.7931	0.8100
59)	Pyrene	29.63	3592	1.1498	1.1744
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	16.08	2551	1.4980	1.5300
10)	1-Methylnaphthalene	16.41	1325	0.8390	0.8569
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	0.00	0	0.0000	0.0000
36)	2/3-Methyldibenzothiophene	0.00	0	0.0000	0.0000
37)	1-Methyldibenzothiophene	0.00	0	0.0000	0.0000
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	0.00	0	0.0000	0.0000
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.77	465785	195.75	81.39
21)	Acenaphthene-d10	19.62	269667	195.47	81.26
32)	Phenanthrene-d10	24.68	535243	235.55	97.91
66)	Chrysene-d12	33.77	561605	177.14	73.68
88)	Perylene-d12	38.62	678451	187.61	78.04
90)	5(b)H-Cholane	34.16	150628	193.07	80.32
	Internal Standards				
1)	Fluorene-d10	21.40	343807	241.39	
31)	Pyrene-d10	29.60	618598	240.99	
73)	Benzo(a)pyrene-d12	38.31	716212	240.70	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ARC1763.D
Acq On : 21 Aug 2013 12:11 am
Operator : YM
Sample : SO-DA-EB-03-080813
Misc :
ALS Vial : 16 Sample Multiplier: 0.96154

Quant Time: Aug 22 06:52:02 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.399	176	343807m	251.05		0.00
31) Pyrene-d10	29.600	212	618598m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	716212m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.766	136	465785m	195.75		0.00
21) Acenaphthene-d10	19.616	164	269667m	195.47		0.00
32) Phenanthrene-d10	24.683	188	535243m	235.55		0.00
66) Chrysene-d12	33.770	240	561605m	177.14		0.00
88) Perylene-d12	38.619	264	678451m	187.61		0.00
90) 5(b)H-Cholane	34.158	217	150628m	193.07		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	13.850	128	196872m	75.81		
9) 2-Methylnaphthalene	16.078	142	2551m	1.50		
10) 1-Methylnaphthalene	16.413	142	1325m	0.84		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	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	21.483	166	1240m	0.65		
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	24.787	178	7586m	2.98		
42) Anthracene	24.960	178	424m	0.18		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ARC1763.D
Acq On : 21 Aug 2013 12:11 am
Operator : YM
Sample : SO-DA-EB-03-080813
Misc :
ALS Vial : 16 Sample Multiplier: 0.96154

Quant Time: Aug 22 06:52:02 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 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	28.873	202	2637m	0.79		
59) Pyrene	29.635	202	3592m	1.15		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	0.000		0	N.D.	d	
68) Chrysene/Triphenylene	0.000		0	N.D.	d	
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	0.000		0	N.D.	d	
78) Benzo(k,j)fluoranthene	0.000		0	N.D.	d	
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	0.000		0	N.D.	d	
81) Benzo(a)pyrene	0.000		0	N.D.	d	
82) Indeno(1,2,3-c,d)pyrene	0.000		0	N.D.	d	
83) Dibenzo(a,h)anthracene	0.000		0	N.D.	d	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	0.000		0	N.D.	d	
89) Perylene	0.000		0	N.D.	d	
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ARC1763.D
Acq On : 21 Aug 2013 12:11 am
Operator : YM
Sample : SO-DA-EB-03-080813
Misc :
ALS Vial : 16 Sample Multiplier: 0.96154

Quant Time: Aug 22 06:52:02 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

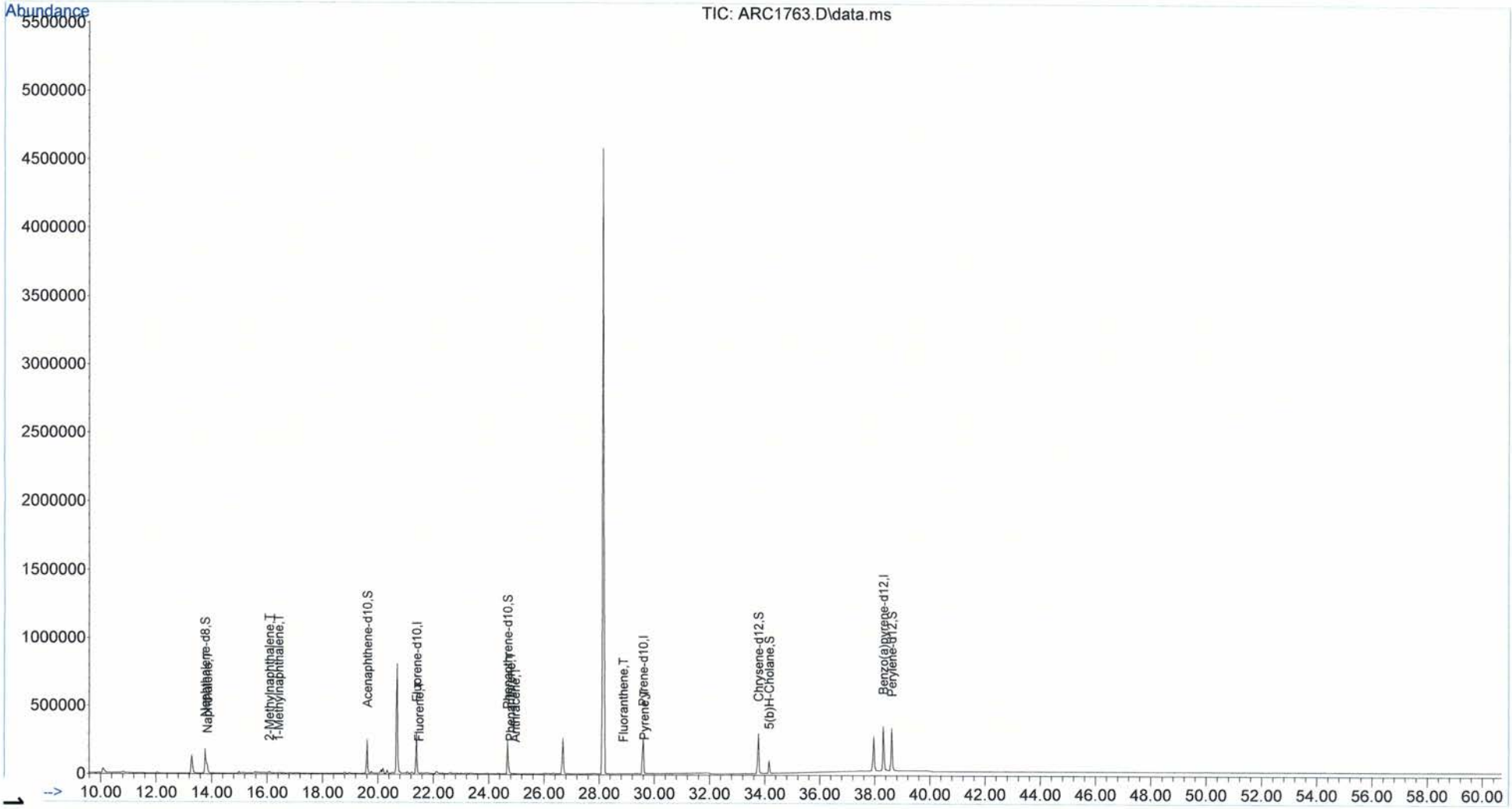
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ARC1763.D
Acq On : 21 Aug 2013 12:11 am
Operator : YM
Sample : SO-DA-EB-03-080813
Misc :
ALS Vial : 16 Sample Multiplier: 0.96154

Quant Time: Aug 22 06:52:02 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration



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

Data File Name ARC1765.D
Data File Path C:\GCMS7\MS70058\
Operator YM
Date Acquired 8/21/2013 1:20
Acq. Method File PAH-2012.M
Sample Name SED-DA-EB-07-080913
Misc Info 0
Instrument Name GCMSD
Vial Number 17
Sample Multiplier 0.93458
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

ARC1765.D
SED-DA-EB-07-080913
8/21/2013
PAH-2012.M
1.069999358

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.82	307183	116.3010	129.6879
9)+10)	C1-Naphthalenes	16.25	5041	1.9085	2.1282
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	17.67	2404	1.0813	1.2058
23)	Acenaphthylene	0.00	0	0.0000	0.0000
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	20.31	2992	1.1791	1.3148
26)	Fluorene	21.48	1280	0.6568	0.7324
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	10251	3.9600	4.4159
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	28.87	3435	1.0171	1.1342
59)	Pyrene	29.63	4162	1.3117	1.4627
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	16.08	3436	1.9837	2.2120
10)	1-Methylnaphthalene	16.41	1605	0.9992	1.1142
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	0.00	0	0.0000	0.0000
36)	2/3-Methyldibenzothiophene	0.00	0	0.0000	0.0000
37)	1-Methyldibenzothiophene	0.00	0	0.0000	0.0000
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	0.00	0	0.0000	0.0000
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.77	395228	163.29	69.86
21)	Acenaphthene-d10	19.62	231724	165.14	70.63
32)	Phenanthrene-d10	24.68	483974	209.69	89.68
66)	Chrysene-d12	33.77	493830	153.36	65.63
88)	Perylene-d12	38.62	589143	164.05	70.20
90)	5(b)H-Cholane	34.16	134390	173.46	74.24
	Internal Standards				
1)	Fluorene-d10	21.40	339898	234.63	
31)	Pyrene-d10	29.60	610698	234.23	
73)	Benzo(a)pyrene-d12	38.31	691321	233.95	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ARC1765.D
Acq On : 21 Aug 2013 1:20 am
Operator : YM
Sample : SED-DA-EB-07-080913
Misc :
ALS Vial : 17 Sample Multiplier: 0.93458

Quant Time: Aug 21 21:11:28 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.399	176	339898m	251.05		0.00
31) Pyrene-d10	29.600	212	610698m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	691321m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.766	136	395228m	163.29		0.00
21) Acenaphthene-d10	19.616	164	231724m	165.14		0.00
32) Phenanthrene-d10	24.683	188	483974m	209.69		0.00
66) Chrysene-d12	33.770	240	493830m	153.36		0.00
88) Perylene-d12	38.619	264	589143m	164.05		0.00
90) 5(b)H-Cholane	34.158	217	134390m	173.46		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.822	128	307183m	116.30		
9) 2-Methylnaphthalene	16.079	142	3436m	1.98		
10) 1-Methylnaphthalene	16.413	142	1605m	1.00		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	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	17.666	154	2404m	1.08		
23) Acenaphthylene	0.000		0	N.D.	d	
24) Acenaphthene	0.000		0	N.D.	d	
25) Dibenzofuran	20.313	168	2992m	1.18		
26) Fluorene	21.483	166	1280m	0.66		
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	24.787	178	10251m	3.96		
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ARC1765.D
Acq On : 21 Aug 2013 1:20 am
Operator : YM
Sample : SED-DA-EB-07-080913
Misc :
ALS Vial : 17 Sample Multiplier: 0.93458

Quant Time: Aug 21 21:11:28 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 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	28.873	202	3435m	1.02		
59) Pyrene	29.635	202	4162m	1.31		
60) 2-Methylfluoranthene	0.000		0		N.D.	d
61) Benzo(b)fluorene	0.000		0		N.D.	d
62) C1-Fluoranthenes/Pyrenes	0.000		0		N.D.	d
63) C2-Fluoranthenes/Pyrenes	0.000		0		N.D.	d
64) C3-Fluoranthenes/Pyrenes	0.000		0		N.D.	d
65) C4-Fluoranthenes/Pyrenes	0.000		0		N.D.	d
67) Benz(a)anthracene	0.000		0		N.D.	d
68) Chrysene/Triphenylene	0.000		0		N.D.	d
69) C1-Chrysenes	0.000		0		N.D.	d
70) C2-Chrysenes	0.000		0		N.D.	d
71) C3-Chrysenes	0.000		0		N.D.	d
72) C4-Chrysenes	0.000		0		N.D.	d
74) C29-Hopane	0.000		0		N.D.	d
75) 18a-Oleanane	0.000		0		N.D.	d
76) C30-Hopane	0.000		0		N.D.	d
77) Benzo(b)fluoranthene	0.000		0		N.D.	d
78) Benzo(k,j)fluoranthene	0.000		0		N.D.	d
79) Benzo(a)fluoranthene	0.000		0		N.D.	d
80) Benzo(e)pyrene	0.000		0		N.D.	d
81) Benzo(a)pyrene	0.000		0		N.D.	d
82) Indeno(1,2,3-c,d)pyrene	0.000		0		N.D.	d
83) Dibenzo(a,h)anthracene	0.000		0		N.D.	d
84) C1-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
85) C2-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
86) C3-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
87) Benzo(g,h,i)perylene	0.000		0		N.D.	d
89) Perylene	0.000		0		N.D.	d
91) C20-TAS	0.000		0		N.D.	d
92) C21-TAS	0.000		0		N.D.	d
93) C26(20S)-TAS	0.000		0		N.D.	d
94) C26(20R)/C27(20S)-TAS	0.000		0		N.D.	d
95) C28(20S)-TAS	0.000		0		N.D.	d
96) C27(20R)-TAS	0.000		0		N.D.	d
97) C28(20R)-TAS	0.000		0		N.D.	d

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ARC1765.D
Acq On : 21 Aug 2013 1:20 am
Operator : YM
Sample : SED-DA-EB-07-080913
Misc :
ALS Vial : 17 Sample Multiplier: 0.93458

Quant Time: Aug 21 21:11:28 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

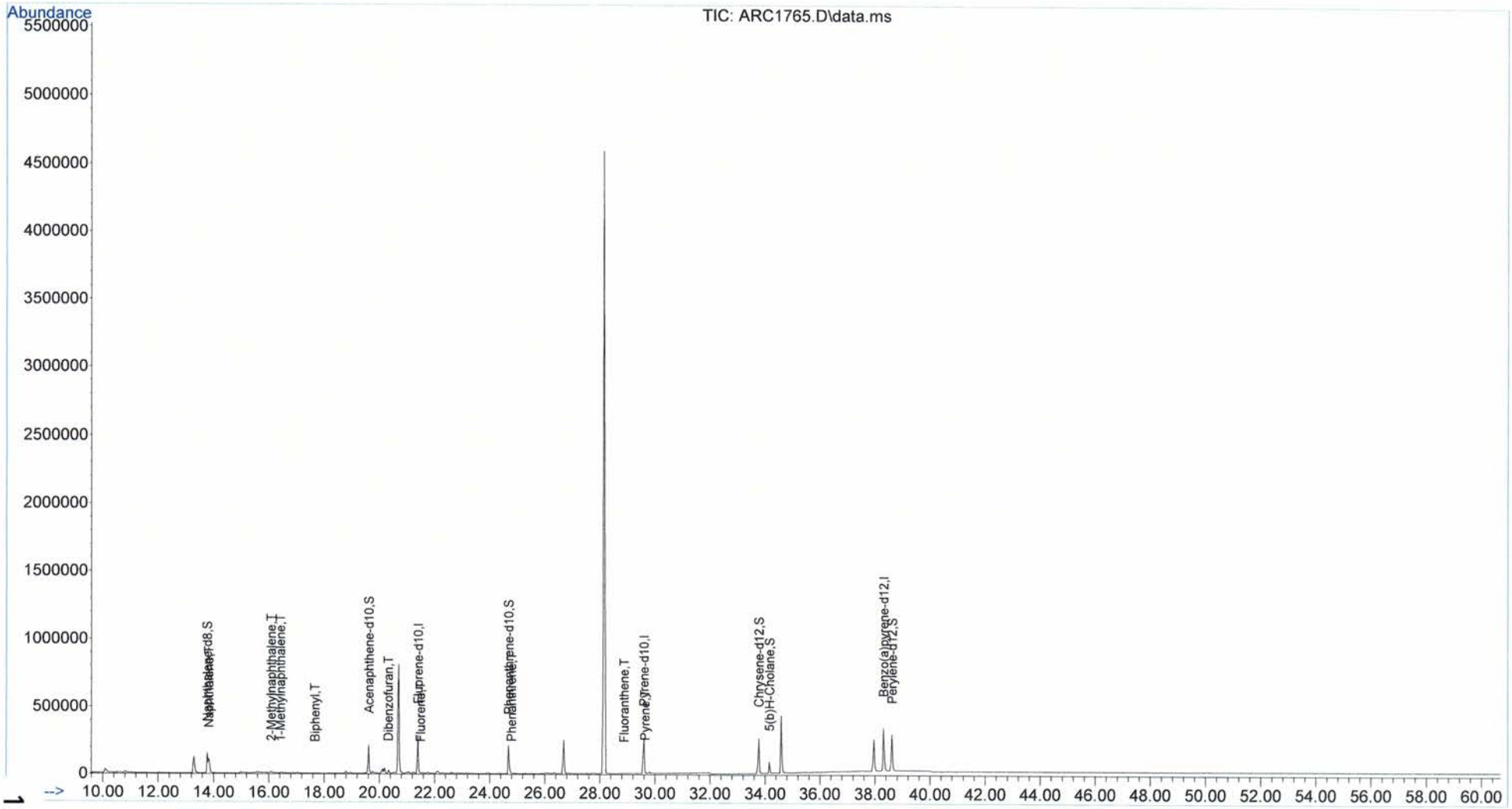
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ARC1765.D
Acq On : 21 Aug 2013 1:20 am
Operator : YM
Sample : SED-DA-EB-07-080913
Misc :
ALS Vial : 17 Sample Multiplier: 0.93458

Quant Time: Aug 21 21:11:28 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration



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

Data File Name ARC1767.D
Data File Path C:\GCMS7\MS70058\
Operator YM
Date Acquired 8/21/2013 2:28
Acq. Method File PAH-2012.M
Sample Name SED-DA-DI-Water
Misc Info 0
Instrument Name GCMSD
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

ARC1767.D
SED-DA-DI-Water
8/21/2013
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	13.82	300889	107.5418	105.4442
9)+10)	C1-Naphthalenes	16.25	5705	2.0390	1.9993
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	17.67	2338	0.9927	0.9734
23)	Acenaphthylene	0.00	0	0.0000	0.0000
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	20.31	2215	0.8240	0.8080
26)	Fluorene	21.48	1270	0.6152	0.6032
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	7681	2.7485	2.6949
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	28.87	3159	0.8665	0.8496
59)	Pyrene	29.63	3314	0.9675	0.9486
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	16.08	3286	1.7909	1.7560
10)	1-Methylnaphthalene	16.41	2419	1.4217	1.3939
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	0.00	0	0.0000	0.0000
36)	2/3-Methyldibenzothiophene	0.00	0	0.0000	0.0000
37)	1-Methyldibenzothiophene	0.00	0	0.0000	0.0000
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	0.00	0	0.0000	0.0000
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.77	505487	197.16	82.77
21)	Acenaphthene-d10	19.62	289603	194.83	81.78
32)	Phenanthrene-d10	24.68	605529	243.02	101.99
66)	Chrysene-d12	33.77	596752	171.66	72.09
88)	Perylene-d12	38.62	731326	187.94	78.92
90)	5(b)H-Cholane	34.16	164251	195.66	82.18
	Internal Standards				
1)	Fluorene-d10	21.40	366909	239.09	
31)	Pyrene-d10	29.60	671843	238.69	
73)	Benzo(a)pyrene-d12	38.31	763329	238.40	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ARC1767.D
Acq On : 21 Aug 2013 2:28 am
Operator : YM
Sample : SED-DA-DI-Water
Misc :
ALS Vial : 18 Sample Multiplier: 0.95238

Quant Time: Aug 21 21:15:12 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.399	176	366909m	251.05		0.00
31) Pyrene-d10	29.600	212	671843m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	763329m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.766	136	505487m	197.16		0.00
21) Acenaphthene-d10	19.616	164	289603m	194.83		0.00
32) Phenanthrene-d10	24.683	188	605529m	243.02		0.00
66) Chrysene-d12	33.770	240	596752m	171.66		0.00
88) Perylene-d12	38.619	264	731326m	187.94		0.00
90) 5(b)H-Cholane	34.158	217	164251m	195.66		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.822	128	300889m	107.54		
9) 2-Methylnaphthalene	16.078	142	3286m	1.79		
10) 1-Methylnaphthalene	16.413	142	2419m	1.42		
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	17.666	154	2338m	0.99		
23) Acenaphthylene	0.000		0	N.D.	d	
24) Acenaphthene	0.000		0	N.D.	d	
25) Dibenzofuran	20.313	168	2215m	0.82		
26) Fluorene	21.483	166	1270m	0.62		
27) 1-Methylfluorene	0.000		0	N.D.	d	
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	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	24.787	178	7681m	2.75		
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ARC1767.D
Acq On : 21 Aug 2013 2:28 am
Operator : YM
Sample : SED-DA-DI-Water
Misc :
ALS Vial : 18 Sample Multiplier: 0.95238

Quant Time: Aug 21 21:15:12 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 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	28.873	202	3159m	0.87		
59) Pyrene	29.635	202	3314m	0.97		
60) 2-Methylfluoranthene	0.000		0		N.D.	d
61) Benzo(b)fluorene	0.000		0		N.D.	d
62) C1-Fluoranthenes/Pyrenes	0.000		0		N.D.	d
63) C2-Fluoranthenes/Pyrenes	0.000		0		N.D.	d
64) C3-Fluoranthenes/Pyrenes	0.000		0		N.D.	d
65) C4-Fluoranthenes/Pyrenes	0.000		0		N.D.	d
67) Benz(a)anthracene	0.000		0		N.D.	d
68) Chrysene/Triphenylene	0.000		0		N.D.	d
69) C1-Chrysenes	0.000		0		N.D.	d
70) C2-Chrysenes	0.000		0		N.D.	d
71) C3-Chrysenes	0.000		0		N.D.	d
72) C4-Chrysenes	0.000		0		N.D.	d
74) C29-Hopane	0.000		0		N.D.	d
75) 18a-Oleanane	0.000		0		N.D.	d
76) C30-Hopane	0.000		0		N.D.	d
77) Benzo(b)fluoranthene	0.000		0		N.D.	d
78) Benzo(k,j)fluoranthene	0.000		0		N.D.	d
79) Benzo(a)fluoranthene	0.000		0		N.D.	d
80) Benzo(e)pyrene	0.000		0		N.D.	d
81) Benzo(a)pyrene	0.000		0		N.D.	d
82) Indeno(1,2,3-c,d)pyrene	0.000		0		N.D.	d
83) Dibenzo(a,h)anthracene	0.000		0		N.D.	d
84) C1-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
85) C2-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
86) C3-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
87) Benzo(g,h,i)perylene	0.000		0		N.D.	d
89) Perylene	0.000		0		N.D.	d
91) C20-TAS	0.000		0		N.D.	d
92) C21-TAS	0.000		0		N.D.	d
93) C26(20S)-TAS	0.000		0		N.D.	d
94) C26(20R)/C27(20S)-TAS	0.000		0		N.D.	d
95) C28(20S)-TAS	0.000		0		N.D.	d
96) C27(20R)-TAS	0.000		0		N.D.	d
97) C28(20R)-TAS	0.000		0		N.D.	d

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ARC1767.D
Acq On : 21 Aug 2013 2:28 am
Operator : YM
Sample : SED-DA-DI-Water
Misc :
ALS Vial : 18 Sample Multiplier: 0.95238

Quant Time: Aug 21 21:15:12 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

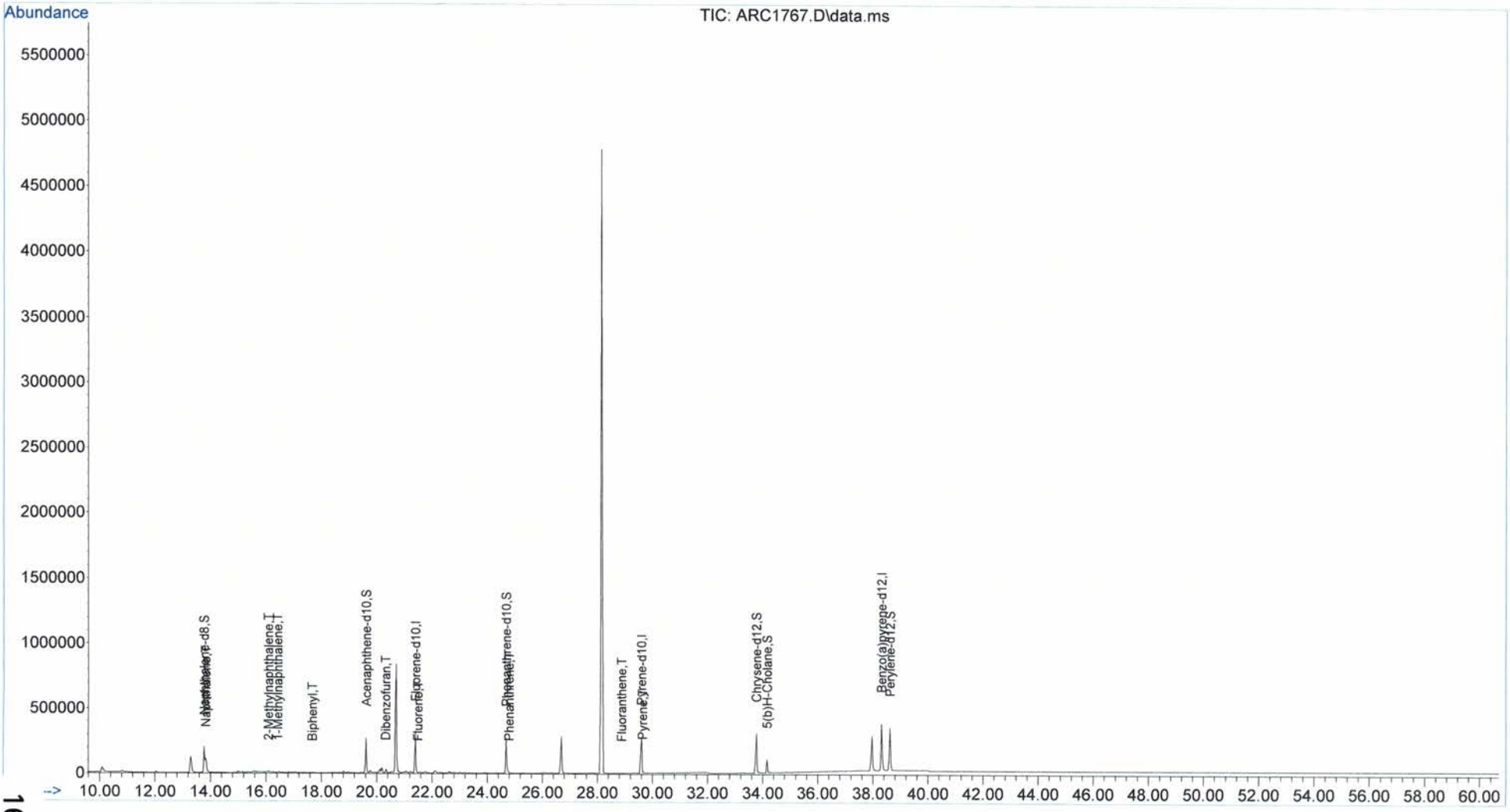
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ARC1767.D
Acq On : 21 Aug 2013 2:28 am
Operator : YM
Sample : SED-DA-DI-Water
Misc :
ALS Vial : 18 Sample Multiplier: 0.95238

Quant Time: Aug 21 21:15:12 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration



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

Data File Name ARC1769.D
Data File Path C:\GCMS7\MS70058\
Operator YM
Date Acquired 8/21/2013 4:45
Acq. Method File PAH-2012.M
Sample Name SED-DA-EB-08-081013
Misc Info 0
Instrument Name GCMSD
Vial Number 20
Sample Multiplier 0.93458
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

ARC1769.D
SED-DA-EB-08-081013
8/21/2013
PAH-2012.M
1.069999358

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.82	491276	202.5768	199.5704
9)+10)	C1-Naphthalenes	16.25	4595	1.8947	1.8666
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	17.67	2574	1.2609	1.2422
23)	Acenaphthylene	0.00	0	0.0000	0.0000
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	20.31	2161	0.9275	0.9137
26)	Fluorene	21.48	1188	0.6639	0.6541
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	6823	2.9107	2.8675
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	28.87	3179	1.0395	1.0241
59)	Pyrene	29.63	3301	1.1489	1.1318
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	16.08	2514	1.5807	1.5573
10)	1-Methylnaphthalene	16.41	2081	1.4110	1.3901
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	0.00	0	0.0000	0.0000
36)	2/3-Methyldibenzothiophene	0.00	0	0.0000	0.0000
37)	1-Methyldibenzothiophene	0.00	0	0.0000	0.0000
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	0.00	0	0.0000	0.0000
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.77	444876	200.19	85.64
21)	Acenaphthene-d10	19.62	250618	194.52	83.20
32)	Phenanthrene-d10	24.68	496072	237.35	101.51
66)	Chrysene-d12	33.77	482761	165.55	70.85
88)	Perylene-d12	38.62	607883	185.94	79.57
90)	5(b)H-Cholane	34.16	133594	189.42	81.07
	Internal Standards				
1)	Fluorene-d10	21.40	312084	234.63	
31)	Pyrene-d10	29.60	553018	234.23	
73)	Benzo(a)pyrene-d12	38.31	629328	233.95	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ARC1769.D
Acq On : 21 Aug 2013 4:45 am
Operator : YM
Sample : SED-DA-EB-08-081013
Misc :
ALS Vial : 20 Sample Multiplier: 0.93458

Quant Time: Aug 21 21:20:20 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.399	176	312084m	251.05		0.00
31) Pyrene-d10	29.600	212	553018m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	629328m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.766	136	444876m	200.19		0.00
21) Acenaphthene-d10	19.616	164	250618m	194.52		0.00
32) Phenanthrene-d10	24.683	188	496072m	237.35		0.00
66) Chrysene-d12	33.770	240	482761m	165.55		0.00
88) Perylene-d12	38.619	264	607883m	185.94		0.00
90) 5(b)H-Cholane	34.158	217	133594m	189.42		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.822	128	491276m	202.58		
9) 2-Methylnaphthalene	16.078	142	2514m	1.58		
10) 1-Methylnaphthalene	16.413	142	2081m	1.41		
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	17.666	154	2574m	1.26		
23) Acenaphthylene	0.000		0	N.D.	d	
24) Acenaphthene	0.000		0	N.D.	d	
25) Dibenzofuran	20.313	168	2161m	0.93		
26) Fluorene	21.483	166	1188m	0.66		
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	24.787	178	6823m	2.91		
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : C:\msdchem\2\data\MS70058\
Data File : ARC1769.D
Acq On : 21 Aug 2013 4:45 am
Operator : YM
Sample : SED-DA-EB-08-081013
Misc :
ALS Vial : 20 Sample Multiplier: 0.93458

Quant Time: Aug 21 21:20:20 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 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	28.873	202	3179m	1.04		
59) Pyrene	29.635	202	3301m	1.15		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	0.000		0	N.D.	d	
68) Chrysene/Triphenylene	0.000		0	N.D.	d	
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	0.000		0	N.D.	d	
78) Benzo(k,j)fluoranthene	0.000		0	N.D.	d	
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	0.000		0	N.D.	d	
81) Benzo(a)pyrene	0.000		0	N.D.	d	
82) Indeno(1,2,3-c,d)pyrene	0.000		0	N.D.	d	
83) Dibenzo(a,h)anthracene	0.000		0	N.D.	d	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	0.000		0	N.D.	d	
89) Perylene	0.000		0	N.D.	d	
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ARC1769.D
Acq On : 21 Aug 2013 4:45 am
Operator : YM
Sample : SED-DA-EB-08-081013
Misc :
ALS Vial : 20 Sample Multiplier: 0.93458

Quant Time: Aug 21 21:20:20 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

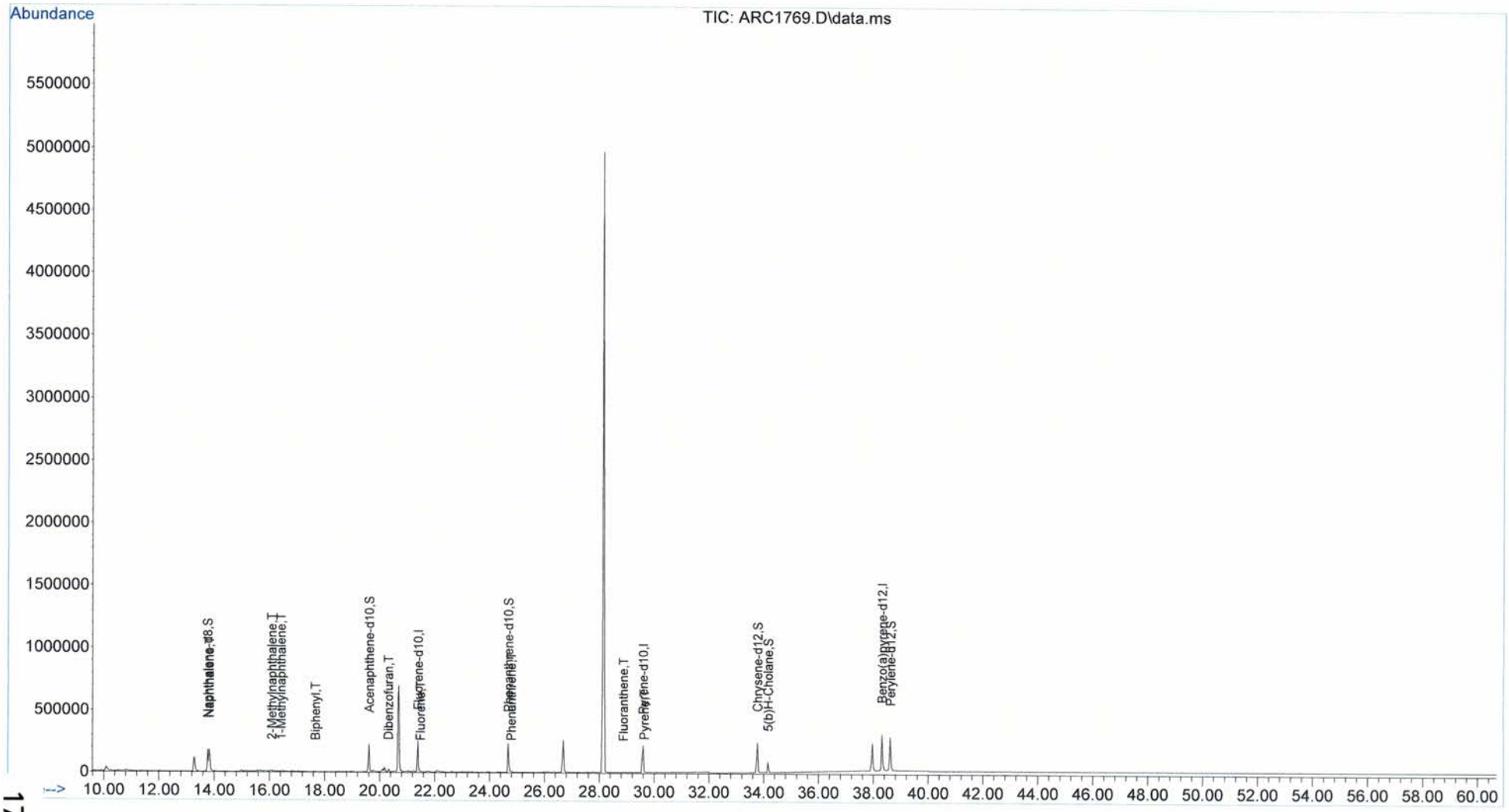
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ARC1769.D
Acq On : 21 Aug 2013 4:45 am
Operator : YM
Sample : SED-DA-EB-08-081013
Misc :
ALS Vial : 20 Sample Multiplier: 0.93458

Quant Time: Aug 21 21:20:20 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration



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

Data File Name ARC1771.D
Data File Path C:\GCMS7\MS70058\
Operator YM
Date Acquired 8/21/2013 5:54
Acq. Method File PAH-2012.M
Sample Name SO-DA-EB-04-081113
Misc Info 0
Instrument Name GCMSD
Vial Number 21
Sample Multiplier 0.98039
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

ARC1771.D
SO-DA-EB-04-081113
8/21/2013
PAH-2012.M
1.020002244

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	13.82	386170	162.0702	160.8570
9)+10)	C1-Naphthalenes	16.25	5082	2.1328	2.1169
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	1232	0.7008	0.6955
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	7908	3.3687	3.3435
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	28.87	2616	0.8542	0.8478
59)	Pyrene	29.63	3742	1.3005	1.2908
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	16.08	3152	2.0172	2.0021
10)	1-Methylnaphthalene	16.41	1930	1.3319	1.3219
11)	2,6-Dimethylnaphthalene	0.00	0	0.0000	0.0000
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.0000	0.0000
27)	1-Methylfluorene	0.00	0	0.0000	0.0000
35)	4-Methyldibenzothiophene	0.00	0	0.0000	0.0000
36)	2/3-Methyldibenzothiophene	0.00	0	0.0000	0.0000
37)	1-Methyldibenzothiophene	0.00	0	0.0000	0.0000
43)	3-Methylphenanthrene	0.00	0	0.0000	0.0000
44)	2-Methylphenanthrene	0.00	0	0.0000	0.0000
45)	2-Methylanthracene	0.00	0	0.0000	0.0000
46)	4/9-Methylphenanthrene	0.00	0	0.0000	0.0000
47)	1-Methylphenanthrene	0.00	0	0.0000	0.0000
48)	3,6-Dimethylphenanthrene	0.00	0	0.0000	0.0000
49)	Retene	0.00	0	0.0000	0.0000
60)	2-Methylfluoranthene	0.00	0	0.0000	0.0000
61)	Benzo(b)fluorene	0.00	0	0.0000	0.0000
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	0.00	0	0.0000	0.0000
95)	C28(20S)-TAS	0.00	0	0.0000	0.0000
96)	C27(20R)-TAS	0.00	0	0.0000	0.0000
97)	C28(20R)-TAS	0.00	0	0.0000	0.0000
	Surrogate Standards				
2)	Naphthalene-d8	13.77	430739	197.28	80.45
21)	Acenaphthene-d10	19.62	251292	198.51	80.94
32)	Phenanthrene-d10	24.68	517268	247.14	100.75
66)	Chrysene-d12	33.77	505085	172.96	70.56
88)	Perylene-d12	38.62	609130	188.89	77.06
90)	5(b)H-Cholane	34.16	139048	199.87	81.55
	Internal Standards				
1)	Fluorene-d10	21.40	321657	246.13	
31)	Pyrene-d10	29.60	580951	245.71	
73)	Benzo(a)pyrene-d12	38.31	651176	245.42	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ARC1771.D
Acq On : 21 Aug 2013 5:54 am
Operator : YM
Sample : SO-DA-EB-04-081113
Misc :
ALS Vial : 21 Sample Multiplier: 0.98039

Quant Time: Aug 22 06:52:24 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.399	176	321657m	251.05		0.00
31) Pyrene-d10	29.600	212	580951m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	651176m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.766	136	430739m	197.28		0.00
21) Acenaphthene-d10	19.616	164	251292m	198.51		0.00
32) Phenanthrene-d10	24.683	188	517268m	247.14		0.00
66) Chrysene-d12	33.770	240	505085m	172.96		0.00
88) Perylene-d12	38.619	264	609130m	188.89		0.00
90) 5(b)H-Cholane	34.158	217	139048m	199.87		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.822	128	386170m	162.07		
9) 2-Methylnaphthalene	16.078	142	3152m	2.02		
10) 1-Methylnaphthalene	16.413	142	1930m	1.33		
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	21.483	166	1232m	0.70		
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	24.787	178	7908m	3.37		
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ARC1771.D
Acq On : 21 Aug 2013 5:54 am
Operator : YM
Sample : SO-DA-EB-04-081113
Misc :
ALS Vial : 21 Sample Multiplier: 0.98039

Quant Time: Aug 22 06:52:24 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 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	28.873	202	2616m	0.85		
59) Pyrene	29.635	202	3742m	1.30		
60) 2-Methylfluoranthene	0.000		0	N.D.	d	
61) Benzo(b)fluorene	0.000		0	N.D.	d	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	0.000		0	N.D.	d	
68) Chrysene/Triphenylene	0.000		0	N.D.	d	
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	0.000		0	N.D.	d	
78) Benzo(k,j)fluoranthene	0.000		0	N.D.	d	
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	0.000		0	N.D.	d	
81) Benzo(a)pyrene	0.000		0	N.D.	d	
82) Indeno(1,2,3-c,d)pyrene	0.000		0	N.D.	d	
83) Dibenzo(a,h)anthracene	0.000		0	N.D.	d	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	0.000		0	N.D.	d	
89) Perylene	0.000		0	N.D.	d	
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ARC1771.D
Acq On : 21 Aug 2013 5:54 am
Operator : YM
Sample : SO-DA-EB-04-081113
Misc :
ALS Vial : 21 Sample Multiplier: 0.98039

Quant Time: Aug 22 06:52:24 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

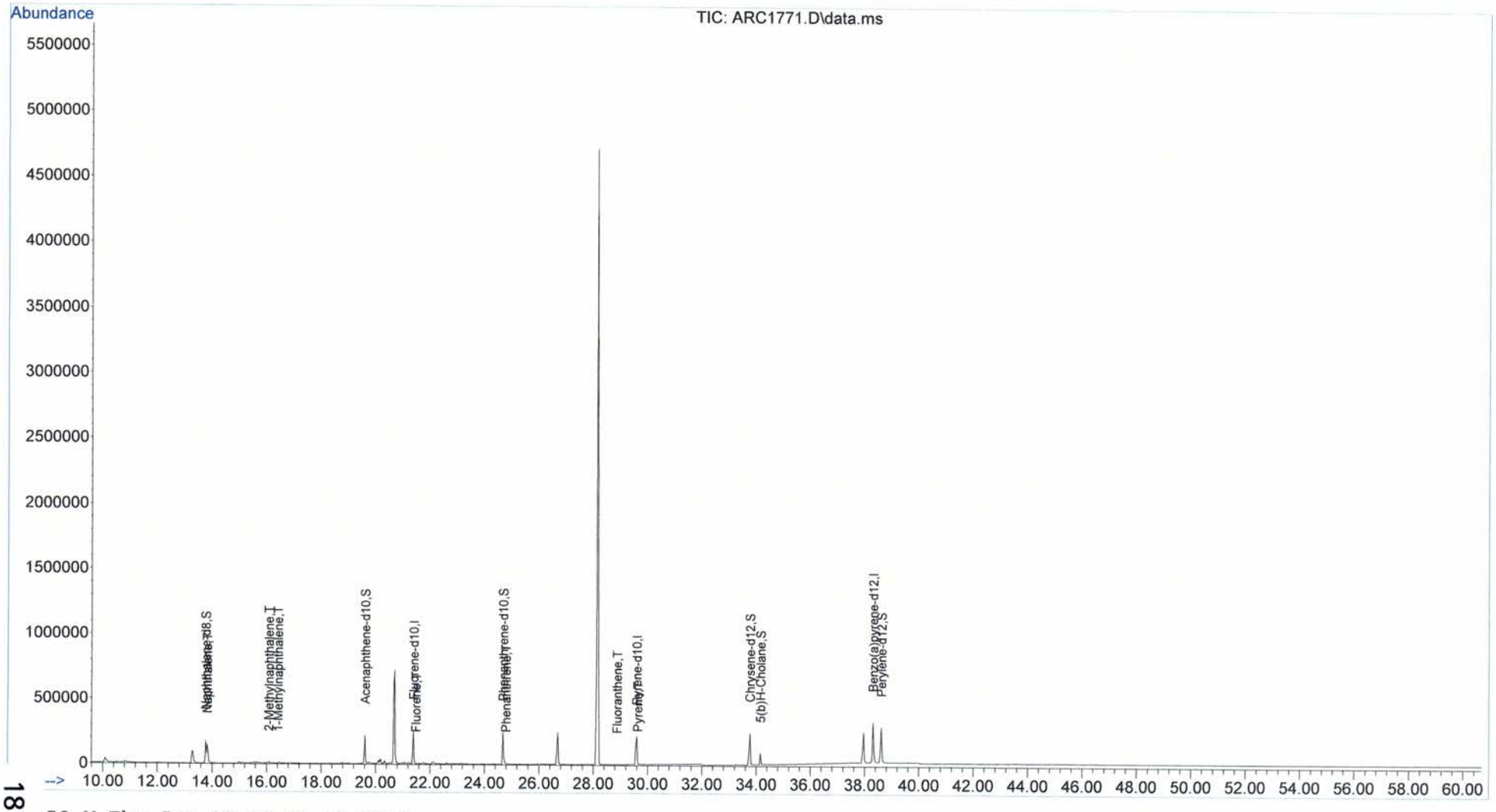
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70058\
Data File : ARC1771.D
Acq On : 21 Aug 2013 5:54 am
Operator : YM
Sample : SO-DA-EB-04-081113
Misc :
ALS Vial : 21 Sample Multiplier: 0.98039

Quant Time: Aug 22 06:52:24 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration



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

TPH/Aliphatic
ICAL
FID1C08BACK081213.M

GC/FID-1 BACK

Calibration Status Report HP5890

Method Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Method File : FID1C08BACK081213.M
Title : C8 - C40 aliphatic
Last Update : Mon Aug 12 14:55:52 2013
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	1	1	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID10073C.D
2	2	10	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID10073D.D
3	3	25	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID10073E.D
4	4	40	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID10073F.D
5	5	50	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID10073G.D
6	6	100	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID10073H.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1	Aug 12 14:22 2013	Aug 12 14:22 2013	09-Aug-2013, 22:41:20
2	2	Aug 12 14:27 2013	Aug 12 14:27 2013	09-Aug-2013, 23:51:52
3	3	Aug 12 14:31 2013	Aug 12 14:31 2013	10-Aug-2013, 01:02:24
4	4	Aug 12 14:35 2013	Aug 12 14:35 2013	10-Aug-2013, 02:13:04
5	5	Aug 12 14:39 2013	Aug 12 14:39 2013	10-Aug-2013, 03:23:38
6	6	Aug 12 14:44 2013	Aug 12 14:44 2013	10-Aug-2013, 04:34:12

FID1C08BACK081213.M Mon Aug 12 14:56:11 2013

Response Factor Report HP5890

Method Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Method File : FID1C08BACK081213.M
Title : C8 - C40 aliphatic
Last Update : Mon Aug 12 14:55:52 2013
Response Via : Initial Calibration

Calibration Files
1 =FID10073C.D 2 =FID10073D.D 3 =FID10073E.D
4 =FID10073F.D 5 =FID10073G.D 6 =FID10073H.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	n-hexadecane-d34	ISTD							
2)		n-C8	0.956	1.014	0.983	0.969	0.986	0.862	0.962	5.46
3)		n-C9	1.005	1.064	1.032	1.028	1.029	0.908	1.011	5.35
4)		n-C10	1.066	1.103	1.083	1.086	1.085	0.960	1.064	4.91
5)		n-C11	1.074	1.101	1.086	1.095	1.092	0.965	1.069	4.85
6)	S	n-dodecane-d26	1.000	1.009	1.002	1.038	1.003	0.902	0.992	4.70
7)		n-C12	1.127	1.150	1.137	1.128	1.145	1.009	1.116	4.76
8)		i-13	1.125	1.152	1.141	1.154	1.149	1.009	1.122	4.99
9)		i-14	1.170	1.198	1.187	1.190	1.192	1.046	1.164	5.04
10)		n-C13	1.125	1.152	1.141	1.154	1.149	1.009	1.122	4.99
11)		i-15	1.214	1.225	1.209	1.211	1.212	1.060	1.189	5.30
12)		n-C14	1.170	1.198	1.187	1.190	1.192	1.046	1.164	5.04
13)		i-16	1.249	1.244	1.228	1.223	1.231	1.073	1.208	5.52
14)		n-C15	1.214	1.225	1.209	1.211	1.212	1.060	1.189	5.30
15)		n-C16	1.249	1.244	1.228	1.223	1.231	1.073	1.208	5.52
16)	I	5a-androstane	ISTD							
17)		i-18	0.955	0.968	0.960	0.971	0.965	0.845	0.944	5.17
18)		n-C17	0.969	0.979	0.969	0.967	0.975	0.856	0.952	5.00
19)		Pristane	0.966	0.974	0.966	0.967	0.972	0.851	0.949	5.09
20)		n-C18	0.955	0.968	0.960	0.971	0.965	0.845	0.944	5.17
21)		Phytane	0.974	0.988	0.980	0.984	0.986	0.861	0.962	5.18
22)		n-C19	0.960	0.973	0.965	0.972	0.970	0.847	0.948	5.25
23)	S	n-eicosane-d42	0.775	0.770	0.767	0.793	0.764	0.679	0.758	5.27
24)		n-C20	0.972	0.980	0.973	0.985	0.978	0.853	0.957	5.36
25)		n-C21	0.984	0.996	0.987	0.989	0.994	0.865	0.969	5.29
26)		n-C22	0.992	0.999	0.990	1.001	0.996	0.867	0.974	5.39
27)		n-C23	1.005	1.008	0.998	0.999	1.006	0.873	0.982	5.42
28)		n-C24	1.009	1.011	1.000	0.999	1.008	0.874	0.984	5.46
29)		n-C25	1.002	1.013	1.001	1.009	1.010	0.875	0.985	5.48
30)		n-C26	1.013	1.013	1.004	1.018	1.012	0.872	0.989	5.78
31)		n-C27	0.982	0.991	0.979	0.991	0.987	0.852	0.964	5.69
32)		n-C28	0.997	1.003	0.990	1.004	1.000	0.861	0.976	5.81
33)		n-C29	0.998	1.006	0.993	1.009	1.002	0.858	0.978	6.03
34)	S	n-triacontane...	0.779	0.767	0.759	0.791	0.763	0.664	0.754	6.05
35)		n-C30	0.982	0.996	0.983	0.990	0.989	0.841	0.964	6.24
36)		n-C31	0.952	0.983	0.967	0.976	0.968	0.818	0.944	6.65
37)		n-C32	0.945	0.974	0.956	0.949	0.950	0.800	0.929	6.91
38)		n-C33	0.915	0.942	0.924	0.926	0.913	0.765	0.898	7.34
39)		n-C34	0.938	0.949	0.929	0.924	0.912	0.764	0.903	7.64
40)		n-C35	0.893	0.928	0.895	0.895	0.881	0.741	0.872	7.59
41)		n-C36	0.984	0.990	0.958	0.937	0.941	0.798	0.935	7.53
42)		n-C37	0.876	0.892	0.858	0.858	0.848	0.719	0.842	7.38
43)		n-C38	0.841	0.875	0.844	0.850	0.834	0.714	0.827	6.86
44)		n-C39	0.828	0.830	0.806	0.815	0.803	0.686	0.795	6.84
45)		n-C40	0.672	0.763	0.749	0.760	0.747	0.643	0.722	7.11
46)		TPH	0.918	0.936	0.922	0.930	0.924	0.800	0.905	5.73
47)		TRH1	0.918	0.936	0.922	0.930	0.924	0.800	0.905	5.73
48)		TRH2	0.918	0.936	0.922	0.930	0.924	0.800	0.905	5.73
49)		TRH3	0.918	0.936	0.922	0.930	0.924	0.800	0.905	5.73
50)		TRH4	0.918	0.936	0.922	0.930	0.924	0.800	0.905	5.73
51)		TRH5	0.918	0.936	0.922	0.930	0.924	0.800	0.905	5.73
52)		TRH6	0.918	0.936	0.922	0.930	0.924	0.800	0.905	5.73

53)	GRO	0.918	0.936	0.922	0.930	0.924	0.800	0.905	5.73
54)	DRO	0.918	0.936	0.922	0.930	0.924	0.800	0.905	5.73
55)	RRO	0.918	0.936	0.922	0.930	0.924	0.800	0.905	5.73

(#) = Out of Range

FID1C08BACK081213.M Mon Aug 12 14:56:03 2013

Area for TPH Calculations

Last Calibration Update Mon Aug 12 14:44:48 2013
Quant Method FID1C08BACK081213.M

	Level 1 FID10073C.D	Level 2 FID10073D.D	Level 3 FID10073E.D	Level 4 FID10073F.D	Level 5 FID10073G.D	Level 6 FID10073H.D
n-C8	9117	77857	188499	291362	352928	722182
n-C9	9578	81584	197797	309016	368042	759329
n-C10	10163	84579	207556	326517	388060	803179
n-C11	10255	84486	208394	329031	391233	807832
n-C12	10555	86658	214265	339153	402706	829898
n-C13	10739	88505	219073	346829	411631	846199
n-C14	11088	91324	226227	357826	424031	869751
n-C15	11521	93428	230576	364007	431554	883118
n-C16	11792	94455	232923	367530	435910	889122
n-C17	11948	96726	238635	376430	446735	911137
Pristane	11944	96562	238683	376376	446725	908737
n-C18	11923	96930	239559	378180	448208	911921
Phytane	12125	98535	243595	383107	456112	925459
n-C19	11967	97244	240347	378543	449691	911938
n-C20	12143	98208	243017	383571	454323	920851
n-C21	12167	98724	243725	384963	457017	923803
n-C22	12394	99952	246952	389670	462814	935593
n-C23	12412	99765	246307	388885	462119	931772
n-C24	12449	99865	246380	389086	462171	931521
n-C25	12463	100899	248590	392936	466818	939992
n-C26	12663	101467	250624	396256	470373	942117
n-C27	12261	99138	243994	385742	457968	918311
n-C28	12439	100297	246825	391092	463855	927617
n-C29	12460	100743	247866	392769	465313	925638
n-C30	12206	99218	244132	385624	456903	903030
n-C31	11880	98300	241138	380036	449032	881127
n-C32	11645	96156	235110	369310	434911	850522
n-C33	11419	94217	230336	360673	423685	824270
n-C34	11691	94703	231131	359862	421994	822174
n-C35	11142	92834	223108	348317	408561	798634
n-C36	12037	97002	233923	364710	427630	842927
n-C37	10939	89315	214042	334137	393746	775887
n-C38	10515	87583	210812	330963	387580	770733
n-C39	10331	82965	201077	317436	372412	739442
n-C40	8368	76169	186397	295785	345664	691641
Average Area (use for TPH, TRPH, GRO, DRO, RRO)	11450	93611	229760	361878	428527	862212
Average of n-C38 & n-C40	9442	81876	198605	313374	366622	731187
n-C36/n-C20	0.99	0.99	0.96	0.95	0.94	0.92

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073C.D
Signal(s) : FID2B.CH
Acq On : 09-Aug-2013, 22:41:20
Operator : Meghan Dailey
Sample : AL-WKC1-1.25-019
Misc :
ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:22:32 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 16:29:04 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	12.909	381314	50.000	ug/mlm
16) I	5a-androstane	18.142	499832	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.631	9529	1.268	ug/mlm
23) S	n-eicosane-d42	17.541	9737	1.276	ug/mlm
34) S	n-triacontane-d62	29.404	9732	1.312	ug/mlm
Target Compounds					
2)	n-C8	3.499	9117	1.288	ug/mlm
3)	n-C9	4.818	9578	1.279	ug/mlm
4)	n-C10	6.228	10163	1.281	ug/mlm
5)	n-C11	7.579	10255	1.277	ug/mlm
7)	n-C12	8.836	10555	1.249	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	10.006	10739	1.258	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	11.099	11088	1.247	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	12.126	11521	1.268	ug/mlm
15)	n-C16	13.157	11792	1.283	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.255	11948	1.238	ug/mlm
19)	Pristane	14.373	11944	1.242	ug/mlm
20)	n-C18	15.427	11923	1.250	ug/mlm
21)	Phytane	15.591	12125	1.247	ug/mlm
22)	n-C19	16.662	11967	1.251	ug/mlm
24)	n-C20	17.937	12143	1.258	ug/mlm
25)	n-C21	19.232	12167	1.249	ug/mlm
26)	n-C22	20.531	12394	1.269	ug/mlm
27)	n-C23	21.814	12412	1.265	ug/mlm
28)	n-C24	23.075	12449	1.267	ug/mlm
29)	n-C25	24.305	12463	1.271	ug/mlm
30)	n-C26	25.501	12662	1.290	ug/mlm
31)	n-C27	26.662	12261	1.286	ug/mlm
32)	n-C28	27.788	12439	1.285	ug/mlm
33)	n-C29	28.881	12460	1.291	ug/mlm
35)	n-C30	29.938	12206	1.280	ug/mlm
36)	n-C31	30.963	11880	1.269	ug/mlm
37)	n-C32	31.959	11645	1.264	ug/mlm
38)	n-C33	32.925	11419	1.279	ug/mlm
39)	n-C34	33.864	11691	1.302	ug/mlm
40)	n-C35	34.856	11142	1.268	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073C.D
Signal(s) : FID2B.CH
Acq On : 09-Aug-2013, 22:41:20
Operator : Meghan Dailey
Sample : AL-WKC1-1.25-019
Misc :
ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:22:32 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 16:29:04 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.985	12037	1.280	ug/mlm
42)	n-C37	37.292	10938	1.293	ug/mlm
43)	n-C38	38.813	10515	1.233	ug/mlm
44)	n-C39	40.587	10331	1.258	ug/mlm
45)	n-C40	42.695	8368	1.113	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

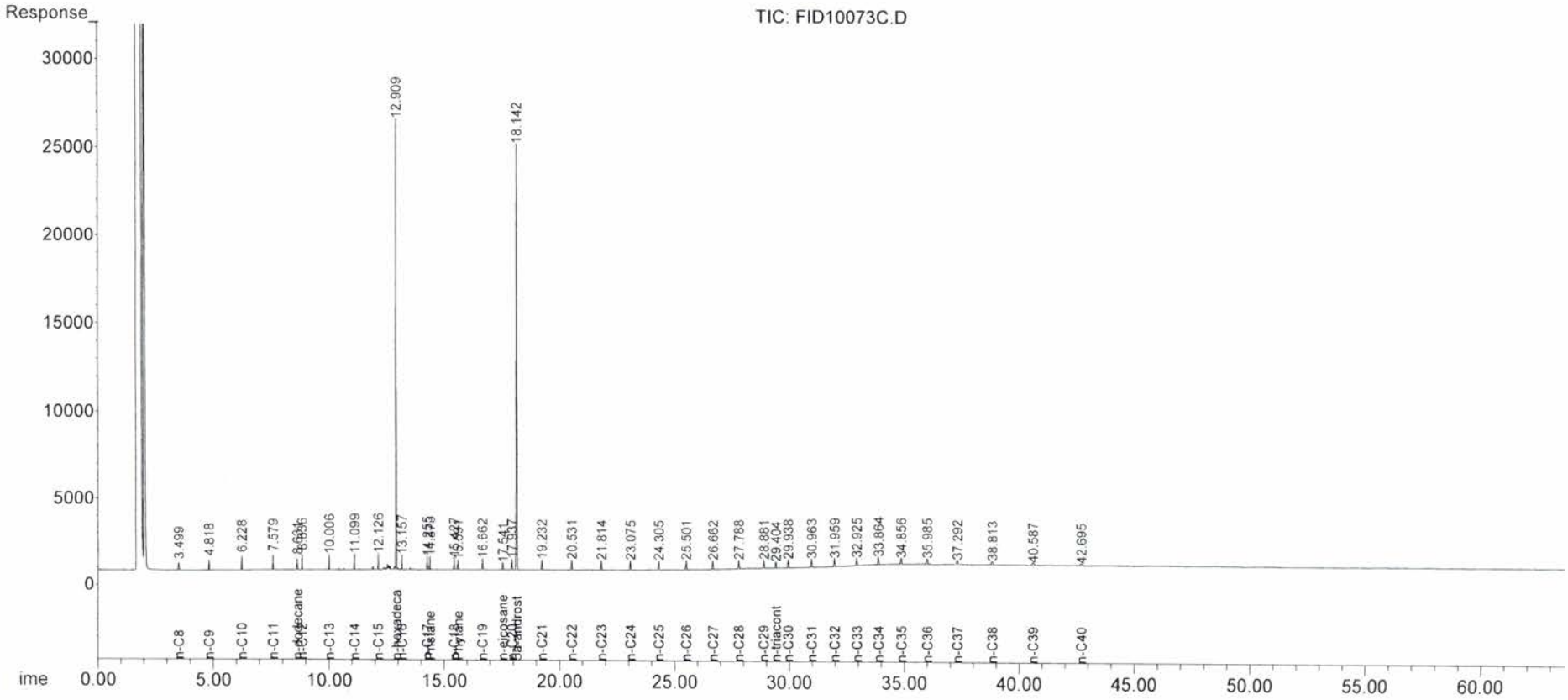
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073C.D
Signal(s) : FID2B.CH
Acq On : 09-Aug-2013, 22:41:20
Operator : Meghan Dailey
Sample : AL-WKC1-1.25-019
Misc :
ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:22:32 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 16:29:04 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073D.D
Signal(s) : FID2B.CH
Acq On : 09-Aug-2013, 23:51:52
Operator : Meghan Dailey
Sample : AL-WKC2-10-019
Misc :
ALS Vial : 54 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:27:09 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:22:42 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

		Compound	R.T.	Response	Conc	Units
Internal Standards						
1)	I	n-hexadecane-d34	12.909	383354	50.000	ug/mlm
16)	I	5a-androstane	18.141	500714	50.072	ug/mlm
System Monitoring Compounds						
6)	S	n-dodecane-d26	8.631	77356	10.231	ug/mlm
23)	S	n-eicosane-d42	17.540	77526	10.128	ug/mlm
34)	S	n-triacontane-d62	29.406	76777	10.287	ug/mlm
Target Compounds						
2)		n-C8	3.498	77857	10.892	ug/mlm
3)		n-C9	4.817	81584	10.815	ug/mlm
4)		n-C10	6.227	84579	10.582	ug/mlm
5)		n-C11	7.579	84486	10.453	ug/mlm
7)		n-C12	8.837	86658	10.200	ug/mlm
8)		i-13	0.000	0	N.D.	ug/ml
9)		i-14	0.000	0	N.D.	ug/mld
10)		n-C13	10.006	88505	10.324	ug/mlm
11)		i-15	0.000	0	N.D.	ug/mld
12)		n-C14	11.099	91324	10.247	ug/mlm
13)		i-16	0.000	0	N.D.	ug/mld
14)		n-C15	12.126	93428	10.267	ug/mlm
15)		n-C16	13.157	94455	10.230	ug/mlm
17)		i-18	0.000	0	N.D.	ug/mld
18)		n-C17	14.256	96726	10.035	ug/mlm
19)		Pristane	14.373	96562	10.048	ug/mlm
20)		n-C18	15.428	96930	10.154	ug/mlm
21)		Phytane	15.591	98535	10.134	ug/mlm
22)		n-C19	16.663	97244	10.159	ug/mlm
24)		n-C20	17.938	98208	10.170	ug/mlm
25)		n-C21	19.233	98724	10.123	ug/mlm
26)		n-C22	20.532	99952	10.215	ug/mlm
27)		n-C23	21.815	99765	10.143	ug/mlm
28)		n-C24	23.075	99865	10.146	ug/mlm
29)		n-C25	24.305	100899	10.256	ug/mlm
30)		n-C26	25.501	101467	10.295	ug/mlm
31)		n-C27	26.663	99138	10.346	ug/mlm
32)		n-C28	27.790	100297	10.344	ug/mlm
33)		n-C29	28.882	100743	10.394	ug/mlm
35)		n-C30	29.939	99218	10.395	ug/mlm
36)		n-C31	30.967	98300	10.525	ug/mlm
37)		n-C32	31.960	96156	10.465	ug/mlm
38)		n-C33	32.925	94217	10.567	ug/mlm
39)		n-C34	33.865	94703	10.516	ug/mlm
40)		n-C35	34.858	92834	10.609	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073D.D
Signal(s) : FID2B.CH
Acq On : 09-Aug-2013, 23:51:52
Operator : Meghan Dailey
Sample : AL-WKC2-10-019
Misc :
ALS Vial : 54 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:27:09 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:22:42 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.991	97002	10.282	ug/mlm
42)	n-C37	37.292	89315	10.441	ug/mlm
43)	n-C38	38.812	87583	10.374	ug/mlm
44)	n-C39	40.596	82965	10.141	ug/mlm
45)	n-C40	42.703	76169	10.196	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

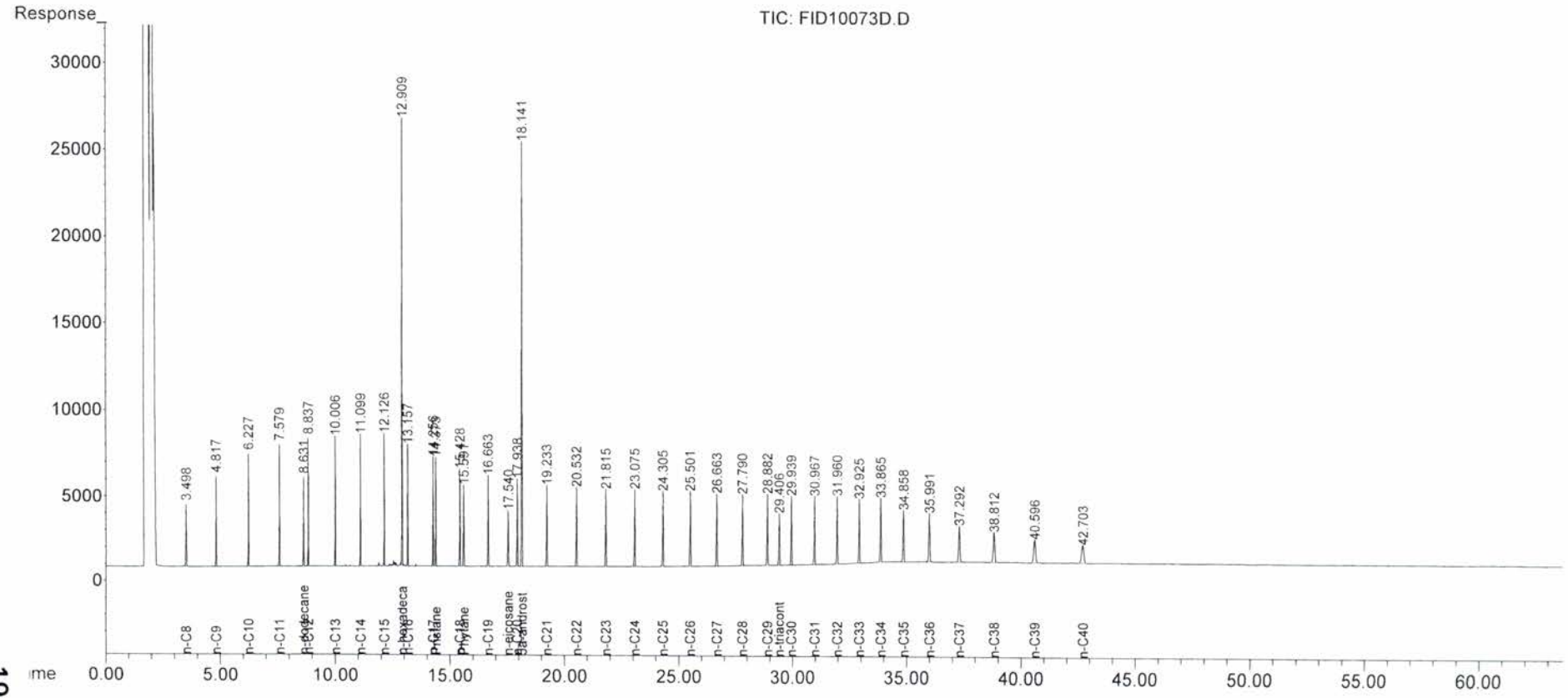
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073D.D
Signal(s) : FID2B.CH
Acq On : 09-Aug-2013, 23:51:52
Operator : Meghan Dailey
Sample : AL-WKC2-10-019
Misc :
ALS Vial : 54 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:27:09 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:22:42 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073E.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 01:02:24
Operator : Meghan Dailey
Sample : AL-WKC3-25-019
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:31:09 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:27:17 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

		Compound	R.T.	Response	Conc	Units
Internal Standards						
1)	I	n-hexadecane-d34	12.908	383337	50.000	ug/mlm
16)	I	5a-androstane	18.141	499201	50.072	ug/mlm
System Monitoring Compounds						
6)	S	n-dodecane-d26	8.632	192147	25.357	ug/mlm
23)	S	n-eicosane-d42	17.543	192449	25.260	ug/mlm
34)	S	n-triacontane-d62	29.408	189467	25.458	ug/mlm
Target Compounds						
2)		n-C8	3.500	188499	26.082	ug/mlm
3)		n-C9	4.817	197797	25.968	ug/mlm
4)		n-C10	6.228	207556	25.806	ug/mlm
5)		n-C11	7.579	208394	25.673	ug/mlm
7)		n-C12	8.838	214265	25.157	ug/mlm
8)		i-13	0.000	0	N.D.	ug/mld
9)		i-14	0.000	0	N.D.	ug/mld
10)		n-C13	10.007	219073	25.524	ug/mlm
11)		i-15	0.000	0	N.D.	ug/mld
12)		n-C14	11.100	226227	25.373	ug/mlm
13)		i-16	0.000	0	N.D.	ug/mld
14)		n-C15	12.128	230576	25.332	ug/mlm
15)		n-C16	13.159	232923	25.212	ug/mlm
17)		i-18	0.000	0	N.D.	ug/mld
18)		n-C17	14.258	238635	24.904	ug/mlm
19)		Pristane	14.375	238683	24.989	ug/mlm
20)		n-C18	15.430	239559	25.239	ug/mlm
21)		Phytane	15.592	243595	25.194	ug/mlm
22)		n-C19	16.664	240347	25.238	ug/mlm
24)		n-C20	17.940	243017	25.294	ug/mlm
25)		n-C21	19.237	243725	25.107	ug/mlm
26)		n-C22	20.534	246952	25.348	ug/mlm
27)		n-C23	21.818	246307	25.134	ug/mlm
28)		n-C24	23.079	246380	25.127	ug/mlm
29)		n-C25	24.308	248590	25.348	ug/mlm
30)		n-C26	25.506	250624	25.500	ug/mlm
31)		n-C27	26.666	243994	25.522	ug/mlm
32)		n-C28	27.792	246825	25.525	ug/mlm
33)		n-C29	28.884	247866	25.641	ug/mlm
35)		n-C30	29.941	244132	25.667	ug/mlm
36)		n-C31	30.967	241138	25.897	ug/mlm
37)		n-C32	31.963	235110	25.665	ug/mlm
38)		n-C33	32.927	230336	25.955	ug/mlm
39)		n-C34	33.866	231131	25.796	ug/mlm
40)		n-C35	34.861	223108	25.644	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073E.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 01:02:24
Operator : Meghan Dailey
Sample : AL-WKC3-25-019
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:31:09 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:27:17 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.993	233923	24.947	ug/mlm
42)	n-C37	37.297	214042	25.190	ug/mlm
43)	n-C38	38.815	210812	25.157	ug/mlm
44)	n-C39	40.596	201077	24.827	ug/mlm
45)	n-C40	42.700	186397	25.260	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

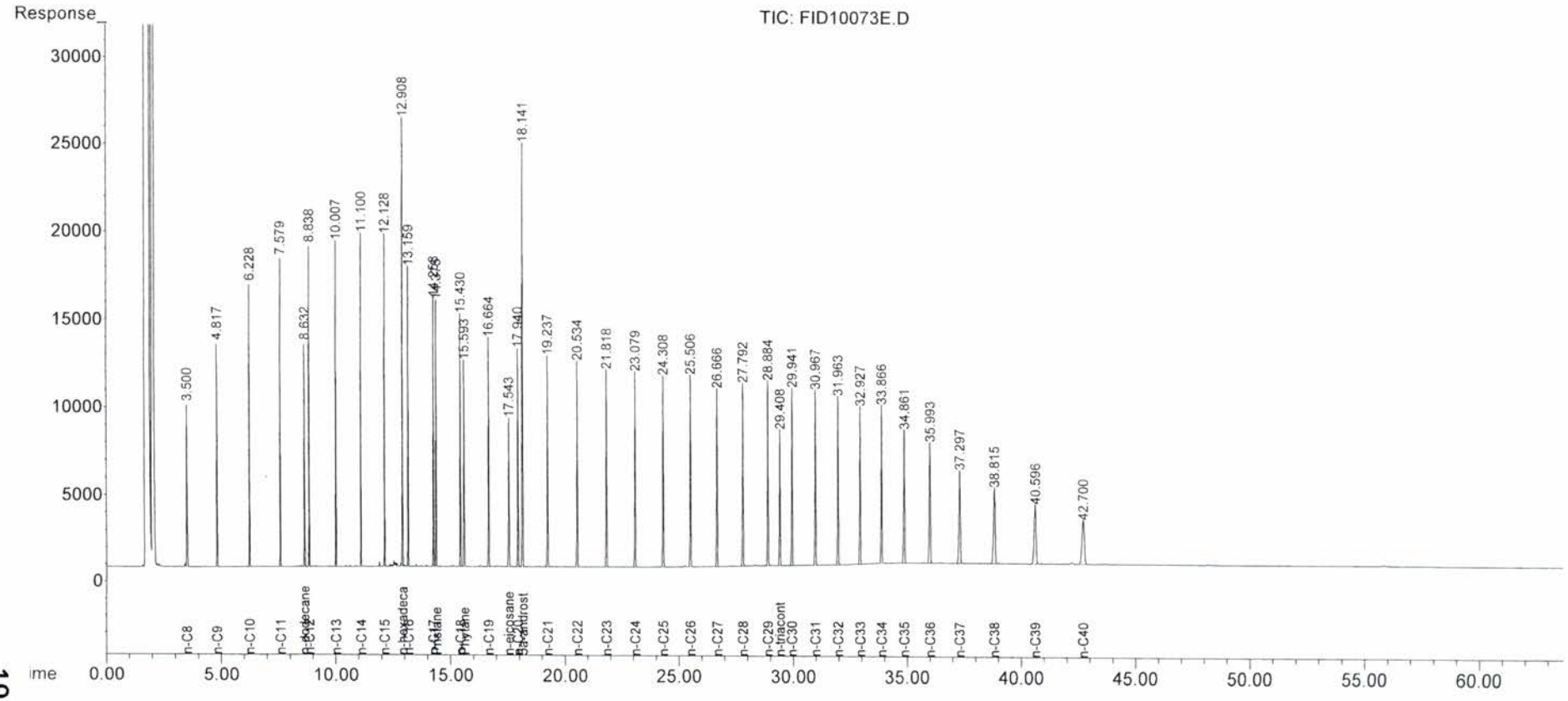
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073E.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 01:02:24
Operator : Meghan Dailey
Sample : AL-WKC3-25-019
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:31:09 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:27:17 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073F.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 02:13:04
Operator : Meghan Dailey
Sample : AL-WKC4-40-019
Misc :
ALS Vial : 56 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:35:43 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:31:22 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

		Compound	R.T.	Response	Conc	Units
Internal Standards						
1)	I	n-hexadecane-d34	12.908	375489	50.000	ug/mlm
16)	I	5a-androstane	18.140	487025	50.072	ug/mlm
System Monitoring Compounds						
6)	S	n-dodecane-d26	8.633	311896	41.967	ug/mlm
23)	S	n-eicosane-d42	17.544	310706	41.899	ug/mlm
34)	S	n-triacontane-d62	29.411	308189	42.522	ug/mlm
Target Compounds						
2)		n-C8	3.502	291362	40.861	ug/mlm
3)		n-C9	4.819	309016	41.145	ug/mlm
4)		n-C10	6.229	326517	41.240	ug/mlm
5)		n-C11	7.581	329031	41.251	ug/mlm
7)		n-C12	8.839	339153	40.589	ug/mlm
8)		i-13	0.000	0	N.D.	ug/mld
9)		i-14	0.000	0	N.D.	ug/mld
10)		n-C13	10.009	346829	41.232	ug/mlm
11)		i-15	0.000	0	N.D.	ug/mld
12)		n-C14	11.102	357826	40.959	ug/mlm
13)		i-16	0.000	0	N.D.	ug/mld
14)		n-C15	12.129	364007	40.821	ug/mlm
15)		n-C16	13.160	367530	40.604	ug/mlm
17)		i-18	0.000	0	N.D.	ug/mld
18)		n-C17	14.260	376430	40.354	ug/mlm
19)		Pristane	14.378	376376	40.477	ug/mlm
20)		n-C18	15.432	378180	40.939	ug/mlm
21)		Phytane	15.596	383107	40.697	ug/mlm
22)		n-C19	16.667	378543	40.853	ug/mlm
24)		n-C20	17.943	383571	41.056	ug/mlm
25)		n-C21	19.240	384963	40.770	ug/mlm
26)		n-C22	20.538	389670	41.108	ug/mlm
27)		n-C23	21.822	388885	40.776	ug/mlm
28)		n-C24	23.081	389086	40.765	ug/mlm
29)		n-C25	24.313	392936	41.167	ug/mlm
30)		n-C26	25.509	396256	41.409	ug/mlm
31)		n-C27	26.669	385742	41.435	ug/mlm
32)		n-C28	27.795	391092	41.544	ug/mlm
33)		n-C29	28.887	392769	41.730	ug/mlm
35)		n-C30	29.946	385624	41.618	ug/mlm
36)		n-C31	30.970	380036	41.882	ug/mlm
37)		n-C32	31.965	369310	41.347	ug/mlm
38)		n-C33	32.933	360673	41.691	ug/mlm
39)		n-C34	33.870	359862	41.185	ug/mlm
40)		n-C35	34.867	348317	41.116	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073F.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 02:13:04
Operator : Meghan Dailey
Sample : AL-WKC4-40-019
Misc :
ALS Vial : 56 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:35:43 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:31:22 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.999	364710	39.988	ug/mlm
42)	n-C37	37.305	334137	40.468	ug/mlm
43)	n-C38	38.823	330963	40.678	ug/mlm
44)	n-C39	40.615	317436	40.438	ug/mlm
45)	n-C40	42.706	295785	41.391	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

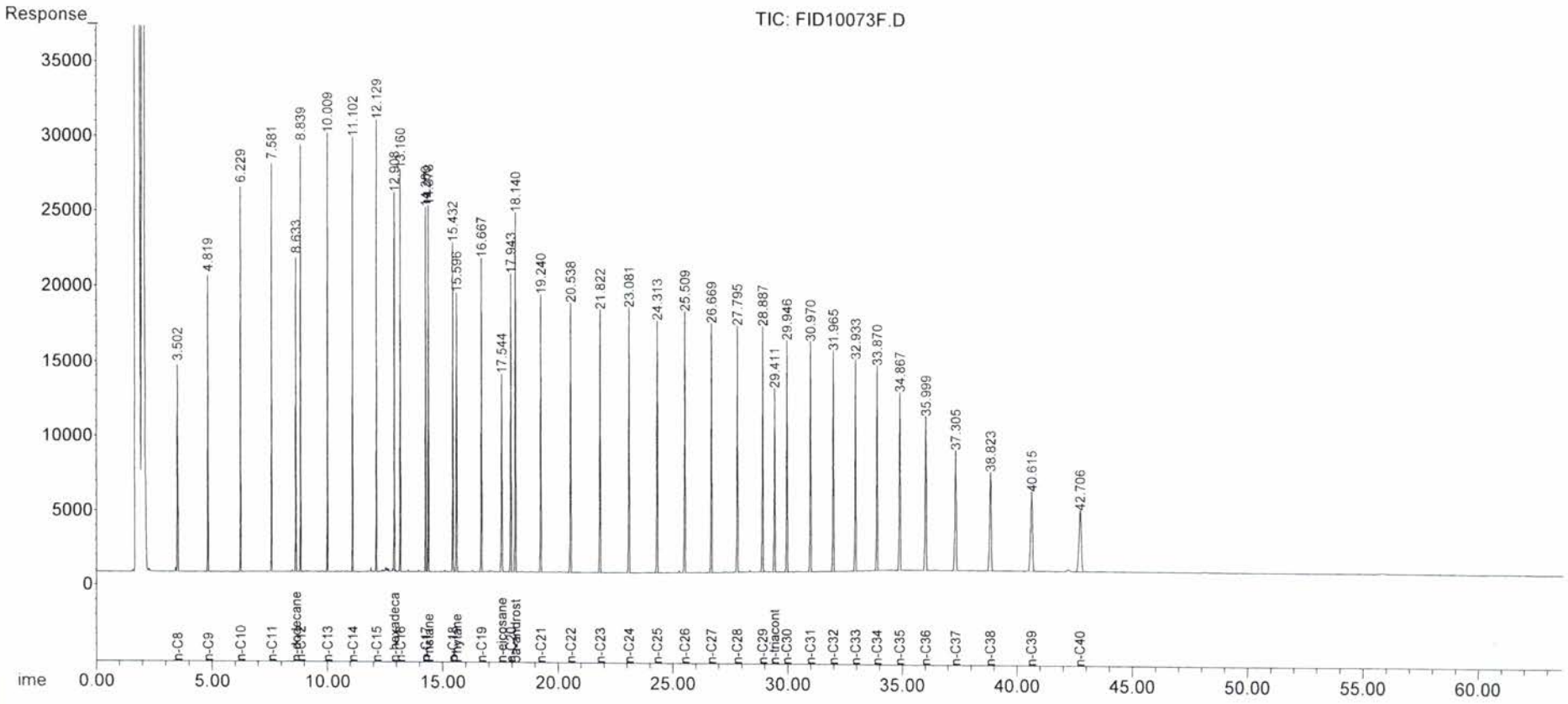
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073F.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 02:13:04
Operator : Meghan Dailey
Sample : AL-WKC4-40-019
Misc :
ALS Vial : 56 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:35:43 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:31:22 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073G.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 03:23:38
Operator : Meghan Dailey
Sample : AL-WKC5-50-019
Misc :
ALS Vial : 57 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:39:27 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:35:51 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

		Compound	R.T.	Response	Conc	Units
Internal Standards						
1)	I	n-hexadecane-d34	12.906	357816	50.000	ug/mlm
16)	I	5a-androstane	18.139	464561	50.072	ug/mlm
System Monitoring Compounds						
6)	S	n-dodecane-d26	8.633	358855	50.638	ug/mlm
23)	S	n-eicosane-d42	17.545	356753	50.580	ug/mlm
34)	S	n-triacontane-d62	29.411	354384	51.088	ug/mlm
Target Compounds						
2)		n-C8	3.501	352928	51.800	ug/mlm
3)		n-C9	4.819	368042	51.249	ug/mlm
4)		n-C10	6.229	388060	51.284	ug/mlm
5)		n-C11	7.581	391233	51.377	ug/mlm
7)		n-C12	8.839	402706	50.536	ug/mlm
8)		i-13	0.000	0	N.D.	ug/mld
9)		i-14	0.000	0	N.D.	ug/mld
10)		n-C13	10.009	411631	51.353	ug/mlm
11)		i-15	0.000	0	N.D.	ug/mld
12)		n-C14	11.102	424031	50.953	ug/mlm
13)		i-16	0.000	0	N.D.	ug/mld
14)		n-C15	12.129	431554	50.807	ug/mlm
15)		n-C16	13.161	435910	50.527	ug/mlm
17)		i-18	0.000	0	N.D.	ug/mld
18)		n-C17	14.260	446735	50.362	ug/mlm
19)		Pristane	14.378	446725	50.515	ug/mlm
20)		n-C18	15.434	448208	51.001	ug/mlm
21)		Phytane	15.597	456112	50.944	ug/mlm
22)		n-C19	16.668	449691	51.012	ug/mlm
24)		n-C20	17.944	454323	51.068	ug/mlm
25)		n-C21	19.240	457017	50.810	ug/mlm
26)		n-C22	20.540	462814	51.227	ug/mlm
27)		n-C23	21.823	462119	50.801	ug/mlm
28)		n-C24	23.084	462171	50.740	ug/mlm
29)		n-C25	24.314	466818	51.222	ug/mlm
30)		n-C26	25.511	470373	51.448	ug/mlm
31)		n-C27	26.672	457968	51.476	ug/mlm
32)		n-C28	27.796	463855	51.542	ug/mlm
33)		n-C29	28.890	465313	51.675	ug/mlm
35)		n-C30	29.947	456903	51.523	ug/mlm
36)		n-C31	30.972	449032	51.687	ug/mlm
37)		n-C32	31.968	434911	50.849	ug/mlm
38)		n-C33	32.933	423685	51.159	ug/mlm
39)		n-C34	33.874	421994	50.519	ug/mlm
40)		n-C35	34.869	408561	50.518	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073G.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 03:23:38
Operator : Meghan Dailey
Sample : AL-WKC5-50-019
Misc :
ALS Vial : 57 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:39:27 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:35:51 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.001	427630	49.200	ug/mlm
42)	n-C37	37.306	393746	50.145	ug/mlm
43)	n-C38	38.829	387580	50.139	ug/mlm
44)	n-C39	40.614	372412	50.024	ug/mlm
45)	n-C40	42.721	345664	51.025	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

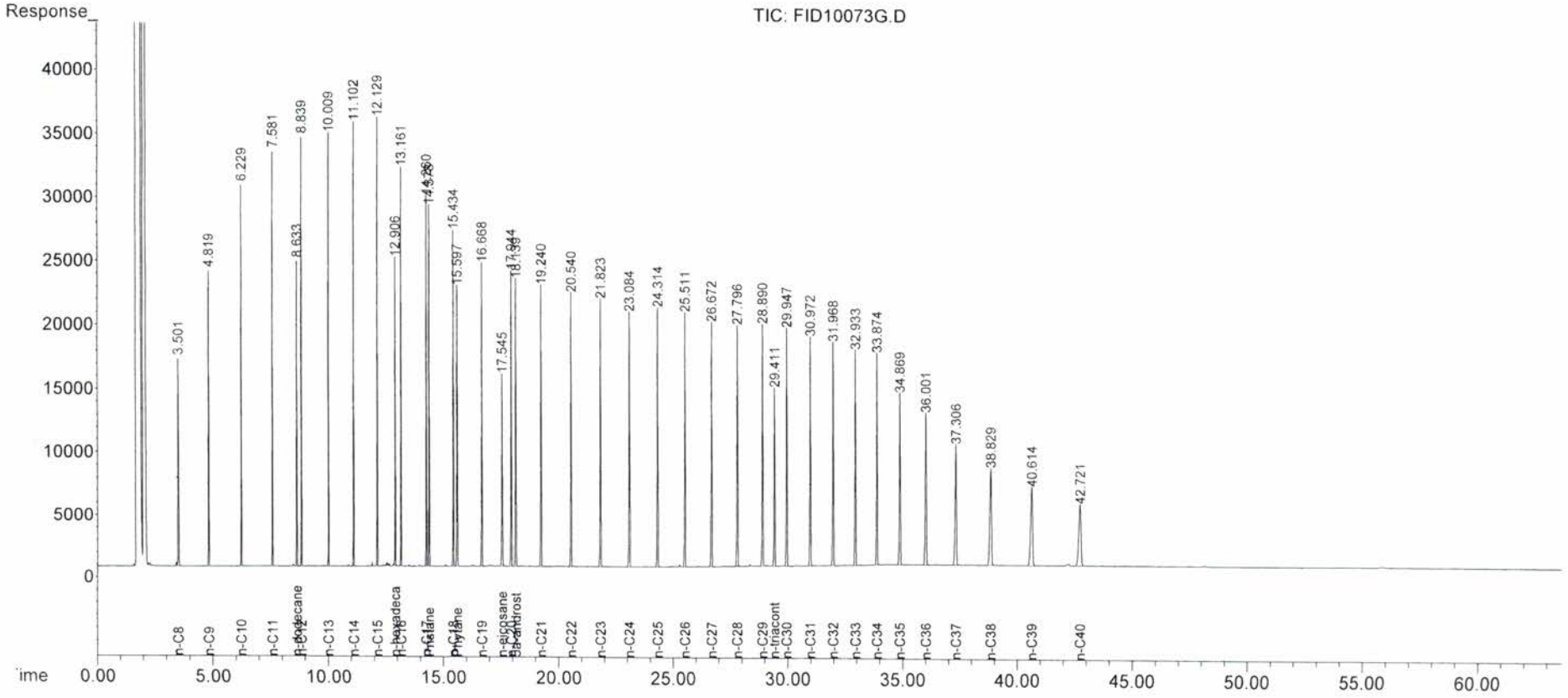
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073G.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 03:23:38
Operator : Meghan Dailey
Sample : AL-WKC5-50-019
Misc :
ALS Vial : 57 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:39:27 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:35:51 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073H.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 04:34:12
Operator : Meghan Dailey
Sample : AL-WKC6-100-019
Misc :
ALS Vial : 58 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:44:35 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:39:35 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
	Internal Standards				
1) I	n-hexadecane-d34	12.908	418348	50.000	ug/mlm
16) I	5a-androstane	18.144	539676	50.072	ug/mlm
	System Monitoring Compounds				
6) S	n-dodecane-d26	8.638	754320	91.028	ug/mlm
23) S	n-eicosane-d42	17.554	737163	90.109	ug/mlm
34) S	n-triacontane-d62	29.423	716353	88.574	ug/mlm
	Target Compounds				
2)	n-C8	3.507	722182	90.132	ug/mlm
3)	n-C9	4.824	759329	90.124	ug/mlm
4)	n-C10	6.234	803179	90.562	ug/mlm
5)	n-C11	7.586	807832	90.609	ug/mlm
7)	n-C12	8.845	829898	89.043	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	10.015	846199	90.319	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	11.108	869751	89.435	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	12.136	883118	88.949	ug/mlm
15)	n-C16	13.168	889122	88.123	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.269	911137	88.670	ug/mlm
19)	Pristane	14.387	908737	88.705	ug/mlm
20)	n-C18	15.442	911921	89.529	ug/mlm
21)	Phytane	15.607	925459	89.160	ug/mlm
22)	n-C19	16.679	911938	89.200	ug/mlm
24)	n-C20	17.956	920851	89.249	ug/mlm
25)	n-C21	19.253	923803	88.458	ug/mlm
26)	n-C22	20.552	935593	89.158	ug/mlm
27)	n-C23	21.836	931772	88.135	ug/mlm
28)	n-C24	23.096	931521	87.965	ug/mlm
29)	n-C25	24.329	939992	88.677	ug/mlm
30)	n-C26	25.524	942117	88.555	ug/mlm
31)	n-C27	26.685	918311	88.675	ug/mlm
32)	n-C28	27.812	927617	88.513	ug/mlm
33)	n-C29	28.904	925638	88.221	ug/mlm
35)	n-C30	29.963	903030	87.339	ug/mlm
36)	n-C31	30.987	881127	86.994	ug/mlm
37)	n-C32	31.978	850522	85.310	ug/mlm
38)	n-C33	32.947	824270	85.429	ug/mlm
39)	n-C34	33.886	822174	84.619	ug/mlm
40)	n-C35	34.884	798634	84.985	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073H.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 04:34:12
Operator : Meghan Dailey
Sample : AL-WKC6-100-019
Misc :
ALS Vial : 58 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:44:35 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:39:35 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.020	842927	83.625	ug/mlm
42)	n-C37	37.324	775887	85.305	ug/mlm
43)	n-C38	38.855	770733	86.269	ug/mlm
44)	n-C39	40.641	739442	85.992	ug/mlm
45)	n-C40	42.750	691641	88.458	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

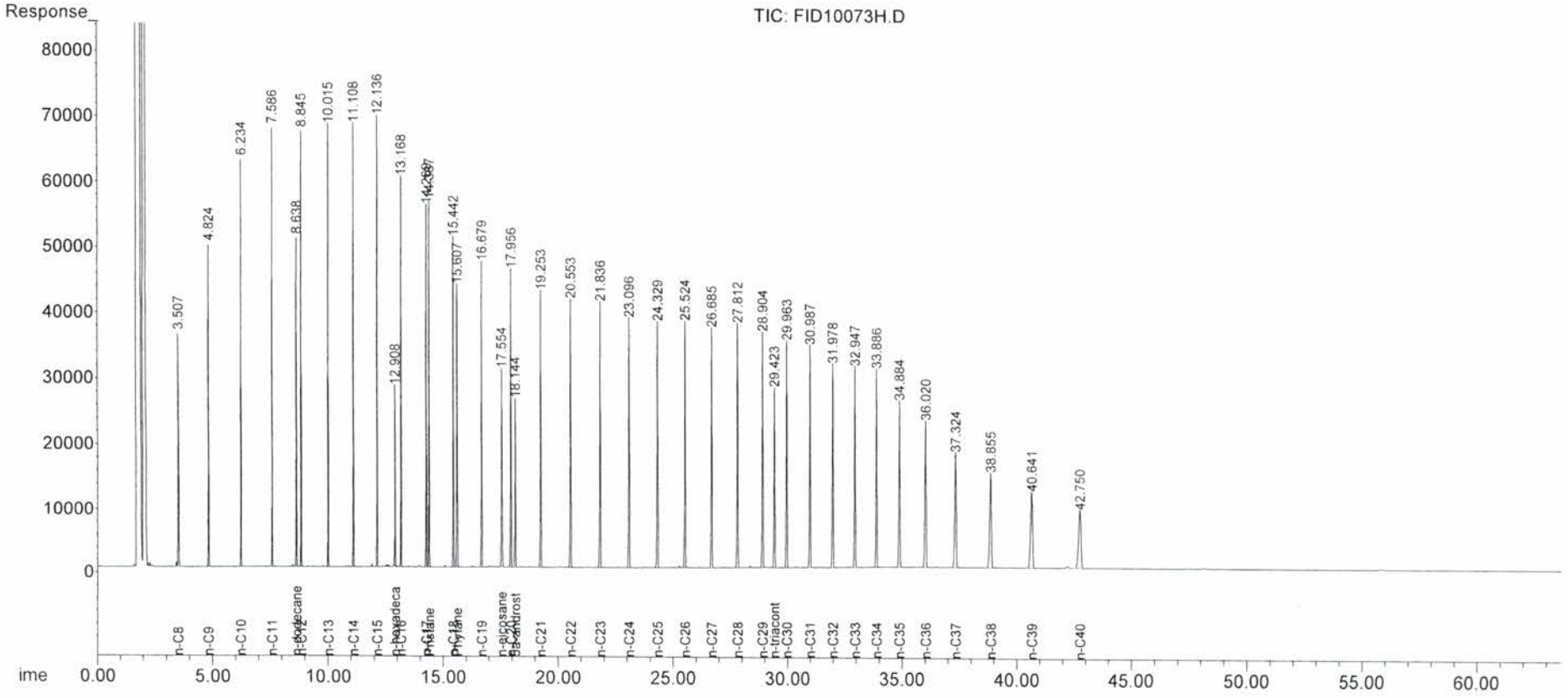
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073H.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 04:34:12
Operator : Meghan Dailey
Sample : AL-WKC6-100-019
Misc :
ALS Vial : 58 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 14:44:35 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:39:35 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073I.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 05:44:45
Operator : Meghan Dailey
Sample : AL-WKICV-25-002
Misc :
ALS Vial : 59 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 15:02:23 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	n-hexadecane-d34	1.000	1.000	0.0	86	0.00
2		n-C8	0.962	1.020	-6.0	90	0.00
3		n-C9	1.011	1.085	-7.3	91	0.00
4		n-C10	1.064	1.119	-5.2	89	0.00
5		n-C11	1.069	1.146	-7.2	91	0.00
6	S	n-dodecane-d26	0.992	0.985	0.7	85	0.00
7		n-C12	1.116	1.182	-5.9	90	0.00
10		n-C13	1.122	1.185	-5.6	90	0.00
12		n-C14	1.164	1.218	-4.6	89	0.00
14		n-C15	1.189	1.255	-5.6	90	0.00
15		n-C16	1.208	1.290	-6.8	91	0.00
16	I	5a-androstane	1.000	1.000	0.0	87	0.00
18		n-C17	0.952	0.997	-4.7	89	0.00
19		Pristane	0.949	0.983	-3.6	88	0.00
20		n-C18	0.944	0.996	-5.5	90	0.00
21		Phytane	0.962	0.995	-3.4	88	0.00
22		n-C19	0.948	1.014	-7.0	91	0.00
23	S	n-eicosane-d42	0.758	0.762	-0.5	86	0.00
24		n-C20	0.957	1.003	-4.8	89	0.00
25		n-C21	0.969	1.043	-7.6	92	0.00
26		n-C22	0.974	1.033	-6.1	90	0.00
27		n-C23	0.982	1.041	-6.0	90	0.00
28		n-C24	0.984	1.041	-5.8	90	0.00
29		n-C25	0.985	0.956	2.9	83	0.00
30		n-C26	0.989	1.051	-6.3	91	0.00
31		n-C27	0.964	1.047	-8.6	93	0.00
32		n-C28	0.976	1.050	-7.6	92	0.00
33		n-C29	0.978	1.041	-6.4	91	0.00
34	S	n-triacontane-d62	0.754	0.774	-2.7	88	0.00
35		n-C30	0.964	1.047	-8.6	92	0.00
36		n-C31	0.944	1.010	-7.0	90	0.00
37		n-C32	0.929	1.021	-9.9	93	0.00
38		n-C33	0.898	0.951	-5.9	89	0.00
39		n-C34	0.903	0.988	-9.4	92	0.00
40		n-C35	0.872	0.955	-9.5	92	0.00
41		n-C36	0.935	1.003	-7.3	91	0.00
42		n-C37	0.842	0.910	-8.1	92	0.00
43		n-C38	0.827	0.873	-5.6	90	0.00

44	n-C39	0.795	0.867	-9.1	93	0.00
45	n-C40	0.722	0.818	-13.3	95	0.00

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.017	0.000	100.0#	0#	-9.03#
9	i-14	0.018	0.000	100.0#	0#	-9.73#
11	i-15	0.018	0.000	100.0#	0#	-10.88#
13	i-16	0.019	0.000	100.0#	0#	-11.77#
17	i-18	0.019	0.000	100.0#	0#	-13.72#
46	TPH	0.018	0.000	100.0#	0#	-29.05#
47	TRH1	0.018	0.000	100.0#	0#	-7.75#
48	TRH2	0.018	0.000	100.0#	0#	-15.92#
49	TRH3	0.018	0.000	100.0#	0#	-23.38#
50	TRH4	0.018	0.000	100.0#	0#	-28.40#
51	TRH5	0.018	0.000	100.0#	0#	-33.37#
52	TRH6	0.018	0.000	100.0#	0#	-44.83#
53	GRO	0.018	0.000	100.0#	0#	-5.27#
54	DRO	0.018	0.000	100.0#	0#	-14.31#
55	RRO	0.018	0.000	100.0#	0#	-33.00#

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

FID1C08BACK081213.M Mon Aug 12 15:02:29 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073I.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 05:44:45
Operator : Meghan Dailey
Sample : AL-WKICV-25-002
Misc :
ALS Vial : 59 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 15:02:23 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

		Compound	R.T.	Response	Conc	Units
Internal Standards						
1)	I	n-hexadecane-d34	12.907	330942	50.000	ug/mlm
16)	I	5a-androstane	18.136	432505	50.072	ug/mlm
System Monitoring Compounds						
6)	S	n-dodecane-d26	8.631	163035	24.823	ug/mlm
23)	S	n-eicosane-d42	17.540	165577	25.282	ug/mlm
34)	S	n-triacontane-d62	29.404	167282	25.690	ug/mlm
Target Compounds						
2)		n-C8	3.496	168879	26.533	ug/mlm
3)		n-C9	4.816	179593	26.844	ug/mlm
4)		n-C10	6.227	185126	26.292	ug/mlm
5)		n-C11	7.579	189776	26.830	ug/mlm
7)		n-C12	8.837	192281	26.026	ug/mlm
8)		i-13	0.000	0	N.D.	ug/mld
9)		i-14	0.000	0	N.D.	ug/mld
10)		n-C13	10.007	196420	26.459	ug/mlm
11)		i-15	0.000	0	N.D.	ug/mld
12)		n-C14	11.100	200305	26.000	ug/mlm
13)		i-16	0.000	0	N.D.	ug/mld
14)		n-C15	12.127	206706	26.276	ug/mlm
15)		n-C16	13.158	211253	26.423	ug/mlm
17)		i-18	0.000	0	N.D.	ug/mld
18)		n-C17	14.257	212692	25.854	ug/mlm
19)		Pristane	14.374	210324	25.652	ug/mlm
20)		n-C18	15.429	215216	26.387	ug/mlm
21)		Phytane	15.592	214414	25.801	ug/mlm
22)		n-C19	16.663	218721	26.713	ug/mlm
24)		n-C20	17.938	216961	26.252	ug/mlm
25)		n-C21	19.234	223177	26.663	ug/mlm
26)		n-C22	20.533	223302	26.541	ug/mlm
27)		n-C23	21.816	222653	26.259	ug/mlm
28)		n-C24	23.076	222147	26.147	ug/mlm
29)		n-C25	24.306	205799	24.186	ug/mlm
30)		n-C26	25.502	227305	26.616	ug/mlm
31)		n-C27	26.663	226247	27.184	ug/mlm
32)		n-C28	27.790	226655	26.888	ug/mlm
33)		n-C29	28.881	225171	26.663	ug/mlm
35)		n-C30	29.940	225180	27.049	ug/mlm
36)		n-C31	30.965	218164	26.758	ug/mlm
37)		n-C32	31.961	217713	27.136	ug/mlm
38)		n-C33	32.925	205273	26.474	ug/mlm
39)		n-C34	33.866	212894	27.301	ug/mlm
40)		n-C35	34.858	206307	27.389	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073I.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 05:44:45
Operator : Meghan Dailey
Sample : AL-WKICV-25-002
Misc :
ALS Vial : 59 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 15:02:23 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.988	212254	26.294	ug/mlm
42)	n-C37	37.290	196605	27.033	ug/mlm
43)	n-C38	38.812	188880	26.454	ug/mlm
44)	n-C39	40.597	187313	27.289	ug/mlm
45)	n-C40	42.701	176284	28.251	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

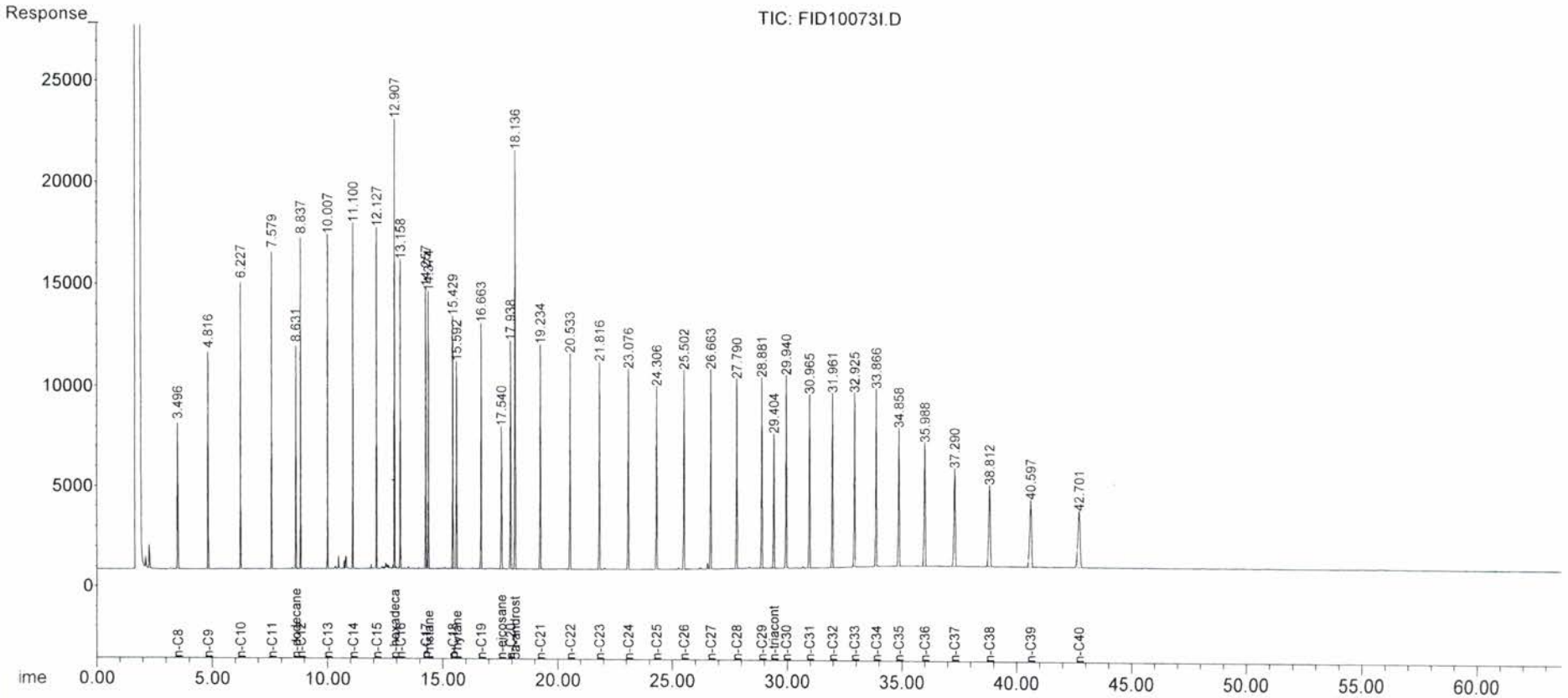
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073I.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 05:44:45
Operator : Meghan Dailey
Sample : AL-WKICV-25-002
Misc :
ALS Vial : 59 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 15:02:23 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073J.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 06:55:19
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 15:06:55 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	n-hexadecane-d34	1.000	1.000	0.0	86	0.00
2		n-C8	0.962	0.992	-3.1	86	0.00
3		n-C9	1.011	1.035	-2.4	86	0.00
4		n-C10	1.064	1.090	-2.4	86	0.00
5		n-C11	1.069	1.090	-2.0	86	0.00
6	S	n-dodecane-d26	0.992	1.006	-1.4	86	0.00
7		n-C12	1.116	1.140	-2.2	86	0.00
10		n-C13	1.122	1.140	-1.6	86	0.00
12		n-C14	1.164	1.189	-2.1	86	0.00
14		n-C15	1.189	1.210	-1.8	86	0.00
15		n-C16	1.208	1.228	-1.7	86	0.00
16	I	5a-androstane	1.000	1.000	0.0	86	0.00
18		n-C17	0.952	0.971	-2.0	86	0.00
19		Pristane	0.949	0.967	-1.9	86	0.00
20		n-C18	0.944	0.961	-1.8	86	0.00
21		Phytane	0.962	0.980	-1.9	86	0.00
22		n-C19	0.948	0.965	-1.8	86	0.00
23	S	n-eicosane-d42	0.758	0.764	-0.8	85	0.00
24		n-C20	0.957	0.975	-1.9	86	0.00
25		n-C21	0.969	0.989	-2.1	86	0.00
26		n-C22	0.974	0.992	-1.8	86	0.00
27		n-C23	0.982	1.002	-2.0	86	0.00
28		n-C24	0.984	1.006	-2.2	86	0.00
29		n-C25	0.985	1.008	-2.3	86	0.00
30		n-C26	0.989	1.012	-2.3	86	0.00
31		n-C27	0.964	0.988	-2.5	86	0.00
32		n-C28	0.976	1.006	-3.1	87	0.00
33		n-C29	0.978	1.011	-3.4	87	0.00
34	S	n-triacontane-d62	0.754	0.773	-2.5	87	0.00
35		n-C30	0.964	1.003	-4.0	87	0.00
36		n-C31	0.944	0.991	-5.0	88	0.00
37		n-C32	0.929	0.984	-5.9	88	0.00
38		n-C33	0.898	0.956	-6.5	88	0.00
39		n-C34	0.903	0.961	-6.4	88	0.00
40		n-C35	0.872	0.926	-6.2	88	0.00
41		n-C36	0.935	0.977	-4.5	87	0.00
42		n-C37	0.842	0.859	-2.0	86	0.00
43		n-C38	0.827	0.827	0.0	84	0.00

44	n-C39	0.795	0.772	2.9	82	0.00
45	n-C40	0.722	0.705	2.4	80	0.00

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.017	0.000	100.0#	0#	-9.03#
9	i-14	0.018	0.000	100.0#	0#	-9.73#
11	i-15	0.018	0.000	100.0#	0#	-10.88#
13	i-16	0.019	0.000	100.0#	0#	-11.77#
17	i-18	0.019	0.000	100.0#	0#	-13.72#
46	TPH	0.018	0.000	100.0#	0#	-29.05#
47	TRH1	0.018	0.000	100.0#	0#	-7.75#
48	TRH2	0.018	0.000	100.0#	0#	-15.92#
49	TRH3	0.018	0.000	100.0#	0#	-23.38#
50	TRH4	0.018	0.000	100.0#	0#	-28.40#
51	TRH5	0.018	0.000	100.0#	0#	-33.37#
52	TRH6	0.018	0.000	100.0#	0#	-44.83#
53	GRO	0.018	0.000	100.0#	0#	-5.27#
54	DRO	0.018	0.000	100.0#	0#	-14.31#
55	RRO	0.018	0.000	100.0#	0#	-33.00#

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

FID1C08BACK081213.M Mon Aug 12 15:07:00 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073J.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 06:55:19
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 15:06:55 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

		Compound	R.T.	Response	Conc	Units
Internal Standards						
1)	I	n-hexadecane-d34	12.907	328340	50.000	ug/mlm
16)	I	5a-androstane	18.136	427035	50.072	ug/mlm
System Monitoring Compounds						
6)	S	n-dodecane-d26	8.631	165083	25.334	ug/mlm
23)	S	n-eicosane-d42	17.540	163902	25.347	ug/mlm
34)	S	n-triacontane-d62	29.404	165064	25.674	ug/mlm
Target Compounds						
2)		n-C8	3.497	162962	25.806	ug/mlm
3)		n-C9	4.816	169849	25.588	ug/mlm
4)		n-C10	6.227	178929	25.613	ug/mlm
5)		n-C11	7.579	179128	25.525	ug/mlm
7)		n-C12	8.837	184006	25.103	ug/mlm
8)		i-13	0.000	0	N.D.	ug/mld
9)		i-14	0.000	0	N.D.	ug/mld
10)		n-C13	10.007	187399	25.444	ug/mlm
11)		i-15	0.000	0	N.D.	ug/mld
12)		n-C14	11.099	194009	25.382	ug/mlm
13)		i-16	0.000	0	N.D.	ug/mld
14)		n-C15	12.127	197616	25.320	ug/mlm
15)		n-C16	13.157	199600	25.164	ug/mlm
17)		i-18	0.000	0	N.D.	ug/mld
18)		n-C17	14.257	204555	25.184	ug/mlm
19)		Pristane	14.374	204309	25.237	ug/mlm
20)		n-C18	15.429	205116	25.471	ug/mlm
21)		Phytane	15.592	208514	25.412	ug/mlm
22)		n-C19	16.663	205679	25.442	ug/mlm
24)		n-C20	17.938	208214	25.516	ug/mlm
25)		n-C21	19.234	209048	25.295	ug/mlm
26)		n-C22	20.532	211817	25.498	ug/mlm
27)		n-C23	21.816	211505	25.264	ug/mlm
28)		n-C24	23.076	211947	25.266	ug/mlm
29)		n-C25	24.305	214178	25.494	ug/mlm
30)		n-C26	25.503	216121	25.631	ug/mlm
31)		n-C27	26.663	210693	25.639	ug/mlm
32)		n-C28	27.789	214562	25.780	ug/mlm
33)		n-C29	28.880	215842	25.885	ug/mlm
35)		n-C30	29.937	213096	25.926	ug/mlm
36)		n-C31	30.965	211394	26.259	ug/mlm
37)		n-C32	31.958	207072	26.140	ug/mlm
38)		n-C33	32.923	203830	26.625	ug/mlm
39)		n-C34	33.863	204389	26.546	ug/mlm
40)		n-C35	34.857	197418	26.545	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073J.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 06:55:19
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 15:06:55 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	35.988	204046	25.601	ug/mlm
42)	n-C37	37.290	183360	25.535	ug/mlm
43)	n-C38	38.805	176689	25.064	ug/mlm
44)	n-C39	40.589	164587	24.285	ug/mlm
45)	n-C40	42.694	149936	24.337	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

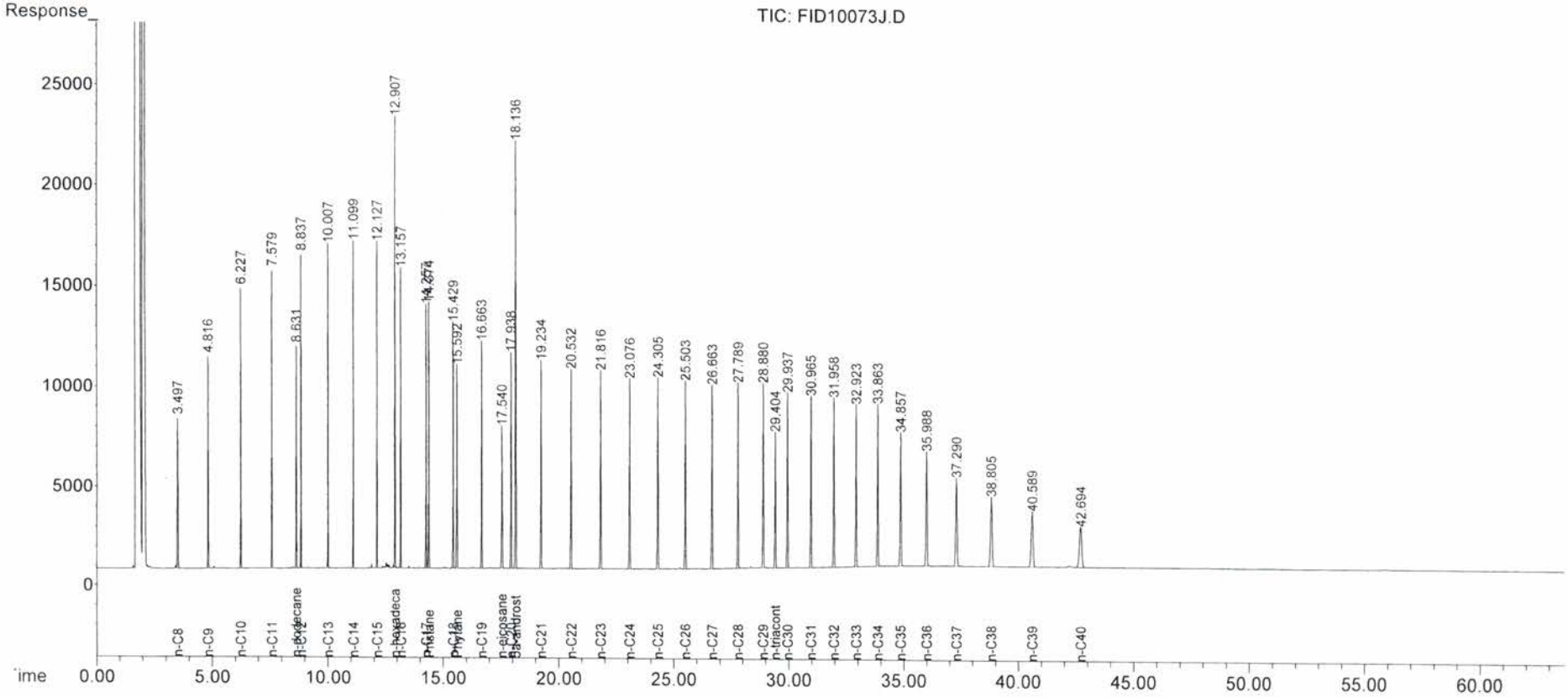
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\
Data File : FID10073J.D
Signal(s) : FID2B.CH
Acq On : 10-Aug-2013, 06:55:19
Operator : Meghan Dailey
Sample : AL-WKCC-25-024
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 12 15:06:55 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10073\FID1C08BACK081213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Aug 12 14:55:52 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Aliphatic Mass Discrimination Ratio

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

File Name	Sample Name	n-C20 (Area)	n-C36 (Area)	n-C36/n-C20 ratio	Q
FID10073C.D	AL-WKC1-1.25-019	12143	12037	0.99	
FID10073D.D	AL-WKC2-10-019	98208	97002	0.99	
FID10073E.D	AL-WKC3-25-019	243017	233923	0.96	
FID10073F.D	AL-WKC4-40-019	383571	364710	0.95	
FID10073G.D	AL-WKC5-50-019	454323	427630	0.94	
FID10073H.D	AL-WKC6-100-019	920851	842927	0.92	
FID10073I.D	AL-WKICV-25-002	216961	212254	0.98	
FID10073J.D	AL-WKCC-25-024	208214	204046	0.98	
FID10079B.D	AL-WKCC-25-024	178666	168807	0.94	
FID10079G.D	AL-WKCC-25-024	174168	166466	0.96	
FID10079H.D	AL-WKCC-25-024	182258	174521	0.96	

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

Aliphatic Internal Standard Area Data

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

File Name	Sample Name	Internal Standard 1 n-hexadecane-d34			Internal Standard 2 5α-androstane		
		Response (Area)	50% (Area)	200% (Area)	Response (Area)	50% (Area)	200% (Area)
FID10073E.D	**AL-WKC3-25-019**	**383337**	**191669**	**766674**	**499201**	**249601**	**998402**
FID10073I.D	**AL-WKICV-25-002**	**330942**	**165471**	**661884**	**432505**	**216253**	**865010**
FID10073J.D	**AL-WKCC-25-024**	**328340**	**164170**	**656680**	**427035**	**213518**	**854070**
FID10079B.D	**AL-WKCC-25-024**	**286461**	**143231**	**572922**	**363178**	**181589**	**726356**
FID10079C.D	AL-SRM2779-20-01	320383			446097		
FID10079F.D	AL-WKPem-001	302628			388762		
FID10079G.D	**AL-WKCC-25-024**	**279963**	**139982**	**559926**	**353476**	**176738**	**706952**
ENV3080A.D	Procedural Blank	273122			347809		
ENV3080B.D	Blank Spike	269653			344098		
ENV3080C.D	Blank Spike Duplicate	278052			356721		
ARC1765.D	SED-DA-EB-07-080913	262044			334460		
ARC1767.D	SED-DA-DI-Water	281942			360785		
ARC1769.D	SED-DA-EB-08-081013	260209			332915		
FID10079H.D	**AL-WKCC-25-024**	**290925**	**145463**	**581850**	**370603**	**185302**	**741206**

Polycyclic Aromatic Hydrocarbon
Initial Calibration Data
and
Initial Calibration Verification Data

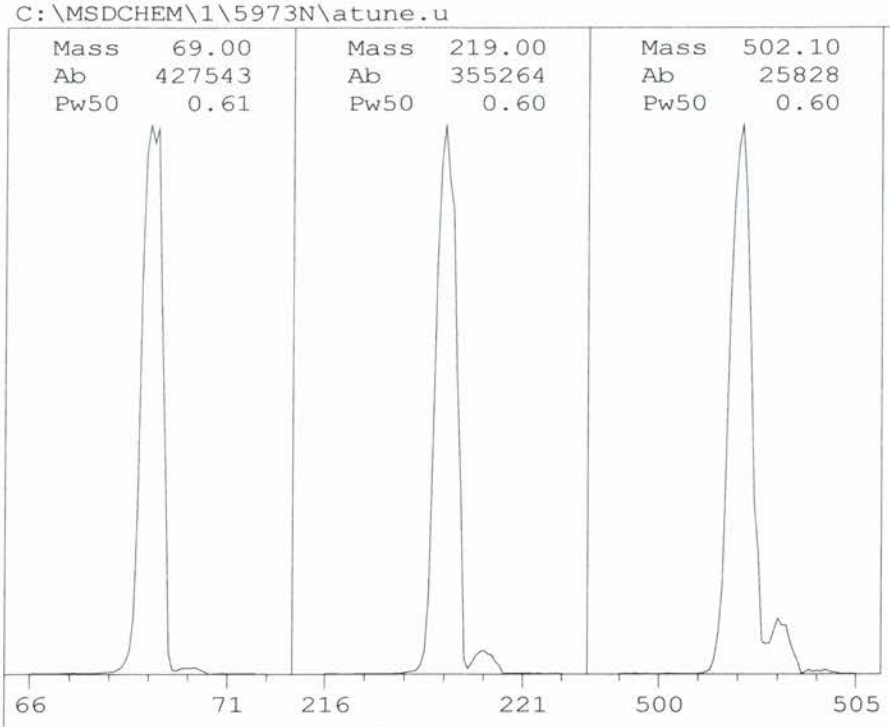
PAH ICAL
AR 70058.M

GC/MS 7
(PAH-2012)

Autotune

Mon Aug 19 13:28:22 2013
C:\MSDCHEM\1\5973N\atune.u

Instrument: GCMSD
US21854533

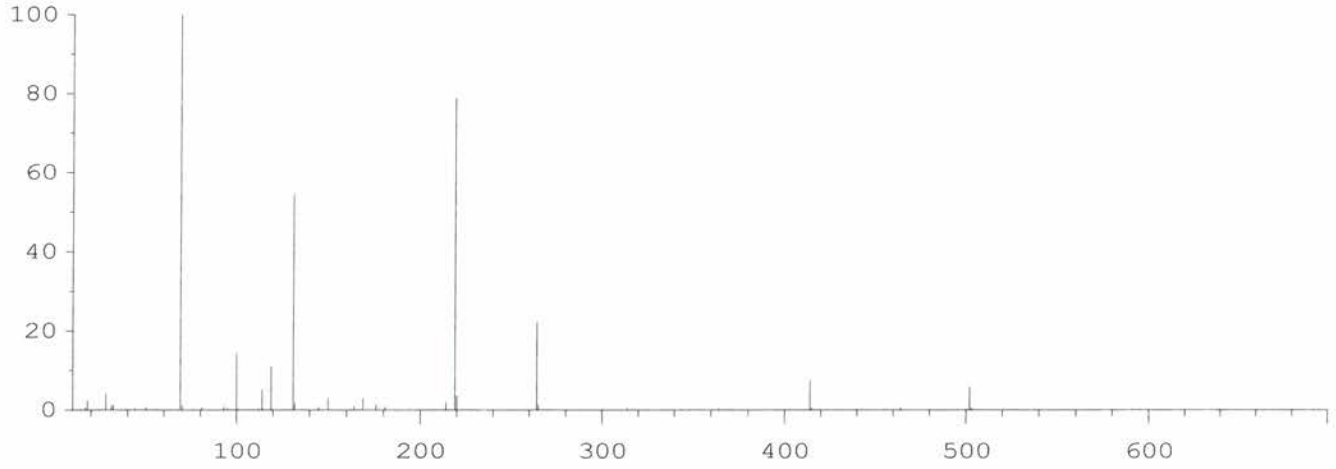


Ion Pol	Pos	MassGain	428
		MassOffs	-9
Emission	34.6	AmuGain	2298
EIEnrgy	69.9	AmuOffs	129
Filament	1	Wid219	-0.021
		DC Pol	Neg
Repeller	30.96		
IonFcus	81.6	HEDEnab	On
EntLens	14.5	EMVolts	2235
EntOffs	17.07		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	290	Turbo Speed	100
MS Quad	180		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
177 peaks Base: 69.00 Abundance: 398848



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	398848	100.00	70.00	4631	1.16
219.00	314496	78.85	220.00	14566	4.63
502.00	23856	5.98	503.10	2177	9.13

Air/Water Check: H2O~2.38% N2~4.22% O2~1.43% CO2~0.51% N2/H2O~177.23%

Column(1) Flow: 1.446 Column(2): 0 ml/min. Interface Temp: 290

Ramp Criteria:

Ion Focus	Maximum	90	volts using ion	502; EM Gain	281961
Repeller	Maximum	35	volts using ion	219; Gain Factor	2.82

MassGain Values(Samples): 424(3) 431(2) 430(1) 432(0) 428(FS)

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	129.0	129.0	129.0	129.0	129.0	129.0	129.0
Entrance Lens Offset:	17.1	17.1	17.1	17.1	17.1	17.1	17.1

MS70058 y. 222

Method Path : C:\GCMS7\MS70058\
Method File : AR70058.M
Title : PAH Calibration Table-2013A
Last Update : Wed Aug 21 18:15:55 2013
Response Via : Initial Calibration

Calibration Files
1 =MS70058B.D 2 =MS70058C.D 3 =MS70058D.D 4 =MS70058E.D 5 =MS70058F.D
6 =MS70058G.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	Fluorene-d10	----------ISTD----------							
2)	S	Naphthalene-d8	1.960	1.675	1.560	1.610	1.595	1.625	1.671	8.77
3)	T	cis/trans Decalin	0.352	0.291	0.289	0.277	0.274	0.271	0.292	10.35
4)	un	C1-Decalins	0.352	0.291	0.289	0.277	0.274	0.271	0.292	10.35
5)	un	C2-Decalins	0.352	0.291	0.289	0.277	0.274	0.271	0.292	10.35
6)	un	C3-Decalins	0.352	0.291	0.289	0.277	0.274	0.271	0.292	10.35
7)	un	C4-Decalins	0.352	0.291	0.289	0.277	0.274	0.271	0.292	10.35
8)	T	Naphthalene	2.132	1.797	1.693	1.755	1.755	1.807	1.823	8.58
9)	T	2-Methylnaphth...	1.380	1.184	1.109	1.158	1.153	1.189	1.196	7.92
10)	T	1-Methylnaphth...	1.295	1.109	1.035	1.075	1.058	1.081	1.109	8.51
11)	T	2,6-Dimethylna...	1.160	1.030	0.982	0.995	1.039	1.084	1.048	6.26
12)	T	1,6,7-Trimethy...	1.121	0.939	0.878	0.907	0.913	0.966	0.954	9.12
13)	un	C2-Naphthalenes	2.132	1.797	1.693	1.755	1.755	1.807	1.823	8.58
14)	un	C3-Naphthalenes	2.132	1.797	1.693	1.755	1.755	1.807	1.823	8.58
15)	un	C4-Naphthalenes	2.132	1.797	1.693	1.755	1.755	1.807	1.823	8.58
16)	T	Benzothiophene	1.775	1.492	1.395	1.443	1.453	1.502	1.510	8.96
17)	un	C1-Benzothioph...	1.775	1.492	1.395	1.443	1.453	1.502	1.510	8.96
18)	un	C2-Benzothioph...	1.775	1.492	1.395	1.443	1.453	1.502	1.510	8.96
19)	un	C3-Benzothioph...	1.775	1.492	1.395	1.443	1.453	1.502	1.510	8.96
20)	un	C4-Benzothioph...	1.775	1.492	1.395	1.443	1.453	1.502	1.510	8.96
21)	S	Acenaphthene-d10	1.146	0.955	0.895	0.934	0.923	0.958	0.969	9.30
22)	T	Biphenyl	1.720	1.507	1.439	1.490	1.503	1.549	1.535	6.37
23)	T	Acenaphthylene	1.797	1.585	1.465	1.604	1.599	1.750	1.633	7.40
24)	T	Acenaphthene	1.234	1.038	0.966	1.000	1.005	1.042	1.047	9.11
25)	T	Dibenzofuran	1.973	1.718	1.635	1.722	1.708	1.753	1.752	6.59
26)	T	Fluorene	1.527	1.321	1.255	1.312	1.323	1.333	1.345	6.93
27)	T	1-Methylfluorene	0.854	0.702	0.651	0.689	0.688	0.743	0.721	9.92
28)	un	C1-Fluorenes	1.527	1.321	1.255	1.312	1.323	1.333	1.345	6.93
29)	un	C2-Fluorenes	1.527	1.321	1.255	1.312	1.323	1.333	1.345	6.93
30)	un	C3-Fluorenes	1.527	1.321	1.255	1.312	1.323	1.333	1.345	6.93
31)	I	Pyrene-d10	----------ISTD----------							
32)	S	Phenanthrene-d10	0.960	0.864	0.842	0.904	0.870	0.870	0.885	4.70
33)	T	Carbazole	0.936	0.882	0.864	0.950	0.939	0.930	0.917	3.82
34)	T	Dibenzothiophene	1.186	1.105	1.077	1.153	1.110	1.102	1.122	3.56
35)	T	4-Methyldibenz...	0.805	0.683	0.650	0.691	0.658	0.760	0.708	8.68
36)	un	2/3-Methyldibe...	0.805	0.683	0.650	0.691	0.658	0.760	0.708	8.68
37)	un	1-Methyldibenz...	0.805	0.683	0.650	0.691	0.658	0.760	0.708	8.68
38)	un	C2-Dibenzothio...	1.186	1.105	1.077	1.153	1.110	1.102	1.122	3.56
39)	un	C3-Dibenzothio...	1.186	1.105	1.077	1.153	1.110	1.102	1.122	3.56
40)	un	C4-Dibenzothio...	1.186	1.105	1.077	1.153	1.110	1.102	1.122	3.56
41)	T	Phenanthrene	1.127	0.977	0.926	0.984	0.931	1.012	0.993	7.40
42)	T	Anthracene	0.976	0.868	0.858	0.909	0.865	0.964	0.907	5.80
43)	un	3-Methylphenan...	0.928	0.784	0.743	0.795	0.764	0.881	0.816	8.87
44)	un	2-Methylphenan...	0.928	0.784	0.743	0.795	0.764	0.881	0.816	8.87
45)	un	2-Methylanthra...	0.928	0.784	0.743	0.795	0.764	0.881	0.816	8.87
46)	un	4/9-Methylphen...	0.928	0.784	0.743	0.795	0.764	0.881	0.816	8.87
47)	T	1-Methylphenan...	0.928	0.784	0.743	0.795	0.764	0.881	0.816	8.87
48)	T	3,6-Dimethylph...	0.908	0.774	0.742	0.804	0.790	0.842	0.810	7.22
49)	T	Retene	0.437	0.361	0.343	0.369	0.360	0.357	0.371	8.93
50)	un	C2-Phenanthren...	1.127	0.977	0.926	0.984	0.931	1.012	0.993	7.40
51)	un	C3-Phenanthren...	1.127	0.977	0.926	0.984	0.931	1.012	0.993	7.40
52)	un	C4-Phenanthren...	1.127	0.977	0.926	0.984	0.931	1.012	0.993	7.40
53)	T	Naphthobenzoth...	1.623	1.298	1.189	1.219	1.216	1.266	1.302	12.46

Method Path : C:\GCMS7\MS70058\
Method File : AR70058.M
Title : PAH Calibration Table-2013A

54)	un	C1-Naphthobenz...	1.623	1.298	1.189	1.219	1.216	1.266	1.302	12.46
55)	un	C2-Naphthobenz...	1.623	1.298	1.189	1.219	1.216	1.266	1.302	12.46
56)	un	C3-Naphthobenz...	1.623	1.298	1.189	1.219	1.216	1.266	1.302	12.46
57)	un	C4-Naphthobenz...	1.623	1.298	1.189	1.219	1.216	1.266	1.302	12.46
58)	T	Fluoranthene	1.518	1.289	1.221	1.305	1.255	1.184	1.295	9.08
59)	T	Pyrene	1.396	1.208	1.141	1.193	1.166	1.198	1.217	7.47
60)	T	2-Methylfluora...	0.941	0.773	0.738	0.783	0.765	0.753	0.792	9.38
61)	T	Benzo(b)fluorene	1.052	0.863	0.816	0.878	0.863	0.888	0.893	9.13
62)	un	C1-Fluoranthen...	1.518	1.289	1.221	1.305	1.255	1.184	1.295	9.08
63)	un	C2-Fluoranthen...	1.518	1.289	1.221	1.305	1.255	1.184	1.295	9.08
64)	un	C3-Fluoranthen...	1.518	1.289	1.221	1.305	1.255	1.184	1.295	9.08
65)	un	C4-Fluoranthen...	1.518	1.289	1.221	1.305	1.255	1.184	1.295	9.08
66)	S	Chrysene-d12	1.440	1.215	1.127	1.181	1.182	1.264	1.235	8.93
67)	T	Benz(a)anthracene	1.209	1.007	0.872	0.909	0.953	1.159	1.018	13.46
68)	T	Chrysene/Triph...	1.791	1.443	1.354	1.425	1.405	1.283	1.450	12.19
69)	un	C1-Chrysenes	1.791	1.443	1.354	1.425	1.405	1.283	1.450	12.19
70)	un	C2-Chrysenes	1.791	1.443	1.354	1.425	1.405	1.283	1.450	12.19
71)	un	C3-Chrysenes	1.791	1.443	1.354	1.425	1.405	1.283	1.450	12.19
72)	un	C4-Chrysenes	1.791	1.443	1.354	1.425	1.405	1.283	1.450	12.19
73)	I	Benzo(a)pyrene-d12	----------ISTD----------							
74)	un	C29-Hopane	0.462	0.393	0.363	0.365	0.377	0.401	0.393	9.30
75)	un	18a-Oleanane	0.462	0.393	0.363	0.365	0.377	0.401	0.393	9.30
76)	T	C30-Hopane	0.462	0.393	0.363	0.365	0.377	0.401	0.393	9.30
77)	T	Benzo(b)fluora...	1.616	1.308	1.184	1.252	1.342	1.397	1.350	11.09
78)	T	Benzo(k,j)fluo...	1.777	1.449	1.307	1.386	1.476	1.418	1.469	11.01
79)	un	Benzo(a)fluora...	1.777	1.449	1.307	1.386	1.476	1.418	1.469	11.01
80)	T	Benzo(e)pyrene	1.709	1.361	1.225	1.289	1.369	1.418	1.395	12.04
81)	T	Benzo(a)pyrene	1.519	1.250	1.164	1.217	1.249	1.478	1.313	11.26
82)	T	Indeno(1,2,3-c...	1.914	1.573	1.443	1.523	1.619	1.726	1.633	10.22
83)	T	Dibenzo(a,h)an...	1.516	1.238	1.151	1.218	1.294	1.394	1.302	10.21
84)	un	C1-Dibenzo(a,h...	1.516	1.238	1.151	1.218	1.294	1.394	1.302	10.21
85)	un	C2-Dibenzo(a,h...	1.516	1.238	1.151	1.218	1.294	1.394	1.302	10.21
86)	un	C3-Dibenzo(a,h...	1.516	1.238	1.151	1.218	1.294	1.394	1.302	10.21
87)	T	Benzo(g,h,i)pe...	1.719	1.427	1.289	1.345	1.421	1.466	1.444	10.30
88)	S	Perylene-d12	1.437	1.206	1.106	1.157	1.201	1.184	1.215	9.44
89)	T	Perylene	1.583	1.275	1.180	1.245	1.294	1.503	1.347	11.79
90)	S	5(b)H-Cholane	0.319	0.255	0.233	0.246	0.259	0.260	0.262	11.28
91)	un	C20-TAS	1.814	1.500	1.331	1.359	1.415	1.557	1.496	11.87
92)	un	C21-TAS	1.814	1.500	1.331	1.359	1.415	1.557	1.496	11.87
93)	un	C26(20S)-TAS	1.814	1.500	1.331	1.359	1.415	1.557	1.496	11.87
94)	T	C26(20R)/C27(2...	1.814	1.500	1.331	1.359	1.415	1.557	1.496	11.87
95)	un	C28(20S)-TAS	1.814	1.500	1.331	1.359	1.415	1.557	1.496	11.87
96)	un	C27(20R)-TAS	1.814	1.500	1.331	1.359	1.415	1.557	1.496	11.87
97)	un	C28(20R)-TAS	1.814	1.500	1.331	1.359	1.415	1.557	1.496	11.87

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058B.D
Acq On : 20 Aug 2013 8:11 am
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 21 18:08:35 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 07:52:32 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.399	176	506663m	251.05		0.00
31) Pyrene-d10	29.600	212	1038061m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	1071576m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.766	136	79140m	23.89		0.00
21) Acenaphthene-d10	19.616	164	46304m	23.91		0.00
32) Phenanthrene-d10	24.683	188	79566m	21.78		0.00
66) Chrysene-d12	33.770	240	119341m	23.43		0.00
88) Perylene-d12	38.619	264	123078m	23.52		0.00
90) 5(b)H-Cholane	34.158	217	27311m	24.01		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.120	138	14041m	36.56		
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	13.850	128	86047m	23.35		
9) 2-Methylnaphthalene	16.078	142	55756m	23.17		
10) 1-Methylnaphthalene	16.413	142	52210m	23.52		
11) 2,6-Dimethylnaphthalene	18.195	156	46838m	21.93		
12) 1,6,7-Trimethylnaphtha...	21.037	170	45244m	23.54		
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	14.017	134	71198m	23.40		
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	17.666	154	68816m	22.11		
23) Acenaphthylene	19.143	152	71965m	20.67		
24) Acenaphthene	19.728	154	49900m	23.81		
25) Dibenzofuran	20.313	168	79245m	22.71		
26) Fluorene	21.483	166	61758m	22.78		
27) 1-Methylfluorene	23.471	180	34742m	23.75		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.514	167	76811m	20.15		
34) Dibenzothiophene	24.337	184	96885m	21.07		
35) 4-Methyldibenzothiophene	25.860	198	67223m	22.94		
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	24.787	178	92502m	23.04		
42) Anthracene	24.960	178	81112m	21.98		

Data Path : C:\GCMS7\MS70058\
Data File : MS70058B.D
Acq On : 20 Aug 2013 8:11 am
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 21 18:08:35 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 07:52:32 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D.	d	
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	26.899	192	75994m	22.56		
48) 3,6-Dimethylphenanthrene	27.973	206	75332m	22.64		
49) Retene	30.639	234	32310m	20.94		
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	32.916	234	135305m	25.16		
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.873	202	125872m	23.69		
59) Pyrene	29.669	202	115605m	22.89		
60) 2-Methylfluoranthene	30.396	216	78457m	24.15		
61) Benzo(b)fluorene	31.020	216	87922m	23.86		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.731	228	99955m	21.11		
68) Chrysene/Triphenylene	33.847	228	147448m	26.15		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.672	191	39520m	21.80		
77) Benzo(b)fluoranthene	37.261	252	138659m	21.90		
78) Benzo(k,j)fluoranthene	37.339	252	151489m	22.70		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.231	252	145740m	24.60		
81) Benzo(a)pyrene	38.425	252	129828m	23.23		
82) Indeno(1,2,3-c,d)pyrene	43.078	276	161067m	22.70		
83) Dibenzo(a,h)anthracene	43.152	278	128636m	22.74		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.442	276	145809m	23.28		
89) Perylene	38.697	252	135638m	23.24		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.356	231	155342m	23.97		
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058B.D
Acq On : 20 Aug 2013 8:11 am
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 21 18:08:35 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 07:52:32 2013
Response via : Initial Calibration

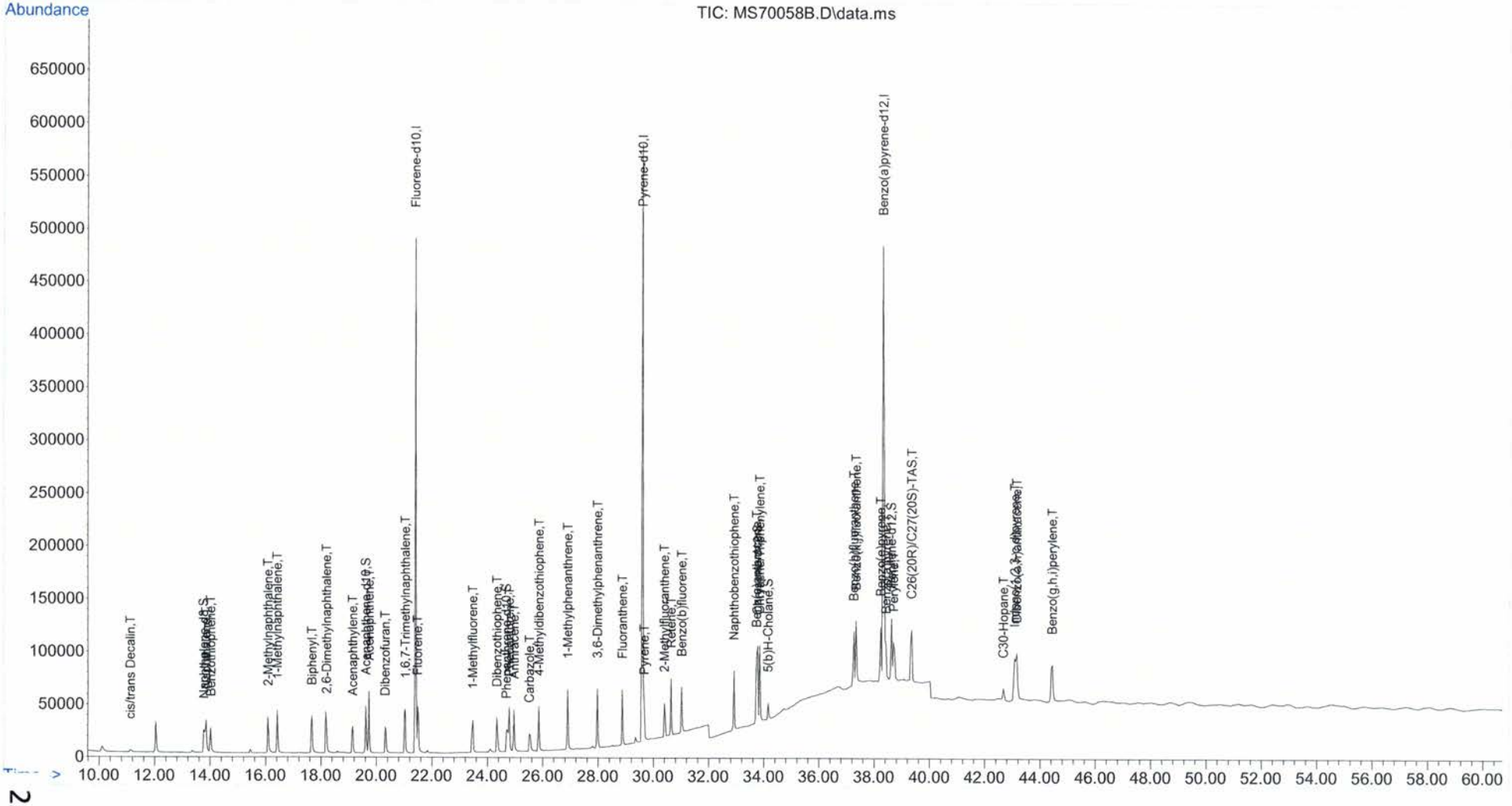
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058B.D
Acq On : 20 Aug 2013 8:11 am
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 21 18:08:35 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 07:52:32 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058C.D
Acq On : 20 Aug 2013 9:19 am
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 21 18:10:18 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 07:59:15 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.399	176	438555m	251.05	0.00
31) Pyrene-d10	29.600	212	843284m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	887795m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.766	136	292742m	101.24	0.00
21) Acenaphthene-d10	19.616	164	166953m	99.12	0.00
32) Phenanthrene-d10	24.683	188	291101m	98.11	0.00
66) Chrysene-d12	33.770	240	408967m	98.70	0.00
88) Perylene-d12	38.619	264	427910m	98.87	0.00
90) 5(b)H-Cholane	34.158	217	90425m	96.49	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.120	138	50218m	136.06	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.850	128	313966m	98.49	
9) 2-Methylnaphthalene	16.078	142	207077m	99.05	
10) 1-Methylnaphthalene	16.413	142	193458m	100.59	
11) 2,6-Dimethylnaphthalene	18.168	156	179871m	97.40	
12) 1,6,7-Trimethylnaphtha...	21.037	170	164061m	98.60	
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	14.017	134	258988m	98.04	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.638	154	260807m	96.93	
23) Acenaphthylene	19.115	152	274703m	90.99	
24) Acenaphthene	19.728	154	181705m	99.61	
25) Dibenzofuran	20.313	168	298698m	98.22	
26) Fluorene	21.483	166	231265m	98.92	
27) 1-Methylfluorene	23.471	180	123570m	97.87	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.514	167	294023m	94.76	
34) Dibenzothiophene	24.337	184	366626m	98.00	
35) 4-Methyldibenzothiophene	25.860	198	231794m	97.48	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.787	178	325705m	98.90	
42) Anthracene	24.960	178	292797m	97.46	

Data Path : C:\GCMS7\MS70058\
Data File : MS70058C.D
Acq On : 20 Aug 2013 9:19 am
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 21 18:10:18 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 07:59:15 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D.	d	
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	26.899	192	260851m	95.13		
48) 3,6-Dimethylphenanthrene	27.973	206	260708m	96.28		
49) Retene	30.639	234	108425m	86.85		
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.		
53) Naphthobenzothiophene	32.916	234	439523m	100.39		
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	28.873	202	434161m	100.69		
59) Pyrene	29.635	202	406603m	99.58		
60) 2-Methylfluoranthene	30.396	216	261744m	98.72		
61) Benzo(b)fluorene	31.020	216	292843m	97.61		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.731	228	338105m	86.24		
68) Chrysene/Triphenylene	33.847	228	482641m	103.78		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.672	191	139283m	98.11		
77) Benzo(b)fluoranthene	37.261	252	464944m	86.91		
78) Benzo(k,j)fluoranthene	37.339	252	511831m	90.93		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.231	252	480777m	97.35		
81) Benzo(a)pyrene	38.386	252	442339m	95.30		
82) Indeno(1,2,3-c,d)pyrene	43.078	276	548450m	93.56		
83) Dibenzo(a,h)anthracene	43.152	278	434977m	92.92		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.405	276	501546m	96.88		
89) Perylene	38.697	252	452563m	93.60		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.356	231	532142m	99.59		
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058C.D
Acq On : 20 Aug 2013 9:19 am
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 21 18:10:18 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 07:59:15 2013
Response via : Initial Calibration

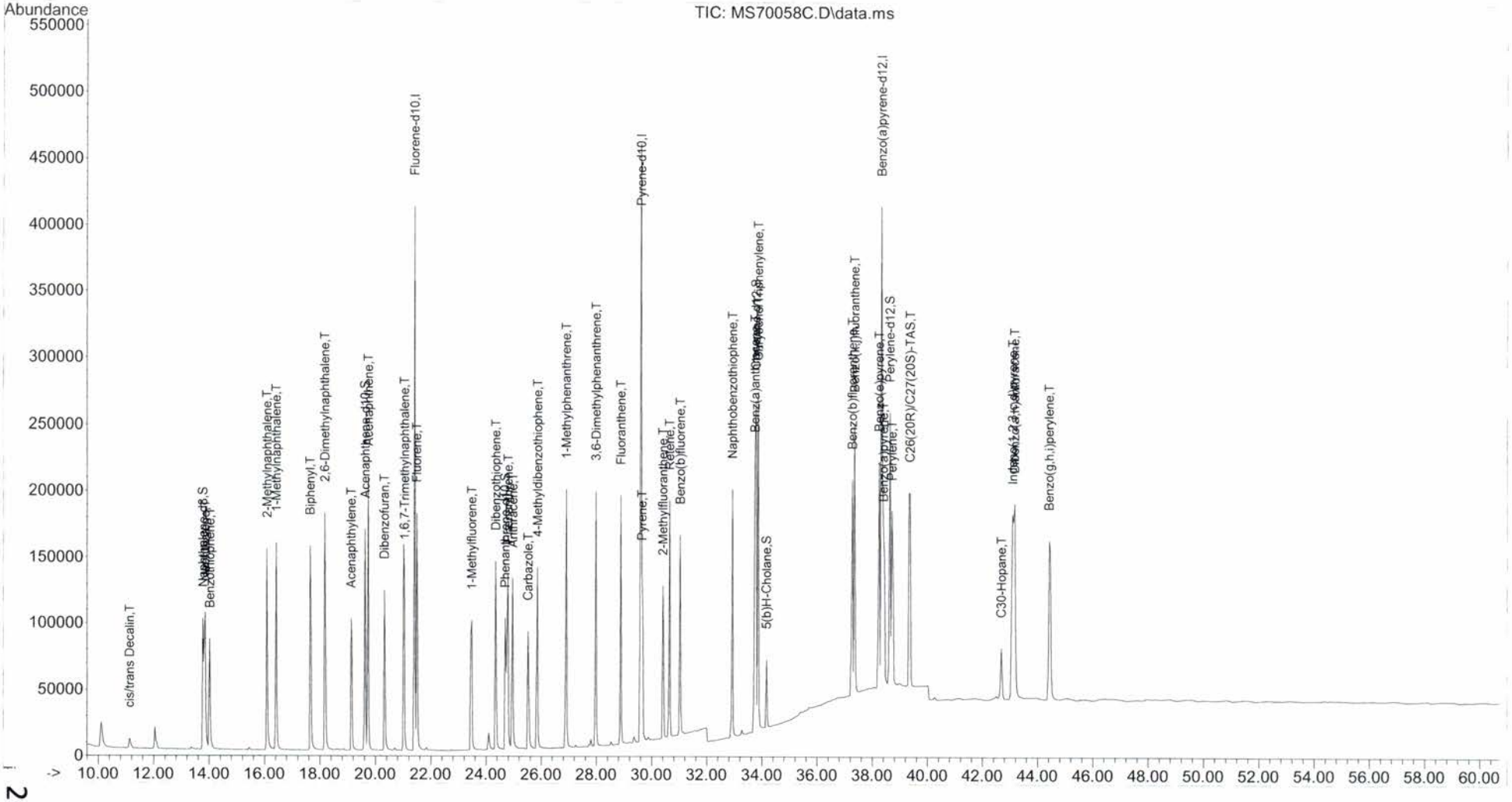
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058C.D
Acq On : 20 Aug 2013 9:19 am
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 21 18:10:18 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 07:59:15 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058D.D
Acq On : 20 Aug 2013 10:28 am
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 21 18:12:38 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 08:09:46 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.399	176	430907m	251.05		0.00
31) Pyrene-d10	29.600	212	811827m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	868995m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.766	136	669755m	234.92		0.00
21) Acenaphthene-d10	19.616	164	384325m	231.92		0.00
32) Phenanthrene-d10	24.683	188	682740m	239.13		0.00
66) Chrysene-d12	33.770	240	912809m	228.77		0.00
88) Perylene-d12	38.619	264	960102m	226.06		0.00
90) 5(b)H-Cholane	34.158	217	202528m	220.80		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.120	138	122590m	312.65		
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	13.850	128	726480m	232.15		
9) 2-Methylnaphthalene	16.079	142	476506m	231.91		
10) 1-Methylnaphthalene	16.413	142	443581m	234.15		
11) 2,6-Dimethylnaphthalene	18.168	156	421343m	232.21		
12) 1,6,7-Trimethylnaphtha...	21.037	170	376705m	230.27		
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	14.017	134	594900m	229.16		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.639	154	611716m	231.69		
23) Acenaphthylene	19.115	152	623788m	210.17		
24) Acenaphthene	19.728	154	415218m	231.24		
25) Dibenzofuran	20.313	168	697966m	232.83		
26) Fluorene	21.483	166	539754m	234.48		
27) 1-Methylfluorene	23.471	180	281543m	227.23		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.514	167	693164m	232.52		
34) Dibenzothiophene	24.337	184	859609m	238.70		
35) 4-Methyldibenzothiophene	25.860	198	530427m	231.87		
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	24.787	178	742735m	233.07		
42) Anthracene	24.960	178	696540m	240.42		

Data Path : C:\GCMS7\MS70058\
Data File : MS70058D.D
Acq On : 20 Aug 2013 10:28 am
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 21 18:12:38 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 08:09:46 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D.	d	
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	26.899	192	595269m	225.53		
48) 3,6-Dimethylphenanthrene	27.973	206	601212m	230.55		
49) Retene	30.639	234	248373m	206.62		
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	32.916	234	968728m	229.94		
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.873	202	990023m	238.52		
59) Pyrene	29.635	202	924113m	235.06		
60) 2-Methylfluoranthene	30.397	216	602084m	235.49		
61) Benzo(b)fluorene	31.020	216	666525m	230.54		
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	33.731	228	704911m	184.68		
68) Chrysene/Triphenylene	33.847	228	1089534m	241.10		
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	42.672	191	315099m	228.28		
77) Benzo(b)fluoranthene	37.261	252	1029925m	193.45		
78) Benzo(k,j)fluoranthene	37.339	252	1129858m	201.93		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.231	252	1059096m	218.24		
81) Benzo(a)pyrene	38.386	252	1008368m	221.58		
82) Indeno(1,2,3-c,d)pyrene	43.078	276	1231378m	214.73		
83) Dibenzo(a,h)anthracene	43.152	278	989750m	216.08		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.405	276	1108227m	218.45		
89) Perylene	38.697	252	1025337m	217.04		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.356	231	1154939m	220.39		
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058D.D
Acq On : 20 Aug 2013 10:28 am
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 21 18:12:38 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 08:09:46 2013
Response via : Initial Calibration

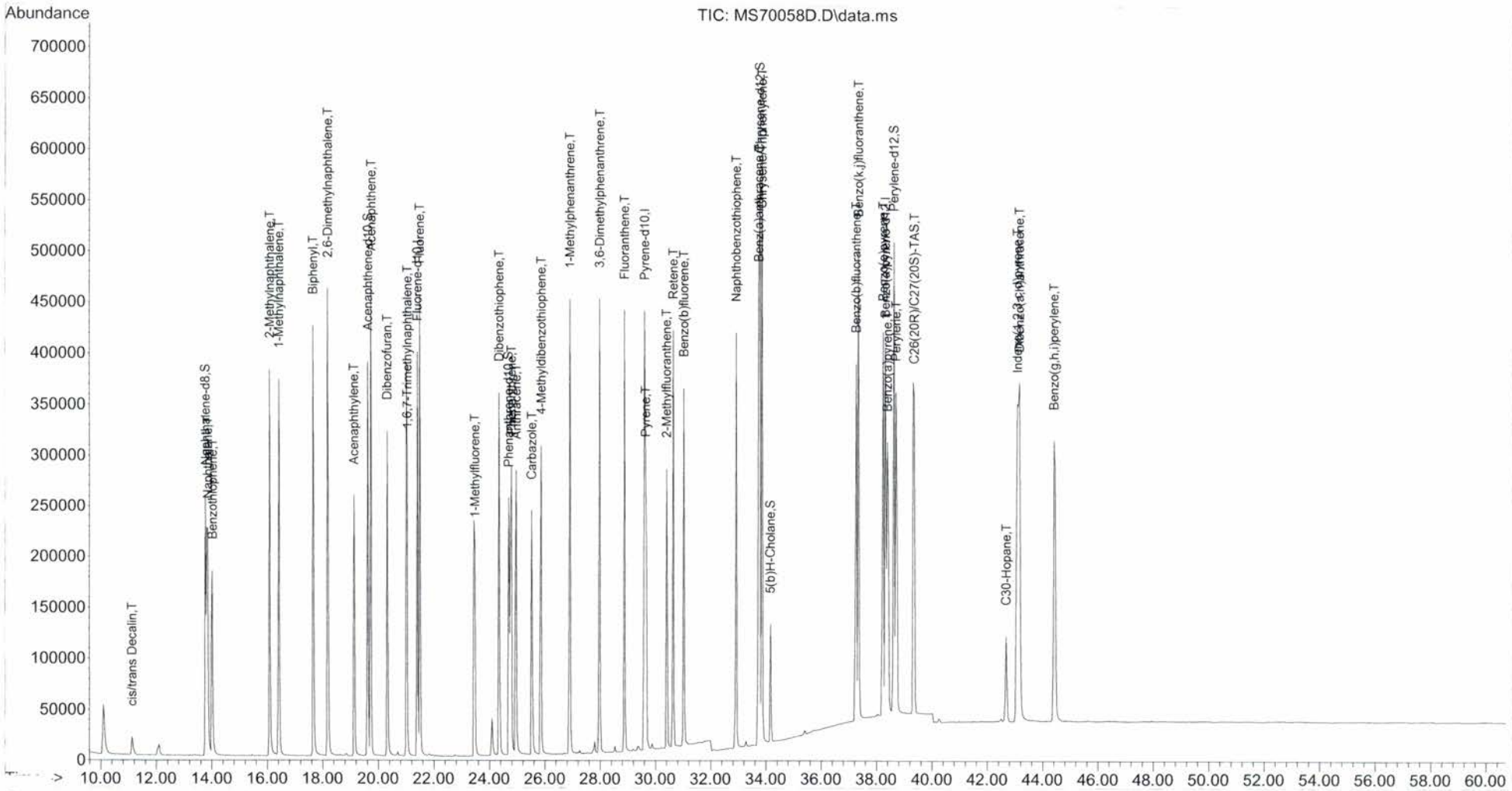
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058D.D
Acq On : 20 Aug 2013 10:28 am
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 21 18:12:38 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 08:09:46 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058E.D
Acq On : 20 Aug 2013 11:37 am
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 21 18:13:44 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 08:15:36 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.399	176	443412m	251.05	0.00
31) Pyrene-d10	29.600	212	826442m	250.63	0.00
73) Benzo(a)pyrene-d12	38.309	264	877800m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.766	136	1422186m	483.61	0.00
21) Acenaphthene-d10	19.616	164	825383m	483.43	0.00
32) Phenanthrene-d10	24.683	188	1492441m	513.50	0.00
66) Chrysene-d12	33.770	240	1947924m	479.25	0.00
88) Perylene-d12	38.619	264	2029180m	472.97	0.00
90) 5(b)H-Cholane	34.158	217	431889m	466.51	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.120	138	241835m	555.03	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.822	128	1550197m	481.51	
9) 2-Methylnaphthalene	16.078	142	1023507m	484.52	
10) 1-Methylnaphthalene	16.413	142	948259m	485.69	
11) 2,6-Dimethylnaphthalene	18.168	156	878495m	471.19	
12) 1,6,7-Trimethylnaphtha...	21.037	170	801335m	475.75	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	14.017	134	1266543m	474.52	
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	17.638	154	1303857m	479.83	
23) Acenaphthylene	19.115	152	1405083m	459.96	
24) Acenaphthene	19.728	154	884940m	478.53	
25) Dibenzofuran	20.313	168	1512856m	489.65	
26) Fluorene	21.483	166	1160911m	489.66	
27) 1-Methylfluorene	23.471	180	613120m	481.16	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.514	167	1551548m	512.59	
34) Dibenzothiophene	24.337	184	1874726m	510.94	
35) 4-Methyldibenzothiophene	25.860	198	1147996m	492.96	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.787	178	1608208m	494.31	
42) Anthracene	24.960	178	1502621m	506.87	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058E.D
Acq On : 20 Aug 2013 11:37 am
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 21 18:13:44 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 08:15:36 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D.	d	
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	26.899	192	1295751m	482.34		
48) 3,6-Dimethylphenanthrene	27.973	206	1327155m	499.65		
49) Retene	30.639	234	544170m	444.62		
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	32.916	234	2022788m	471.56		
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	28.873	202	2153106m	509.43		
59) Pyrene	29.635	202	1967106m	491.17		
60) 2-Methylfluoranthene	30.396	216	1300451m	498.91		
61) Benzo(b)fluorene	31.020	216	1459930m	495.78		
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	33.731	228	1495624m	381.70		
68) Chrysene/Triphenylene	33.847	228	2334634m	505.33		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.672	191	640458m	459.42		
77) Benzo(b)fluoranthene	37.261	252	2198693m	403.40		
78) Benzo(k,j)fluoranthene	37.339	252	2419524m	422.76		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.231	252	2250416m	458.75		
81) Benzo(a)pyrene	38.386	252	2130124m	462.74		
82) Indeno(1,2,3-c,d)pyrene	43.078	276	2625486m	454.38		
83) Dibenzo(a,h)anthracene	43.152	278	2116435m	458.58		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.405	276	2336634m	457.13		
89) Perylene	38.697	252	2184959m	459.61		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.356	231	2383151m	450.70		
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058E.D
Acq On : 20 Aug 2013 11:37 am
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 21 18:13:44 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 08:15:36 2013
Response via : Initial Calibration

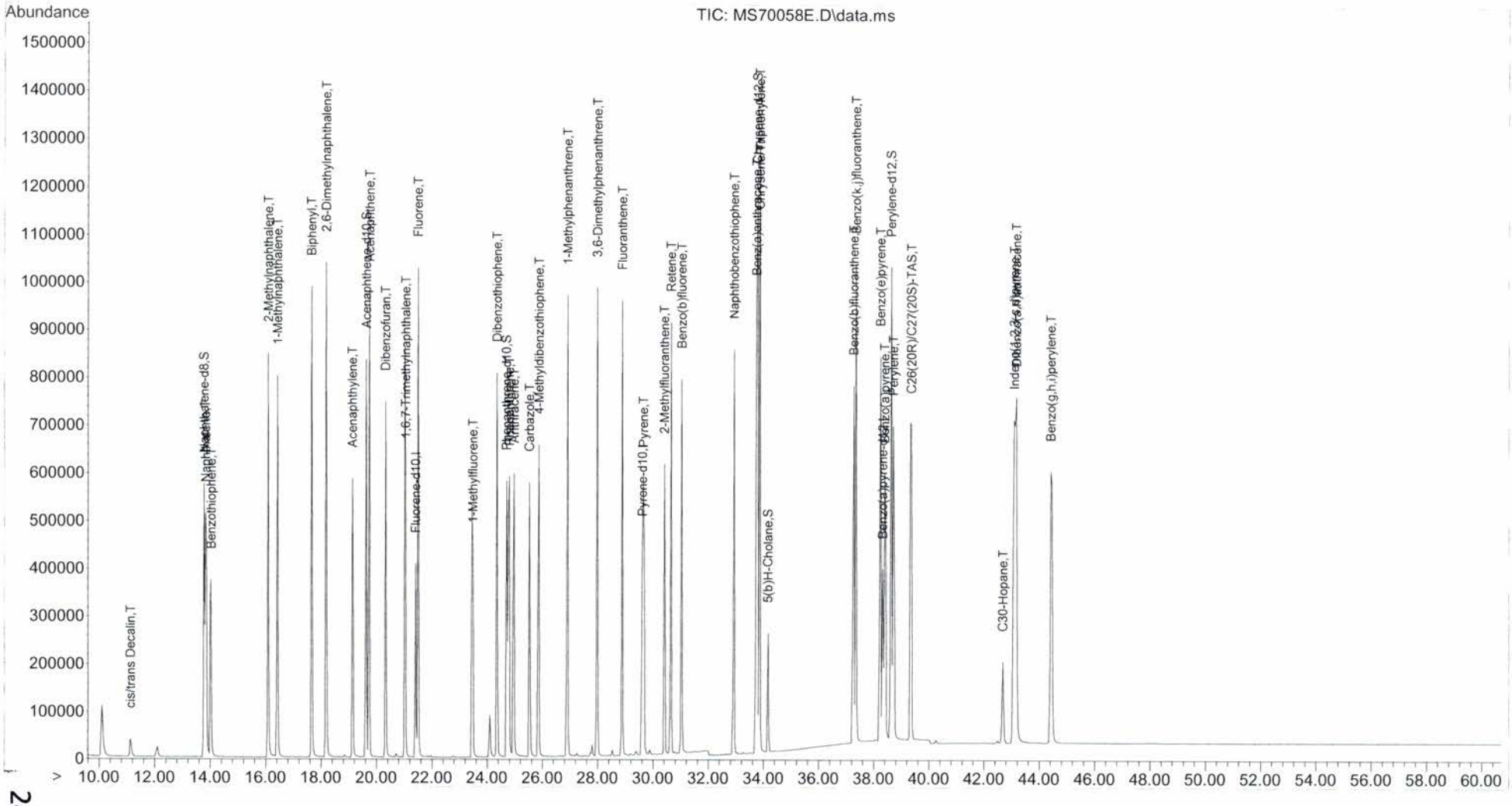
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058E.D
Acq On : 20 Aug 2013 11:37 am
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 21 18:13:44 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 08:15:36 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058F.D
Acq On : 20 Aug 2013 12:46 pm
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 21 18:14:47 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 08:20:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.399	176	454932m	251.05		0.00
31) Pyrene-d10	29.600	212	886279m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	862311m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.766	136	2892489m	957.45		0.00
21) Acenaphthene-d10	19.616	164	1673265m	954.63		0.00
32) Phenanthrene-d10	24.683	188	3079296m	986.18		0.00
66) Chrysene-d12	33.770	240	4181212m	958.82		0.00
88) Perylene-d12	38.619	264	4136387m	983.46		0.00
90) 5(b)H-Cholane	34.158	217	893712m	984.49		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.120	138	490465m	1031.60		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.822	128	3179697m	963.13		
9) 2-Methylnaphthalene	16.079	142	2091791m	965.59		
10) 1-Methylnaphthalene	16.413	142	1916205m	955.28		
11) 2,6-Dimethylnaphthalene	18.168	156	1882620m	991.04		
12) 1,6,7-Trimethylnaphtha...	21.037	170	1654942m	957.90		
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.		
16) Benzothiophene	13.989	134	2617710m	957.42		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.639	154	2699873m	970.79		
23) Acenaphthylene	19.115	152	2874427m	918.11		
24) Acenaphthene	19.728	154	1824973m	961.76		
25) Dibenzofuran	20.313	168	3080485m	971.19		
26) Fluorene	21.483	166	2401650m	986.51		
27) 1-Methylfluorene	23.471	180	1255387m	960.61		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.514	167	3290526m	1015.64		
34) Dibenzothiophene	24.337	184	3868836m	983.25		
35) 4-Methyldibenzothiophene	25.860	198	2347348m	939.52		
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	24.787	178	3264156m	932.84		
42) Anthracene	24.960	178	3069201m	961.88		

Data Path : C:\GCMS7\MS70058\
Data File : MS70058F.D
Acq On : 20 Aug 2013 12:46 pm
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 21 18:14:47 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 08:20:59 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D.	d	
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	26.899	192	2670509m	926.69		
48) 3,6-Dimethylphenanthrene	27.973	206	2798295m	982.00		
49) Retene	30.639	234	1138472m	867.67		
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	32.916	234	4327441m	940.75		
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.873	202	4441966m	979.87		
59) Pyrene	29.635	202	4122107m	959.44		
60) 2-Methylfluoranthene	30.397	216	2723322m	973.71		
61) Benzo(b)fluorene	31.020	216	3081019m	975.89		
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	33.731	228	3364667m	795.06		
68) Chrysene/Triphenylene	33.847	228	4940132m	994.15		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.672	191	1298017m	951.21		
77) Benzo(b)fluoranthene	37.261	252	4631142m	853.99		
78) Benzo(k,j)fluoranthene	37.339	252	5063308m	889.89		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.231	252	4695426m	974.46		
81) Benzo(a)pyrene	38.386	252	4292504m	947.90		
82) Indeno(1,2,3-c,d)pyrene	43.078	276	5481033m	968.45		
83) Dibenzo(a,h)anthracene	43.152	278	4418773m	977.51		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.442	276	4851943m	968.76		
89) Perylene	38.697	252	4463675m	957.89		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.356	231	4874686m	940.58		
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058F.D
Acq On : 20 Aug 2013 12:46 pm
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 21 18:14:47 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 08:20:59 2013
Response via : Initial Calibration

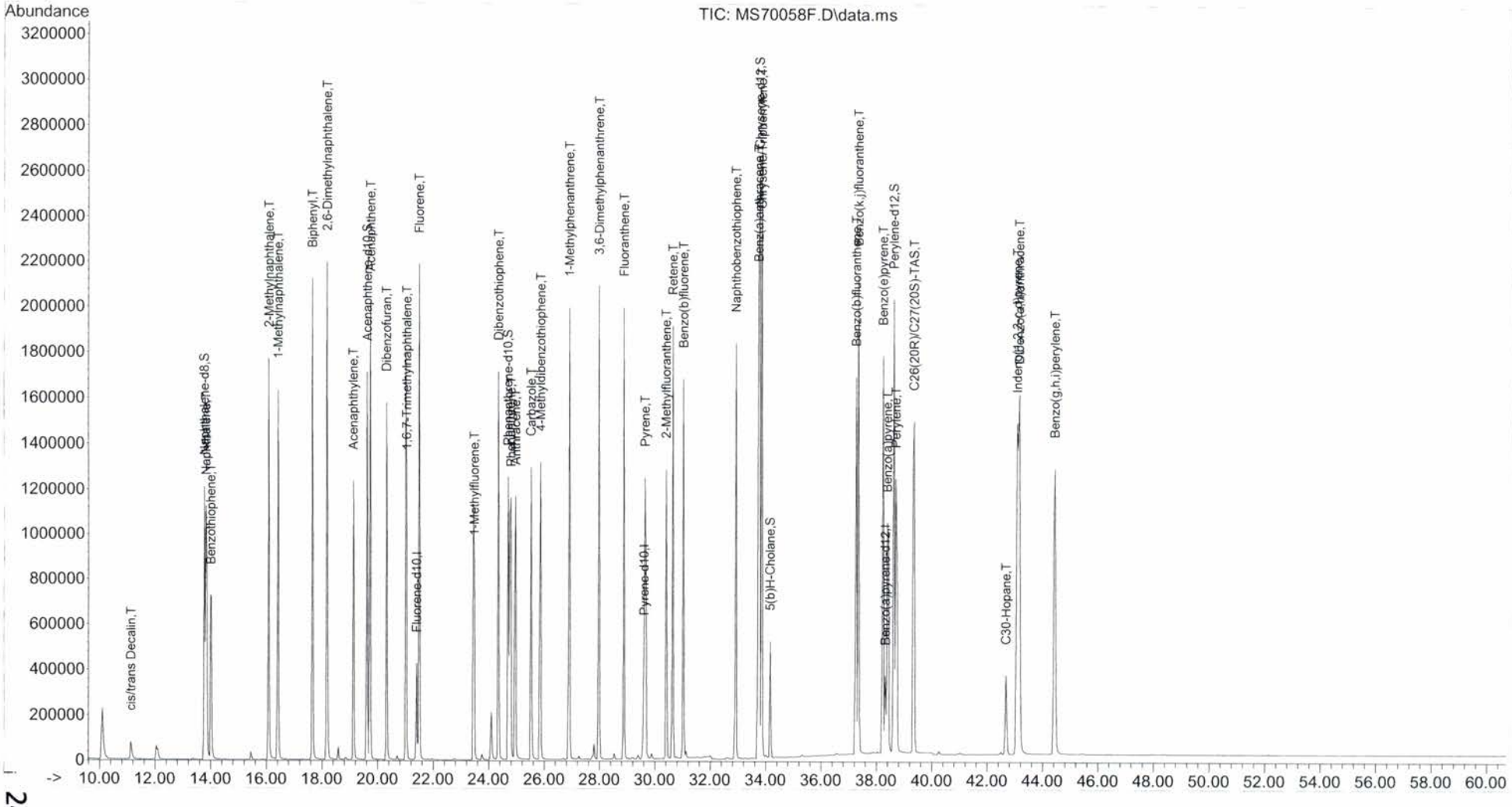
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058F.D
Acq On : 20 Aug 2013 12:46 pm
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 21 18:14:47 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 08:20:59 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058G.D
Acq On : 20 Aug 2013 1:54 pm
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 21 18:15:45 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 08:27:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.399	176	427820m	251.05		0.00
31) Pyrene-d10	29.600	212	823180m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	815579m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.766	136	13849608m	4867.87		0.00
21) Acenaphthene-d10	19.616	164	8171582m	4952.89		0.00
32) Phenanthrene-d10	24.683	188	14301625m	4923.52		0.00
66) Chrysene-d12	33.770	240	20765066m	5123.06		0.00
88) Perylene-d12	38.619	264	19295443m	4859.89		0.00
90) 5(b)H-Cholane	34.158	217	4236272m	4944.78		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.120	138	2286079m	4832.54		
4) C1-Decalins	0.000		0		N.D.	d
5) C2-Decalins	0.000		0		N.D.	d
6) C3-Decalins	0.000		0		N.D.	d
7) C4-Decalins	0.000		0		N.D.	d
8) Naphthalene	13.822	128	15398679m	4957.81		
9) 2-Methylnaphthalene	16.079	142	10145197m	4980.29		
10) 1-Methylnaphthalene	16.413	142	9204335m	4874.28		
11) 2,6-Dimethylnaphthalene	18.168	156	9234401m	5170.55		
12) 1,6,7-Trimethylnaphtha...	21.037	170	8234521m	5066.88		
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	13.989	134	12717360m	4944.34		
17) C1-Benzothiophenes	0.000		0		N.D.	d
18) C2-Benzothiophenes	0.000		0		N.D.	d
19) C3-Benzothiophenes	0.000		0		N.D.	d
20) C4-Benzothiophenes	0.000		0		N.D.	d
22) Biphenyl	17.639	154	13083134m	5003.72		
23) Acenaphthylene	19.115	152	14792152m	5024.63		
24) Acenaphthene	19.728	154	8895816m	4983.31		
25) Dibenzofuran	20.313	168	14863533m	4980.03		
26) Fluorene	21.483	166	11384280m	4968.73		
27) 1-Methylfluorene	23.471	180	6377472m	5189.93		
28) C1-Fluorenes	0.000		0		N.D.	d
29) C2-Fluorenes	0.000		0		N.D.	d
30) C3-Fluorenes	0.000		0		N.D.	d
33) Carbazole	25.514	167	15130163m	5026.55		
34) Dibenzothiophene	24.337	184	17844069m	4882.34		
35) 4-Methyldibenzothiophene	25.860	198	12580711m	5417.58		
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	24.787	178	16474671m	5059.44		
42) Anthracene	24.960	178	15882496m	5342.89		

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058G.D
Acq On : 20 Aug 2013 1:54 pm
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 21 18:15:45 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 08:27:01 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D.	d	
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	26.899	192	14306788m	5343.84		
48) 3,6-Dimethylphenanthrene	27.973	206	13846614m	5227.88		
49) Retene	30.639	234	5234804m	4295.24		
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.		
53) Naphthobenzothiophene	32.916	234	20915744m	4893.87		
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.873	202	19463309m	4620.04		
59) Pyrene	29.669	202	19673492m	4925.93		
60) 2-Methylfluoranthene	30.397	216	12459506m	4792.96		
61) Benzo(b)fluorene	31.020	216	14722013m	5020.03		
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	33.731	228	19003544m	4802.89		
68) Chrysene/Triphenylene	33.848	228	20935992m	4511.80		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.672	191	6529229m	5081.01		
77) Benzo(b)fluoranthene	37.261	252	22798695m	4394.66		
78) Benzo(k,j)fluoranthene	37.339	252	23005309m	4227.55		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.231	252	23002161m	5050.31		
81) Benzo(a)pyrene	38.425	252	24032827m	5608.60		
82) Indeno(1,2,3-c,d)pyrene	43.078	276	27633173m	5175.07		
83) Dibenzo(a,h)anthracene	43.152	278	22496496m	5280.22		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.442	276	23660232m	5010.14		
89) Perylene	38.736	252	24502635m	5569.11		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.356	231	25364062m	5186.36		
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058G.D
Acq On : 20 Aug 2013 1:54 pm
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 21 18:15:45 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 08:27:01 2013
Response via : Initial Calibration

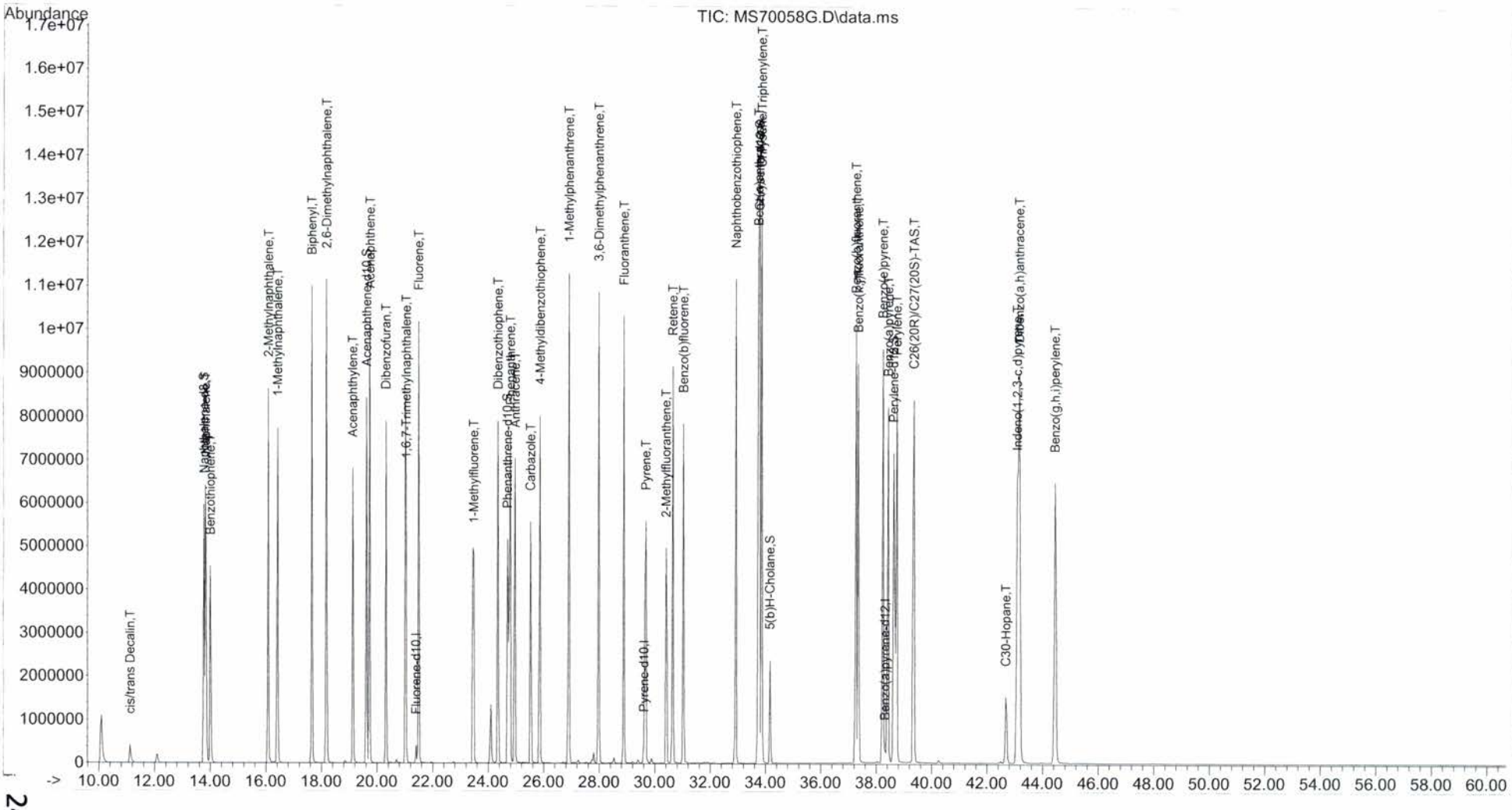
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058G.D
Acq On : 20 Aug 2013 1:54 pm
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 21 18:15:45 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 08:27:01 2013
Response via : Initial Calibration



Data Path : C:\GCMS7\MS70058\
Data File : MS70058I.D
Acq On : 20 Aug 2013 4:11 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 21 19:44:45 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 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	100	0.00
2	S	Naphthalene-d8	1.671	1.567	6.2	101	0.00
3	T	cis/trans Decalin	0.292	0.319	-9.2	111	0.00
4	un	C1-Decalins	0.292	0.000	100.0#	0#	-12.32#
5	un	C2-Decalins	0.292	0.000	100.0#	0#	-13.52#
6	un	C3-Decalins	0.292	0.000	100.0#	0#	-15.88#
7	un	C4-Decalins	0.292	0.000	100.0#	0#	-18.33#
8	T	Naphthalene	1.823	2.087	-14.5	124	0.00
9	T	2-Methylnaphthalene	1.196	1.405	-17.5	127	0.00
10	T	1-Methylnaphthalene	1.109	1.303	-17.5	126	0.00
11	T	2,6-Dimethylnaphthalene	1.048	1.223	-16.7	125	0.00
12	T	1,6,7-Trimethylnaphthalene	0.954	1.106	-15.9	127	0.00
13	un	C2-Naphthalenes	1.823	0.000	100.0#	0#	-18.89#
14	un	C3-Naphthalenes	1.823	0.000	100.0#	0#	-20.37#
15	un	C4-Naphthalenes	1.823	0.000	100.0#	0#	-22.26#
16	T	Benzothiophene	1.510	1.733	-14.8	125	0.03
17	un	C1-Benzothiophenes	1.510	0.000	100.0#	0#	-15.49#
18	un	C2-Benzothiophenes	1.510	0.000	100.0#	0#	-17.92#
19	un	C3-Benzothiophenes	1.510	0.000	100.0#	0#	-20.31#
20	un	C4-Benzothiophenes	1.510	0.000	100.0#	0#	-22.23#
21	S	Acenaphthene-d10	0.969	0.887	8.5	99	0.00
22	T	Biphenyl	1.535	1.757	-14.5	123	0.00
23	T	Acenaphthylene	1.633	1.887	-15.6	129	0.00
24	T	Acenaphthene	1.047	1.167	-11.5	121	0.00
25	T	Dibenzofuran	1.752	2.051	-17.1	126	0.00
26	T	Fluorene	1.345	1.537	-14.3	123	0.00
27	T	1-Methylfluorene	0.721	0.000	100.0#	0#	-23.47#
28	un	C1-Fluorenes	1.345	0.000	100.0#	0#	-23.51#
29	un	C2-Fluorenes	1.345	0.000	100.0#	0#	-24.79#
30	un	C3-Fluorenes	1.345	0.000	100.0#	0#	-27.59#
31	I	Pyrene-d10	1.000	1.000	0.0	101	0.00
32	S	Phenanthrene-d10	0.885	0.856	3.3	103	0.00
33	T	Carbazole	0.917	1.049	-14.4	123	0.00
34	T	Dibenzothiophene	1.122	1.311	-16.8	123	0.00
35	T	4-Methyldibenzothiophene	0.708	0.000	100.0#	0#	-25.86#
36	un	2/3-Methyldibenzothiophene	0.708	0.000	100.0#	0#	-26.21#
37	un	1-Methyldibenzothiophene	0.708	0.000	100.0#	0#	-26.52#
38	un	C2-Dibenzothiophenes	1.122	0.000	100.0#	0#	-27.83#
39	un	C3-Dibenzothiophenes	1.122	0.000	100.0#	0#	-28.49#
40	un	C4-Dibenzothiophenes	1.122	0.000	100.0#	0#	-31.09#
41	T	Phenanthrene	0.993	1.139	-14.7	124	0.00
42	T	Anthracene	0.907	1.003	-10.6	118	0.00
43	un	3-Methylphenanthrene	0.816	0.000	100.0#	0#	-26.93#
44	un	2-Methylphenanthrene	0.816	0.000	100.0#	0#	-26.93#
45	un	2-Methylanthracene	0.816	0.000	100.0#	0#	-26.73#
46	un	4/9-Methylphenanthrene	0.816	0.000	100.0#	0#	-26.93#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70058\
Data File : MS70058I.D
Acq On : 20 Aug 2013 4:11 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 21 19:44:45 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
47	T	1-Methylphenanthrene	0.816	0.892	-9.3	121	0.00
48	T	3,6-Dimethylphenanthrene	0.810	0.000	100.0#	0#	-27.97#
49	T	Retene	0.371	0.000	100.0#	0#	-30.64#
50	un	C2-Phenanthrenes/Anthracene	0.993	0.000	100.0#	0#	-28.56#
51	un	C3-Phenanthrenes/Anthracene	0.993	0.000	100.0#	0#	-29.43#
52	un	C4-Phenanthrenes/Anthracene	0.993	0.000	100.0#	0#	-32.06#
53	T	Naphthobenzothiophene	1.302	0.000	100.0#	0#	-32.92#
54	un	C1-Naphthobenzothiophenes	1.302	0.000	100.0#	0#	-34.55#
55	un	C2-Naphthobenzothiophenes	1.302	0.000	100.0#	0#	-36.02#
56	un	C3-Naphthobenzothiophenes	1.302	0.000	100.0#	0#	-37.42#
57	un	C4-Naphthobenzothiophenes	1.302	0.000	100.0#	0#	-37.92#
58	T	Fluoranthene	1.295	1.469	-13.4	122	0.00
59	T	Pyrene	1.217	1.431	-17.6	127	-0.03
60	T	2-Methylfluoranthene	0.792	0.000	100.0#	0#	-30.40#
61	T	Benzo(b)fluorene	0.893	0.000	100.0#	0#	-31.02#
62	un	C1-Fluoranthenes/Pyrenes	1.295	0.000	100.0#	0#	-30.71#
63	un	C2-Fluoranthenes/Pyrenes	1.295	0.000	100.0#	0#	-32.18#
64	un	C3-Fluoranthenes/Pyrenes	1.295	0.000	100.0#	0#	-34.00#
65	un	C4-Fluoranthenes/Pyrenes	1.295	0.000	100.0#	0#	-35.09#
66	S	Chrysene-d12	1.235	1.112	10.0	100	0.00
67	T	Benz(a)anthracene	1.018	1.098	-7.9	127	0.00
68	T	Chrysene/Triphenylene	1.450	1.654	-14.1	124	0.00
69	un	C1-Chrysenes	1.450	0.000	100.0#	0#	-35.83#
70	un	C2-Chrysenes	1.450	0.000	100.0#	0#	-36.99#
71	un	C3-Chrysenes	1.450	0.000	100.0#	0#	-38.11#
72	un	C4-Chrysenes	1.450	0.000	100.0#	0#	-39.74#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	96	0.00
74	un	C29-Hopane	0.393	0.000	100.0#	0#	-40.28#
75	un	18a-Oleanane	0.393	0.000	100.0#	0#	-42.34#
76	T	C30-Hopane	0.393	0.000	100.0#	0#	-42.67#
77	T	Benzo(b)fluoranthene	1.350	1.565	-15.9	127	0.00
78	T	Benzo(k,j)fluoranthene	1.469	1.648	-12.2	121	0.00
79	un	Benzo(a)fluoranthene	1.469	0.000	100.0#	0#	-37.34#
80	T	Benzo(e)pyrene	1.395	1.554	-11.4	122	0.00
81	T	Benzo(a)pyrene	1.313	1.419	-8.1	117	-0.04
82	T	Indeno(1,2,3-c,d)pyrene	1.633	1.849	-13.2	123	0.00
83	T	Dibenzo(a,h)anthracene	1.302	1.518	-16.6	127	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.302	0.000	100.0#	0#	-48.31#
85	un	C2-Dibenzo(a,h)anthracenes	1.302	0.000	100.0#	0#	-50.30#
86	un	C3-Dibenzo(a,h)anthracenes	1.302	0.000	100.0#	0#	-51.23#
87	T	Benzo(g,h,i)perylene	1.444	1.648	-14.1	123	-0.04
88	S	Perylene-d12	1.215	1.128	7.2	98	0.00
89	T	Perylene	1.347	1.481	-9.9	121	-0.04
90	S	5(b)H-Cholane	0.262	0.232	11.5	96	0.00
91	un	C20-TAS	1.496	0.000	100.0#	0#	-33.30#
92	un	C21-TAS	1.496	0.000	100.0#	0#	-34.24#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70058\
Data File : MS70058I.D
Acq On : 20 Aug 2013 4:11 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 21 19:44:45 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

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

	Compound	AvgRF	CCRF	%Dev Area%	Dev(min)
93 un	C26(20S)-TAS	1.496	0.000	100.0# 0#	-38.70#
94 T	C26(20R)/C27(20S)-TAS	1.496	0.000	100.0# 0#	-39.36#
95 un	C28(20S)-TAS	1.496	0.000	100.0# 0#	-40.24#
96 un	C27(20R)-TAS	1.496	0.000	100.0# 0#	-41.09#
97 un	C28(20R)-TAS	1.496	0.000	100.0# 0#	-41.42#

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058I.D
Acq On : 20 Aug 2013 4:11 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 21 19:44:45 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.399	176	432645m	251.05		0.00
31) Pyrene-d10	29.600	212	820890m	250.63		0.00
73) Benzo(a)pyrene-d12	38.309	264	836417m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.767	136	675423m	234.59		0.00
21) Acenaphthene-d10	19.616	164	382324m	229.03		0.00
32) Phenanthrene-d10	24.683	188	701341m	241.89		0.00
66) Chrysene-d12	33.770	240	910527m	225.08		0.00
88) Perylene-d12	38.619	264	942784m	232.16		0.00
90) 5(b)H-Cholane	34.158	217	193711m	221.12		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.120	138	136097m	270.28		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.822	128	899076m	286.14		
9) 2-Methylnaphthalene	16.079	142	605774m	293.99		
10) 1-Methylnaphthalene	16.413	142	560997m	293.59		
11) 2,6-Dimethylnaphthalene	18.168	156	527039m	291.75		
12) 1,6,7-Trimethylnaphtha...	21.037	170	476600m	289.84		
13) C2-Naphthalenes	0.000		0	N.D.		
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.		
16) Benzothiophene	14.017	134	742311m	285.31		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.639	154	750363m	283.71		
23) Acenaphthylene	19.115	152	806414m	286.47		
24) Acenaphthene	19.728	154	503879m	279.14		
25) Dibenzofuran	20.313	168	879285m	291.28		
26) Fluorene	21.483	166	663417m	286.16		
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	25.514	167	851274m	283.56		
34) Dibenzothiophene	24.337	184	1058594m	288.03		
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	24.787	178	924154m	284.19		
42) Anthracene	24.960	178	823793m	277.42		

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058I.D
Acq On : 20 Aug 2013 4:11 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 21 19:44:45 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 3-Methylphenanthrene	0.000		0	N.D.	d	
44) 2-Methylphenanthrene	0.000		0	N.D.	d	
45) 2-Methylanthracene	0.000		0	N.D.	d	
46) 4/9-Methylphenanthrene	0.000		0	N.D.	d	
47) 1-Methylphenanthrene	26.899	192	722058m	270.28		
48) 3,6-Dimethylphenanthrene	0.000		0	N.D.	d	
49) Retene	0.000		0	N.D.	d	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
53) Naphthobenzothiophene	0.000		0	N.D.	d	
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.873	202	1204071m	283.81		
59) Pyrene	29.635	202	1171625m	293.93		
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	33.731	228	897675m	269.14		
68) Chrysene/Triphenylene	33.848	228	1346634m	283.55		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	0.000		0	N.D.	d	
77) Benzo(b)fluoranthene	37.262	252	1310197m	290.49		
78) Benzo(k,j)fluoranthene	37.339	252	1370735m	279.33		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.231	252	1293164m	277.42		
81) Benzo(a)pyrene	38.387	252	1182765m	269.61		
82) Indeno(1,2,3-c,d)pyrene	43.078	276	1518230m	278.25		
83) Dibenzo(a,h)anthracene	43.152	278	1256399m	288.86		
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	44.405	276	1364035m	282.65		
89) Perylene	38.697	252	1238351m	275.22		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D.	d	
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058I.D
Acq On : 20 Aug 2013 4:11 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 21 19:44:45 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration

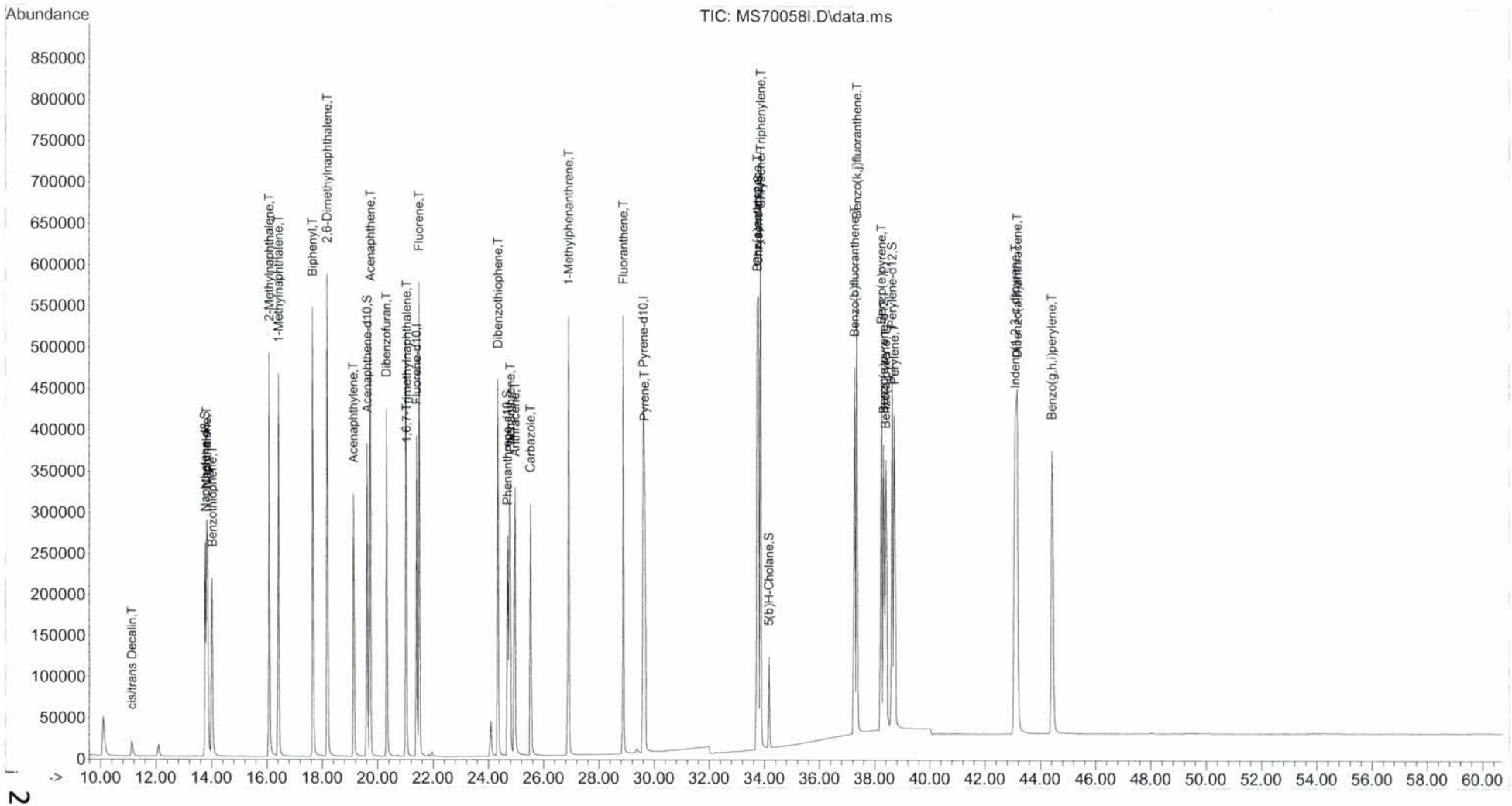
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70058\
Data File : MS70058I.D
Acq On : 20 Aug 2013 4:11 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 21 19:44:45 2013
Quant Method : C:\GCMS7\MS70058\AR70058.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Wed Aug 21 18:15:55 2013
Response via : Initial Calibration



PAH Mass Discrimination Ratio

B&B Laboratories
Project J13034
Report 13-3099

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Mass Discrimination Sheet

Client Project #B0086003.1302

File Name	Sample Name	Benzo(g,h,i)perylene Concentration (ng/mL)	Phenanthrene Concentration (ng/mL)	Benzo(g,h,i)perylene/ Phenanthrene ratio	Q
MS70058B.D	AR-WKC1-020-030	23.3	23.0	1.01	
MS70058C.D	AR-WKC2-100-030	96.9	98.9	0.98	
MS70058D.D	AR-WKC3-250-030	218	233	0.94	
MS70058E.D	AR-WKC4-500-030	457	494	0.92	
MS70058F.D	AR-WKC5-1000-030	969	933	1.04	
MS70058G.D	AR-WKC6-5000-030	5010	5059	0.99	
MS70058I.D	AR-WKICV-250-004	283	284	0.99	
MS70058J.D	AR-WKCC-250-038	238	248	0.96	
MS70058L.D	AR-WKCC-250-038	228	273	0.83	
MS70058M.D	AR-WKCC-250-038	231	288	0.80	

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

PAH Internal Standard Area Data

B&B Laboratories
Project J13034
Report 13-3099

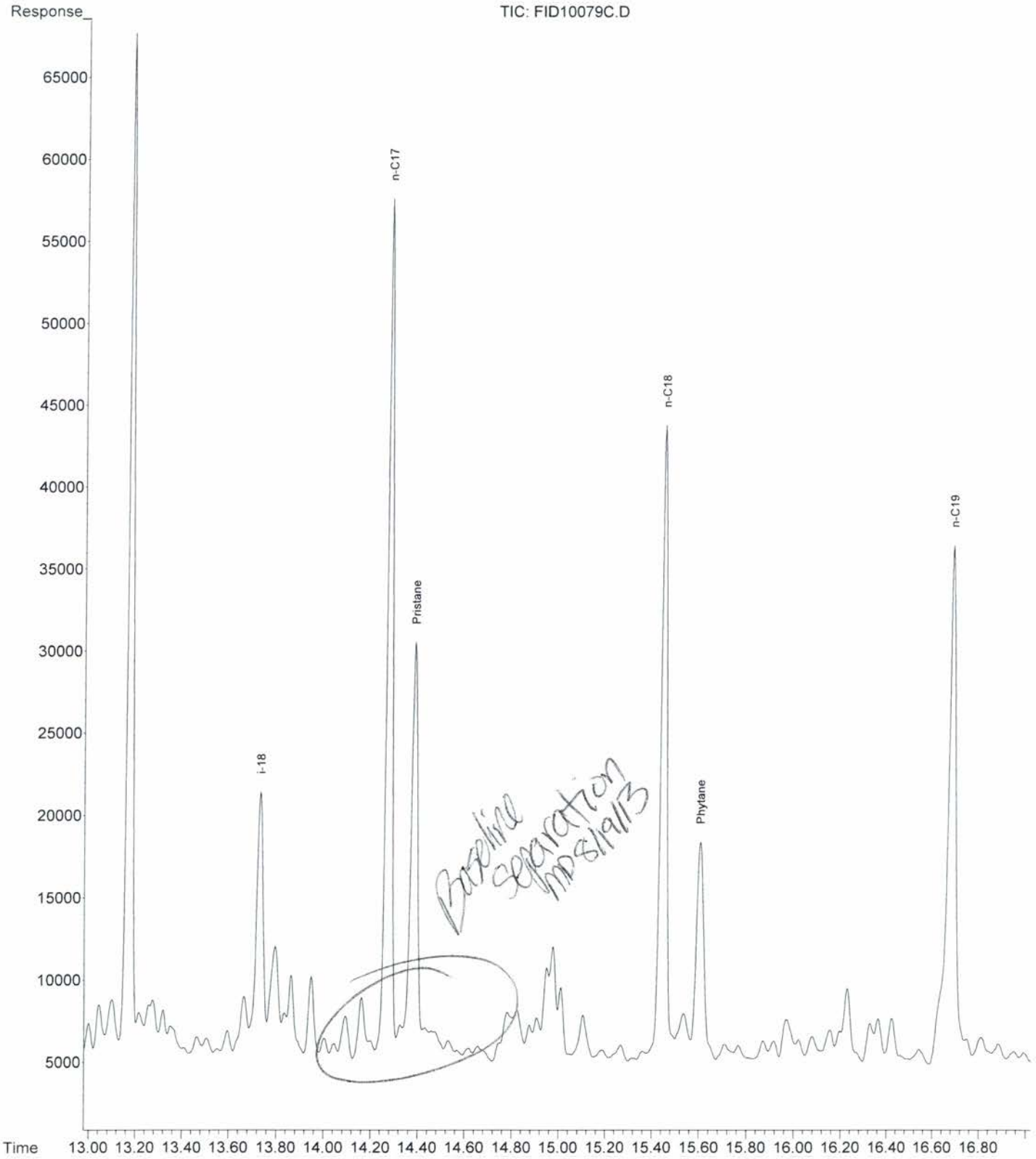
Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
The Area of the Internal Standards in the Associated Calibration Standard

Client Project #B0086003.1302

File Name	Sample Name	Internal Standard 1 Fluorene-d10			Internal Standard 2 Pyrene-d10			Internal Standard 3 Benzo(a)pyrene-d12		
		Response (Area)	50% (Area)	200% (Area)	Response (Area)	50% (Area)	200% (Area)	Response (Area)	50% (Area)	200% (Area)
MS70058D.D	**AR-WKC3-250-030**	**430907**	**215454**	**861814**	**811827**	**405914**	**1623654**	**868995**	**434498**	**1737990**
MS70058I.D	**AR-WKICV-250-004**	**432645**			**820890**			**836417**		
MS70058J.D	**AR-WKCC-250-038**	**363550**	**181775**	**727100**	**668267**	**334134**	**1336534**	**669193**	**334597**	**1338386**
ENV3080B.D	Blank Spike	355483			663797			732371		
ENV3080C.D	Blank Spike Dupl.	366646			685049			761582		
ARC1762.D	SO-DA-EB-02-080713	322818			580218			666439		
ARC1763.D	SO-DA-EB-03-080813	343807			618598			716212		
ARC1765.D	SED-DA-EB-07-080913	339898			610698			691321		
ARC1767.D	SED-DA-DI-Water	366909			671843			763329		
MS70058L.D	**AR-WKCC-250-038**	**380945**	**190473**	**761890**	**680436**	**340218**	**1360872**	**715683**	**357842**	**1431366**
ARC1769.D	SED-DA-EB-08-081013	312084			553018			629328		
ARC1771.D	SO-DA-EB-04-081113	321657			580951			651176		
MS70058M.D	**AR-WKCC-250-038**	**378279**	**189140**	**756558**	**677095**	**338548**	**1354190**	**682402**	**341201**	**1364804**

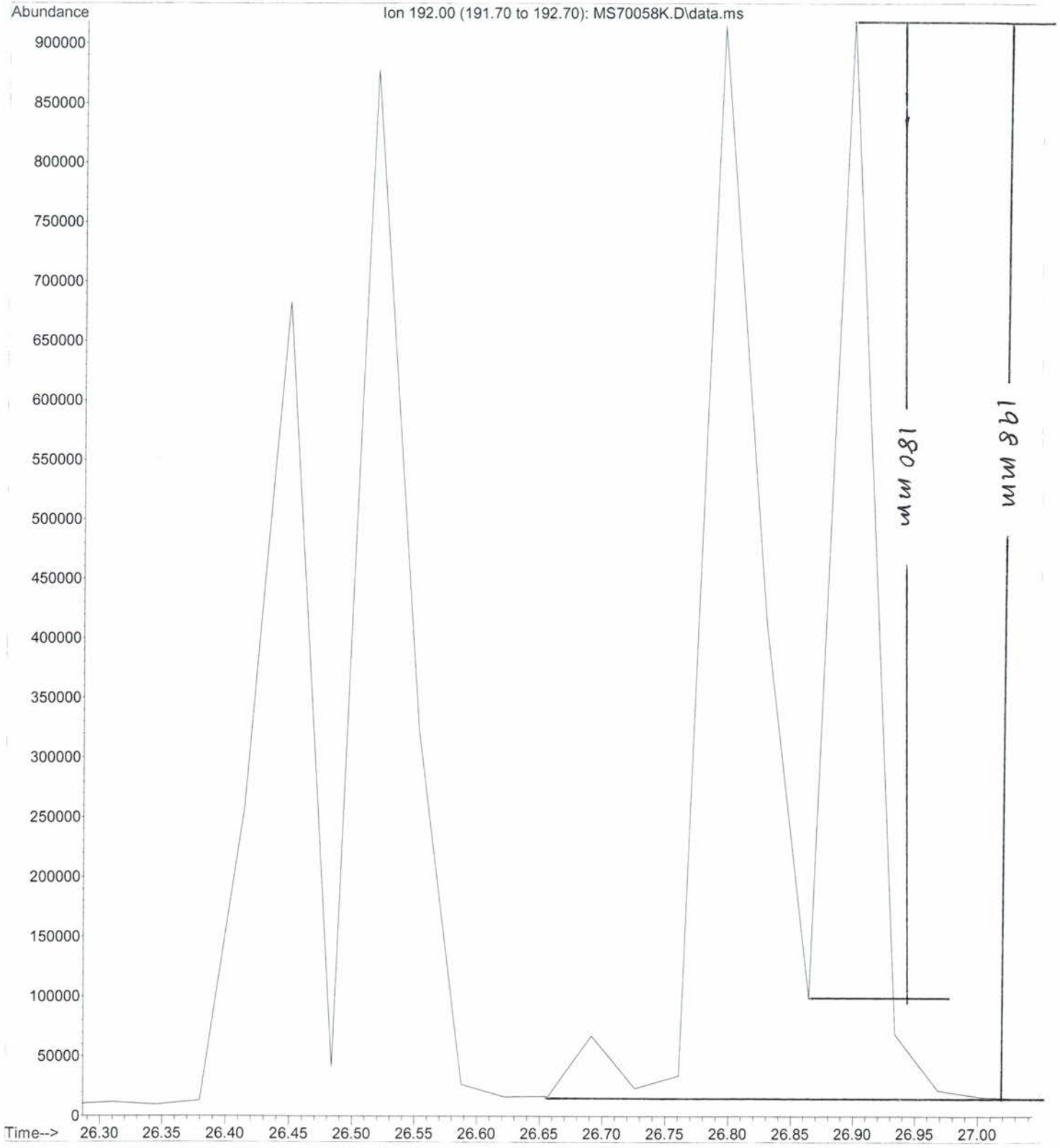
SRM-2779 Reference Oil Aliphatic and PAH Resolution Checks

File :P:\2013\J13034\Aliphatics\ENV 3080\FID10079\FID10079C.D
Operator : Meghan Dailey
Acquired : 15-Aug-2013, 22:38:15 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: AL-SRM2779-20-01
Misc Info :
Vial Number: 53



File :C:\GCMS7\MS70058\MS70058K.D
Operator : YM
Acquired : 20 Aug 2013 6:28 pm using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: AR-SRM2779-WK4.0-002
Misc Info :
Vial Number: 11

91% separation



Supporting Documents

Shipping, Sample Receiving, and Project Initiation Documents

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/09/13 SDG#: 13080901

Sender: Arcadis- Mayflower, AR

1. Number of Shipping Containers: 2 Arcadis: Daniel Mays

Comments: 1 of 2, large blue cooler

2. Airbill Present? (Yes) No Shipping Company: Fed EX

Airbill Number: 8022 2781 5917

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: COC for all coolers in cooler 1

5. General Sample Conditions:
Frozen (Cool) Unrefrigerated
Dry Ice Blue Ice (Ice)

Temperature/Comments: 0.3°C / temp blank 1.1°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:
13 seds
3 waters

9. Resolutions:

N/A

10. Checked in by: amanda Brewster Date: 8/09/13

large blue cooler

Ice type: wet Ice
Cooler Temp: 0.3
Thermometer: 6
Temp blank: 1.1
Custody Seal:

Sdg 13080901
Cooler 1 of 2

eurofins | Lancaster Laboratories

486727
CUSTODY SEAL
2425 New Holland Pike, Lancaster, PA 17601-5994 (717) 656-2300

DATE: 8-8-13
SIGNATURE:

FedEx Express NEW Package US Airbill

FedEx Tracking Number 8022 2781 5917

Form ID No. 0200

1 From
Date
Sender's Name Phone
Company
Address
Dept/Floor/Suite/Room
City State ZIP

2 Your Internal Billing Reference

3 To
Recipient's Name Phone
Company
Address
We cannot deliver to P.O. boxes or P.O. ZIP codes.
Dept/Floor/Suite/Room
Address
Use this line for the HOLD location address or for continuation of your shipping address.
City State ZIP

HOLD Weekday
FedEx location address REQUIRED. NOT available for FedEx First Overnight.
HOLD Saturday
FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

4 Express Package Service * To most locations.
NOTE: Service order has changed. Please select carefully.
Packages up to 150 lbs.
For packages over 150 lbs., use the new FedEx Express Freight US Airbill

Next Business Day
- FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days
- FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.
- FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.
FedEx Envelope* FedEx Pak* FedEx Box FedEx Tube Other

6 Special Handling and Delivery Signature Options
SATURDAY Delivery NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.
No Signature Required — Package may be left without obtaining signature for delivery.
Direct Signature — Someone at recipient's address may sign for delivery. Fee applies.
Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. Fee applies.

Does this shipment contain dangerous goods?
No Yes As per attached Shipper's Declaration. Yes Shipper's Declaration not required. Dry Ice Dry Ice, 9, UN 1845 ____ x ____ kg
Dangerous goods (including dry ice) cannot be shipped in FedEx envelopes or pouches. Cannot be placed in a FedEx Drop Box.
Cargo Aircraft Only

7 Payment Bill to:
Enter FedEx Acct. No. or Credit Card No. below.
Sender Acct. No. in Section 1 will be billed. Recipient Third Party Credit Card Cash/Check
Total Packages Total Weight Credit Card Auth.
lbs.
Our Liability is limited to $100. Please see the current FedEx Service Guide for details.

8022 2781 5917

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B&B Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Home Office 14391B South Dowling Road College Station TX 77845 phone (979) 693-3446 fax (979) 693-6389 http://www.tdi-bi.com

TDI Brooks

Client: ARCADIS

Project ID: Mayflower Pipeline Incident - B008603.1301

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs + 6270 SIM						Other Instructions / Comments
SO-DA-020 (0-0.5)	8/7/13	730	Soil	none	4oz	1	X						44 PAHs List
SO-DA-020 (0.5-1)		735											
SO-DA-020 (1.0-1.5)		740											
SO-DA-022 (0-0.5)		815											
SO-DA-022 (0.5-1.0)		820											
SO-DA-022 (1.0-1.5)		825											
SO-DA-025 (0-0.5)		840											
SO-DA-025 (0.5-1.0)		845											
SO-DA-025 (1.0-1.5)		850											
SO-DA-Dup-04-080713													

Total # of Containers: 10

Other Instructions: Seq 1308 (9C1 cooler 1 of 1)

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jonathan Hamerdell	ARCADIS	8/8/13	1800	Printed Name:			
Signature:				Signature:			
Printed Name:				Printed Name:			
Signature:				Signature:			

Matrix:

T=Tissue S=Soil/Sediment R=Rinseate P=Product G=Gas Ws=Waste HW=Hazardous Waste W=Water

Sample Container: Vol/material

G=Glass P=Plastic C=Core B=Bag

Pg 2/5

CHAIN OF CUSTODY RECORD

B&B Laboratories, Inc.

Home Office 14391B South Dowling Road College Station TX 77845 phone (979) 693-3446 fax (979) 693-6389 http://www.tdi-bi.com

TDI Brooks

Client: ARCADIS

Project ID: Mayflower Pipeline Incident - B005600.2.1301

B&B Contact: Jason Reaiser

Sampler Signature: Daniel Mays

Analyses

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs + BTEX				Cooler #		Other Instructions / Comments
SO-DA-032 (0-0.5)	8/7/13	1000	Soil	none	4oz	1	X				1		Std 130801 Cooler 1 of 1 (2) 4/4 PAHs List
SO-DA-032 (0.5-1.0)	↓	1005	↓	↓	↓	1	X				1		↓
SO-DA-032 (1.0-1.5)	↓	1010	↓	↓	↓	1	X				1		↓
SO-DA-EB-020050813	↓	1110	Water	none	LAG	1 (2 pairs)	X				1		↓
SO-DA-019 (0-0.5)	8/8/13	745	Soil	none	4oz	1	X				2		↓
SO-DA-019 (0-0.5) MS		745			↓	1	X				2		
SO-DA-019 (0-0.5) MSD		745				1	X				2		
SO-DA-019 (0.5-1.0)		750				1	X				2		
SO-DA-019 (1.0-1.5)		755				1	X				2		
SO-DA-019 (1.5-2.0)	↓	800	↓	↓	↓	1	X				2		Extract + Hold

Total # of Containers: 11

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jonathan Flemerfelt	ARCADIS	8/8/13	1600	Printed Name:			
Signature:	↓	↓	↓	Signature:			
Printed Name:				Printed Name:			
Signature:				Signature:			

Matrix:

T=Tissue G=Gas
S=Soil/Sediment Ws=Waste
R=Rinseate HW=Hazardous Waste
P=Product W=Water

Sample Container: Vol/material

G=Glass C=Core
P=Plastic B=Bag

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B&B Laboratories, Inc.

CHAIN OF CUSTODY RECORD

TDI Brooks

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: Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays *[signature]*

Other Instructions: Sdg 1308090I Cooler lot 1 (3) -98 8/09/13 10:30

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs + 8270c	Analyses: Cooler #	Comments
✓ SO-DA-019 (2.0-3.0)	8/8/13	805	Soil	none ✓	4oz	1	X	2	Extract + Hold
✓ SO-DA-019 (3.0-4.0)	↓	810	↓	↓ ✓	↓	↓	↓	2	Extract + Hold
✓ SO-DA-021 (0-0.5)	↓	910	↓	↓ ✓	↓	↓	↓	2	44 PAHs List
✓ SO-DA-021 (0.5-1.0)	↓	915	↓	↓ ✓	↓	↓	↓	2	↓
✓ SO-DA-021 (1.0-1.5)	↓	920	↓	↓ ✓	↓	↓	↓	2	↓
✓ SO-DA-021 (1.5-2.0)	↓	925	↓	↓ ✓	↓	↓	↓	2	Extract + Hold
✓ SO-DA-021 (2.0-3.0)	↓	930	↓	↓ ✓	↓	↓	↓	2	Extract + Hold
✓ SO-DA-021 (3.0-4.0)	↓	935	↓	↓ ✓	↓	↓	↓	2	Extract + Hold
✓ SO-DA-023 (0-0.5)	↓	1000	↓	↓ ✓	↓	↓	↓	2	44 PAHs List
✓ SO-DA-023 (0.5-1.0)	↓	1005	↓	↓ ✓	↓	↓	↓	2	44 PAHs List

Total # of Containers: 10

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jonathan Flemerfelt	ARCADIS	8/8/13	1600	Printed Name: Amanda Brewster	B&B Labs	8/09/13	[illegible]
Signature: *[signature]*	↓	↓		Signature: *[signature]*			
Printed Name:				Printed Name:			
Signature:				Signature:			

Matrix:
T=Tissue, S=Soil/Sediment, R=Rinseate, P=Product, G=Gas, Ws=Waste, HW=Hazardous Waste, W=Water

Sample Container: Vol/material
G=Glass, P=Plastic, C=Core, B=Bag

B&B Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Home Office 14391B South Dowling Road College Station TX 77845 phone (979) 693-3446 fax (979) 693-6389 http://www.tdi-bi.com

TDI Brooks

Client: ARCADIS

Project ID: Mayflower Pipeline Incident B0086003.1301

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs + SVOC SIM				Cooler #		Other Instructions / Comments
SO-DA-023 (1.0-1.5)	8/8/13	1010	Soil	none	4/oz	1	X				2		44 PAHs List
SO-DA-023 (1.5-2.0)		1015									2		Extract + Hold
SO-DA-023 (2.0-3.0)		1020									2		Extract + Hold
SO-DA-023 (3.0-4.0)		1025									2		Extract + Hold
SO-DA-024 (0-0.5)		1050									2		44 PAHs List
SO-DA-024 (0.5-1.0)		1055									2		
SO-DA-024 (1.0-1.5)		1100									2		
SO-DA-027 (0-0.5)		1130									2		
SO-DA-027 (0.5-1.0)		1135									2		
SO-DA-027 (1.0-1.5)		1146									2		

Total # of Containers: 10

Other Instructions: Sdg 13C80901 Cooler 1 of 1 (4) QR 8/09/13 10:30

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jonathan Flowers-GHA	ARCADIS	8/8/13	1600	Printed Name:			
Signature:				Signature:			
Printed Name:				Printed Name:			
Signature:				Signature:			

Matrix:

T=Tissue G=Gas
S=Soil/Sediment Ws=Waste
R=Rinseate HW=Hazardous Waste
P=Product W=Water

Sample Container: Vol/material

G=Glass C=Core
P=Plastic B=Bag

CHAIN OF CUSTODY RECORD

B&B Laboratories, Inc.
Home Office 14391B South Dowling Road College Station TX 77845 phone (979) 693-3446 fax (979) 693-6389 http://www.tdi-bi.com
TDI Brooks

Client: ARCADIS

Project ID: Mayflower Pipeline Inc. dmt - B0086003.1301

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs 8270 s.i.m	Analyses: Cooler #	Other Instructions	Comments
SO-OA-Dup-05-080513	8/8/13		S, I	none	4/oz	1		2	Sdg 13080901 Cooler 1 of 1 (5)	44 PAH List
SO-OA-EB-03-080813	↓	1400	Water	none	LAG	2		1,1		↓
					Total # of Containers					

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jonathan Flonefelt	ARCADIS	8/8/13	1600	Printed Name: Amanda Brewster	B&B Labs	8/09/13	11:00
Signature:	↓	↓	↓	Signature: Amanda Brewster			
Printed Name:				Printed Name:			
Signature:				Signature:			

Matrix:
T=Tissue G=Gas
S=Soil/Sediment Ws=Waste
R=Rinsate HW=Hazardous Waste
P=Product W=Water

Sample Container: Vol/material
G=Glass C=Core
P=Plastic B=Bag

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64407	J13034	Arcadis - Mayflower AR	ARC1722	SO-DA-020 (0-0.5)	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64408	J13034	Arcadis - Mayflower AR	ARC1723	SO-DA-020 (0.5-1.0)	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64409	J13034	Arcadis - Mayflower AR	ARC1724	SO-DA-020 (1.0-1.5)	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64410	J13034	Arcadis - Mayflower AR	ARC1725	SO-DA-022 (0-0.5)	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64411	J13034	Arcadis - Mayflower AR	ARC1726	SO-DA-022 (0.5-1.0)	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64412	J13034	Arcadis - Mayflower AR	ARC1727	SO-DA-022 (1.0-1.5)	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64413	J13034	Arcadis - Mayflower AR	ARC1728	SO-DA-025 (0-0.5)	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64414	J13034	Arcadis - Mayflower AR	ARC1729	SO-DA-025 (0.5-1.0)	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64415	J13034	Arcadis - Mayflower AR	ARC1730	SO-DA-025 (1.0-1.5)	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64416	J13034	Arcadis - Mayflower AR	ARC1731	SO-DA-DUP-04-080713	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64417	J13034	Arcadis - Mayflower AR	ARC1732	SO-DA-032 (0-0.5)	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64418	J13034	Arcadis - Mayflower AR	ARC1733	SO-DA-032 (0.5-1.0)	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64419	J13034	Arcadis - Mayflower AR	ARC1734	SO-DA-032 (1.0-1.5)	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64420	J13034	Arcadis - Mayflower AR	ARC1735	SO-DA-019 (0-0.5)	08/08/13	08/09/13	extract & HOLD	SOIL		13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64421	J13034	Arcadis - Mayflower AR	ARC1736	SO-DA-019 (0-0.5) MS	08/08/13	08/09/13	extract & HOLD	SOIL	MS	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64422	J13034	Arcadis - Mayflower AR	ARC1737	SO-DA-019 (0-0.5) MSD	08/08/13	08/09/13	extract & HOLD	SOIL	MSD	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64423	J13034	Arcadis - Mayflower AR	ARC1738	SO-DA-019 (0.5-1.0)	08/08/13	08/09/13	extract & HOLD	SOIL		13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64424	J13034	Arcadis - Mayflower AR	ARC1739	SO-DA-019 (1.0-1.5)	08/08/13	08/09/13	extract & HOLD	SOIL		13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64425	J13034	Arcadis - Mayflower AR	ARC1740	SO-DA-019 (1.5-2.0)	08/08/13	08/09/13	extract & HOLD	SOIL		13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64426	J13034	Arcadis - Mayflower AR	ARC1741	SO-DA-019 (2.0-3.0)	08/08/13	08/09/13	extract & HOLD	SOIL		13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64427	J13034	Arcadis - Mayflower AR	ARC1742	SO-DA-019 (3.0-4.0)	08/08/13	08/09/13	extract & HOLD	SOIL		13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64428	J13034	Arcadis - Mayflower AR	ARC1743	SO-DA-021 (0-0.5)	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64429	J13034	Arcadis - Mayflower AR	ARC1744	SO-DA-021 (0.5-1.0)	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64430	J13034	Arcadis - Mayflower AR	ARC1745	SO-DA-021 (1.0-1.5)	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64431	J13034	Arcadis - Mayflower AR	ARC1746	SO-DA-021 (1.5-2.0)	08/08/13	08/09/13	extract & HOLD	SOIL		13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64432	J13034	Arcadis - Mayflower AR	ARC1747	SO-DA-021 (2.0-3.0)	08/08/13	08/09/13	extract & HOLD	SOIL		13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64433	J13034	Arcadis - Mayflower AR	ARC1748	SO-DA-021 (3.0-4.0)	08/08/13	08/09/13	extract & HOLD	SOIL		13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64434	J13034	Arcadis - Mayflower AR	ARC1749	SO-DA-023 (0-0.5)	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64435	J13034	Arcadis - Mayflower AR	ARC1750	SO-DA-023 (0.5-1.0)	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64436	J13034	Arcadis - Mayflower AR	ARC1751	SO-DA-023 (1.0-1.5)	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64437	J13034	Arcadis - Mayflower AR	ARC1752	SO-DA-023 (1.5-2.0)	08/08/13	08/09/13	extract & HOLD	SOIL		13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64438	J13034	Arcadis - Mayflower AR	ARC1753	SO-DA-023 (2.0-3.0)	08/08/13	08/09/13	extract & HOLD	SOIL		13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64439	J13034	Arcadis - Mayflower AR	ARC1754	SO-DA-023 (3.0-4.0)	08/08/13	08/09/13	extract & HOLD	SOIL		13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64440	J13034	Arcadis - Mayflower AR	ARC1755	SO-DA-024 (0-0.5)	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64441	J13034	Arcadis - Mayflower AR	ARC1756	SO-DA-024 (0.5-1.0)	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64442	J13034	Arcadis - Mayflower AR	ARC1757	SO-DA-024 (1.0-1.5)	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64443	J13034	Arcadis - Mayflower AR	ARC1758	SO-DA-027 (0-0.5)	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64444	J13034	Arcadis - Mayflower AR	ARC1759	SO-DA-027 (0.5-1.0)	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64445	J13034	Arcadis - Mayflower AR	ARC1760	SO-DA-027 (1.0-1.5)	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64446	J13034	Arcadis - Mayflower AR	ARC1761	SO-DA-DUP-05-080813	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64447	J13034	Arcadis - Mayflower AR	ARC1762	SO-DA-EB-02-080713	08/07/13	08/09/13	PAH	WATER	44 analytes, 1 of 1	13080901	Cooler 1	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302
64448	J13034	Arcadis - Mayflower AR	ARC1763	SO-DA-EB-03-080813	08/08/13	08/09/13	PAH	WATER	44 analytes, 1 of 2	13080901	Cooler 1	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302
64449	J13034	Arcadis - Mayflower AR	ARC1764	SO-DA-EB-03-080813	08/08/13	08/09/13	PAH	WATER	44 analytes, 2 of 2	13080901	Cooler 1	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13080901
Client: Arcadis-Mayflower AR
Initiation Date: 8/09/13

Number of Samples: 2
Matrix: Waters
Due Date: 45 days: 9/22/13
Comments: collected 8/07-8/08
extract by 8/13-8/14
received 8/09/13

Analyses

☑	PAHs	☐	OCs/PCBs	☑	Aliphatics/TPH	☑	EOM
☐	Dry Wt.	☐	%Lipid	☐	TOC/TIC	☐	
☑	Short Columns	☐	Long Columns	☐		☐	

Requested QA/QC (per batch of _____ Client Samples)

☑ Blank	☐ SRM/LCS _____	☑ Blank Spike	
☑ Blank Spike Duplicate		☐ Matrix Spike _____	
☐ Matrix Spike Duplicate _____		☐ Duplicate _____	

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, ALI Volume(s): 100 µl
Spike Standard(s): PAH, ALI Volume(s): 100 µl
Internal Standard(s): PAH, ALI Volume(s): 100 µl
Final Extract Volume (ml): 1.0 Final Solvent: DCM

Comments:

Sample Custodian Signature: Amanda Brewster Date: 8/09/13
Laboratory Manager Signature: _____ Date: 8/9/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64447	J13034	Arcadis - Mayflower AR	ARC1762	SO-DA-EB-02-080713	08/07/13	08/09/13	PAH	WATER	44 analytes, 1 of 1	13080901	Cooler 1	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302
64448	J13034	Arcadis - Mayflower AR	ARC1763	SO-DA-EB-03-080813	08/08/13	08/09/13	PAH	WATER	44 analytes, 1 of 2	13080901	Cooler 1	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13080901
Client: Arcadis- Mayflower AR
Initiation Date: 8/09/13

Number of Samples: 14
Matrix: Soil
Due Date: 45 days: 9/22/13
Comments: extract & hold

Analyses

☑	PAHs	☐	OCs/PCBs	☑	Aliphatics/TPH	☐	EOM
☑	Dry Wt.	☐	%Lipid	☐	TOC/TIC	☐	
☑	Short Columns	☐	Long Columns	☐		☐	

Requested QA/QC (per batch of _____ Client Samples)

☑	Blank	☑ SRM/LCS 1941b	☐ Blank Spike
☐	Blank Spike Duplicate	☑	Matrix Spike
☑	Matrix Spike Duplicate	☐	Duplicate

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, AC — Volume(s): 1.5 mL

Spike Standard(s): PAH, AC — Volume(s): 1 mL

Internal Standard(s): PAH, AC — Volume(s): 100 µL

Final Extract Volume (ml): 1.0 — Final Solvent: DCM

Comments:

Sample Custodian Signature: Amanda Brunkhorst — Date: 8/09/13

Laboratory Manager Signature: [signature] — Date: 8/9/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64420	J13034	Arcadis - Mayflower AR	ARC1735	SO-DA-019 (0-0.5)	08/08/13	08/09/13	extract & HOLD	SOIL		13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64421	J13034	Arcadis - Mayflower AR	ARC1736	SO-DA-019 (0-0.5) MS	08/08/13	08/09/13	extract & HOLD	SOIL	MS	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64422	J13034	Arcadis - Mayflower AR	ARC1737	SO-DA-019 (0-0.5) MSD	08/08/13	08/09/13	extract & HOLD	SOIL	MSD	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64423	J13034	Arcadis - Mayflower AR	ARC1738	SO-DA-019 (0.5-1.0)	08/08/13	08/09/13	extract & HOLD	SOIL		13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64424	J13034	Arcadis - Mayflower AR	ARC1739	SO-DA-019 (1.0-1.5)	08/08/13	08/09/13	extract & HOLD	SOIL		13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64425	J13034	Arcadis - Mayflower AR	ARC1740	SO-DA-019 (1.5-2.0)	08/08/13	08/09/13	extract & HOLD	SOIL		13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64426	J13034	Arcadis - Mayflower AR	ARC1741	SO-DA-019 (2.0-3.0)	08/08/13	08/09/13	extract & HOLD	SOIL		13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64427	J13034	Arcadis - Mayflower AR	ARC1742	SO-DA-019 (3.0-4.0)	08/08/13	08/09/13	extract & HOLD	SOIL		13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64431	J13034	Arcadis - Mayflower AR	ARC1746	SO-DA-021 (1.5-2.0)	08/08/13	08/09/13	extract & HOLD	SOIL		13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64432	J13034	Arcadis - Mayflower AR	ARC1747	SO-DA-021 (2.0-3.0)	08/08/13	08/09/13	extract & HOLD	SOIL		13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64433	J13034	Arcadis - Mayflower AR	ARC1748	SO-DA-021 (3.0-4.0)	08/08/13	08/09/13	extract & HOLD	SOIL		13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64437	J13034	Arcadis - Mayflower AR	ARC1752	SO-DA-023 (1.5-2.0)	08/08/13	08/09/13	extract & HOLD	SOIL		13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64438	J13034	Arcadis - Mayflower AR	ARC1753	SO-DA-023 (2.0-3.0)	08/08/13	08/09/13	extract & HOLD	SOIL		13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64439	J13034	Arcadis - Mayflower AR	ARC1754	SO-DA-023 (3.0-4.0)	08/08/13	08/09/13	extract & HOLD	SOIL		13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302

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B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13080901
Client: Arcadis - Mayflower AR
Initiation Date: 8/09/13

Number of Samples: 26
Matrix: Soil
Due Date: 45 days: 9/22/13
Comments: PAH: 44 analytes
received 8/09/13

Analyses

☑	PAHs	☐	OCs/PCBs	☐	Aliphatics/TPH	☐	EOM
☐	Dry Wt.	☐	%Lipid	☐	TOC/TIC	☐	
☐	Short Columns	☐	Long Columns	☐		☐	

Requested QA/QC (per batch of _____ Client Samples)

☐	Blank	☐ SRM/LCS 1941b	☐ Blank Spike
☐	Blank Spike Duplicate	☐	Matrix Spike _____
☐	Matrix Spike Duplicate _____	☐	Duplicate _____

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, ACI Volume(s): 100ul

Spike Standard(s): PAH, ACI Volume(s): 100ul

Internal Standard(s): PAH, ACI Volume(s): 100ul

Final Extract Volume (ml): 1.0 Final Solvent: DCM

Comments:

Sample Custodian Signature: Amanda Brewster Date: 8/09/13

Laboratory Manager Signature: _____ Date: 8/9/13

Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
J13034	Arcadis - Mayflower AR	ARC1722	SO-DA-020 (0-0.5)	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
J13034	Arcadis - Mayflower AR	ARC1723	SO-DA-020 (0.5-1.0)	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
J13034	Arcadis - Mayflower AR	ARC1724	SO-DA-020 (1.0-1.5)	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
J13034	Arcadis - Mayflower AR	ARC1725	SO-DA-022 (0-0.5)	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
J13034	Arcadis - Mayflower AR	ARC1726	SO-DA-022 (0.5-1.0)	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
J13034	Arcadis - Mayflower AR	ARC1727	SO-DA-022 (1.0-1.5)	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
J13034	Arcadis - Mayflower AR	ARC1728	SO-DA-025 (0-0.5)	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
J13034	Arcadis - Mayflower AR	ARC1729	SO-DA-025 (0.5-1.0)	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
J13034	Arcadis - Mayflower AR	ARC1730	SO-DA-025 (1.0-1.5)	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
J13034	Arcadis - Mayflower AR	ARC1731	SO-DA-DUP-04-080713	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
J13034	Arcadis - Mayflower AR	ARC1732	SO-DA-032 (0-0.5)	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
J13034	Arcadis - Mayflower AR	ARC1733	SO-DA-032 (0.5-1.0)	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
J13034	Arcadis - Mayflower AR	ARC1734	SO-DA-032 (1.0-1.5)	08/07/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
J13034	Arcadis - Mayflower AR	ARC1743	SO-DA-021 (0-0.5)	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
J13034	Arcadis - Mayflower AR	ARC1744	SO-DA-021 (0.5-1.0)	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
J13034	Arcadis - Mayflower AR	ARC1745	SO-DA-021 (1.0-1.5)	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
J13034	Arcadis - Mayflower AR	ARC1749	SO-DA-023 (0-0.5)	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
J13034	Arcadis - Mayflower AR	ARC1750	SO-DA-023 (0.5-1.0)	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
J13034	Arcadis - Mayflower AR	ARC1751	SO-DA-023 (1.0-1.5)	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
J13034	Arcadis - Mayflower AR	ARC1755	SO-DA-024 (0-0.5)	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
J13034	Arcadis - Mayflower AR	ARC1756	SO-DA-024 (0.5-1.0)	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
J13034	Arcadis - Mayflower AR	ARC1757	SO-DA-024 (1.0-1.5)	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
J13034	Arcadis - Mayflower AR	ARC1758	SO-DA-027 (0-0.5)	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
J13034	Arcadis - Mayflower AR	ARC1759	SO-DA-027 (0.5-1.0)	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
J13034	Arcadis - Mayflower AR	ARC1760	SO-DA-027 (1.0-1.5)	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
J13034	Arcadis - Mayflower AR	ARC1761	SO-DA-DUP-05-080813	08/08/13	08/09/13	PAH	SOIL	44 analytes	13080901	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302

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amanda brewster

From: amanda brewster <amandabrewster@tdi-bi.com>
Sent: Friday, August 09, 2013 11:20 AM
To: 'Mays, Daniel'; Parmelee, Rhiannon (Rhiannon.Parmelee@arcadis-us.com); 'Jennifer.Chandler@arcadis-us.com'; 'Dennis.Capria@arcadis-us.com'; Mott, Lyndi (Lyndi.Mott@arcadis-us.com)
Cc: Juan Ramirez (juanramirez@tdi-bi.com); Donell Frank; 'tommcdonald@tdi-bi.com' (tommcdonald@tdi-bi.com)
Subject: Samples Received 8/09/13
Attachments: COC 8-09-13.pdf

Hi Daniel,

We received your samples this morning in good condition.
The internal temperature of Cooler 1 was 0.3ºC and the temperature blank was 1.1ºC
The internal temperature of Cooler 2 was 2.2ºC and the temperature blank was 4.0ºC

A PDF of the COC is attached for your records.

Regards,
Amanda

From: Mays, Daniel [mailto:Daniel.Mays@arcadis-us.com]
Sent: Thursday, August 08, 2013 5:44 PM
To: amanda brewster
Subject: Tracking number for coolers shipped 8-8-2013

Good Evening Amanda,

We shipped two coolers to B+B Labs today tracking # 8022 2781 5891.

Regards,

Danny Mays | Environmental Specialist, E.I. | daniel.mays@arcadis-us.com
ARCADIS U.S., Inc. | 801 Corporate Center Drive, Suite 300 | Raleigh, North Carolina 27607
T: 919-415-2281 | M: 919-812-1417 | F: 919-854-5448
Professional Affiliate/ARCADIS G&M of North Carolina, Inc.

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/13/13 SDG#: 13081301

Sender: Arcadis- mayflower, AR

1. Number of Shipping Containers: 4 Arcadis: Daniel Mays

Comments: 1 of 4, large blue cooler

2. Airbill Present? (Yes) No Shipping Company: Fed Ex

Airbill Number: 7958 1083 5888 Comments: PON

3. Custody Seals on Container?
No (Yes) (Intact) Not Intact Comments: on top of duct tape

4. Chain of Custody Records?
(No) Yes Comments: in cooler 3

5. General Sample Conditions:
Frozen (Cool) Unrefrigerated
Dry Ice Blue Ice (Ice)

Temperature/Comments: 5.1°C / temp blank 1.2°C (T6

6. List of Broken Containers:

None

7. Number of Samples Expected: 4 coolers Number of Samples Received: _____

8. Problems/Discrepancies:

None

Cooler 1:
11 soils
2 waters

9. Resolutions:

N/A

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

large blue cooler

Sdg 13081301
Cooler 1 of 4

Ice type: wet Ice
Cooler temp: 5.1
Temp blank: 1.2
Thermometer: 6
Custody seal:

ORIGIN ID:MPJA (979) 693-3446
B & B LABORATORIES
14391 S DOWLING RD STE B
COLLEGE STATION, TX 778453473
UNITED STATES US

SHIP DATE: 12AUG13
ACTWGT: 56.7 LB
CAD: /POS1400
DIMS: 24x13x13 IN
BILL SENDER

TO **B & B LABORATORIES**
B & B LABS
14391B S DOWLING RD

COLLEGE STATION TX 77845
(979) 693-3446 REF:
INV:
PO: DEPT:

FedEx Express

2 of 4
MPS# 7958 1083 5888
Trk# 8022 2781 5939
0200

TUE - 13 AUG 10:30A
PRIORITY OVERNIGHT

XH CLLA

77845
TX-US IAH

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/13/13 SDG#: 13081301

Sender: Arcadis- Mayflower AR

1. Number of Shipping Containers: 4 Arcadis: Daniel Mays

Comments: 2 of 4, large blue cooler

2. Airbill Present? (Yes) No Shipping Company: Fed Ex

Airbill Number: 7958 1083 5899 Comments: PoN

3. Custody Seals on Container?
No (Yes) (Intact) Not Intact Comments: on top of duct tape

4. Chain of Custody Records?
(No) Yes Comments: in cooler 3

5. General Sample Conditions:
Frozen (Cool) Unrefrigerated
Dry Ice Blue Ice (Ice) Temperature/Comments: 1.5°c / temp blank 2.3°c / T6

6. List of Broken Containers:

None

7. Number of Samples Expected: 4 coolers Number of Samples Received: _____

8. Problems/Discrepancies:

None

Cooler 2:
11 seds
4 waters

9. Resolutions:

N/A

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

large blue cooler

Ice type: wet ice
Cooler temp: 1.5
Temp blank: 2.3
Thermometer: 6
Custody seal:

SDG 1308130
Cooler 2 of 4

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491094
CUSTODY SEAL
2425 New Holland Pike, Lancaster, PA 17601-5994 (717) 656-2300

DATE: 8-12-13
SIGNATURE:

ID:MPJA (979) 693-3446
ABORATORIES
S DOWLING RD STE B
E STATION, TX 778453473
STATES US

SHIP DATE: 12AUG13
ACTWGT: 66.9 LB
CAD: /POS1400
DIMS: 24x13x13 IN
BILL SENDER

TO B LABORATORIES
B LABS
391B S DOWLING RD

COLLEGE STATION TX 77845
693-3446 REF:
DEPT:

FedEx Express

3 of 4
MPS# 7958 1083 5899
Mstr# 8022 2781 5939

TUE - 13 AUG
PRIORITY OVERNIGHT

0200

XH CLLA

77845
TX-US IAH

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/13/13 SDG#: 13081301

Sender: Arcadis - Mayflower AR

1. Number of Shipping Containers: 4 Arcadis: Daniel Mays

Comments: 3of4, large blue cooler

2. Airbill Present? (Yes) No Shipping Company: Fed Ex

Airbill Number: 8022 2781 5939 Comments: PON

3. Custody Seals on Container?
No (Yes) (Intact) Not Intact Comments: on top of duct tape

4. Chain of Custody Records?
No (Yes) Comments: all COCs in Cooler 3

5. General Sample Conditions:
Frozen (Cool) Unrefrigerated
Dry Ice Blue Ice (Ice)

Temperature/Comments: 2.1°C / temp blank 1.9°C (T6

6. List of Broken Containers:

None

7. Number of Samples Expected: 4 Coolers Number of Samples Received: _____

8. Problems/Discrepancies:

None

Cooler 3:
21 seds

9. Resolutions:

N/A

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

large
blue cooler

Sdg 13081301
Cooler 3 of 4

Ice type: wet Ice
Cooler temp: 2.1
Temp blank: 1.9
Thermometer: 6
Custody seal:

FedEx Express NEW Package US Airbill

FedEx Tracking Number 8022 2781 5939

Form ID No. 0200

1 From [redacted]

Date

Sender's Name ___ Phone ___

Company

Address ___ Dept./Floor/Suite/Room

City ___ State ___ ZIP ___

2 Your Internal Billing Reference

3 To

Recipient's Name ___ Phone ___

Company

Address ___ Dept./Floor/Suite/Room

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

Address

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

City ___ State ___ ZIP ___

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

HOLD Saturday — FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

8022 2781 5939

4 Express Package Service *To most locations. — Packages up to 150 lbs.

NOTE: Service order has changed. Please select carefully.

Next Business Day

- ☐ FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

- ☐ FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.
- ☐ FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging *Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* ☐ FedEx Box ☐ FedEx Tube ☐

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

☐ No Signature Required — Package may be left without obtaining a signature for delivery.
☐ Direct Signature — Someone at recipient's address may sign for delivery. Fee applies.
☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only.

Does this shipment contain dangerous goods?

☐ No ☐ Yes As per attached Shipper's Declaration ☐ Yes Shipper's Declaration not required. ☐ Dry Ice Dry Ice, 9, UN 1845 ___ x ___ kg ☐ Cargo Aircraft Only

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

7 Payment Bill to:

Enter FedEx Acct. No. or Credit Card No. below.

☐ Sender Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash

[redacted]

Total Packages ___ Total Weight ___ lbs. Credit Card Auth.

†Our liability is limited to US$100 unless you declare a higher value. See the current FedEx Service Guide for details.

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B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/13/13 SDG#: 13081301

Sender: Arcadis- May flower AR

1. Number of Shipping Containers: 4 Arcadis: Daniel Mays

Comments: 4 of 4, large blue cooler

2. Airbill Present? (Yes)/No Shipping Company: Fed EX

Airbill Number: 8022 2781 5939 Comments: PON

3. Custody Seals on Container?
No (Yes) (Intact) Not Intact Comments:

4. Chain of Custody Records?
(No) (Yes) AB 8/13/13 Comments In Cooler 3

5. General Sample Conditions:
Frozen (Cool) Unrefrigerated
Dry Ice Blue Ice (Ice)

Temperature/Comments: 6.1°C / Temp blank 0.9°C CT6

6. List of Broken Containers:

None

7. Number of Samples Expected: 4 coolers Number of Samples Received: _____

8. Problems/Discrepancies:

~~COC~~ AB 8/13/13

Cooler 4:
17 seds
2 waters

9. Resolutions:

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

large blue cooler

Ice type: wet ice
Cooler temp: 6.1
Temp blank: 0.9
Thermometer: 6
Custody seal:

Sdg 13081301
Cooler 4 of 4

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486729
CUSTODY SEAL
2425 New Holland Pike, Lancaster, PA 17601-5994 (717) 656-2300

DATE: 8/12/13
SIGNATURE:

ORIGIN ID:MPJA (979) 693-3446
B & B LABORATORIES
14391 S DOWLING RD STE B
COLLEGE STATION, TX 778453473
UNITED STATES US

SHIP DATE: 12AUG13
ACTWGT: 55.5 LB
CAD: /POS1400
DIMS: 24x13x13 IN
BILL SENDER

TO B & B LABORATORIES
B & B LABS
14391B S DOWLING RD

COLLEGE STATION TX 77845
(979) 693-3446 REF:
DEPT:

FedEx Express

1 of 4
TRK# 0200 8022 2781 5939
MASTER
XH CLLA

TUE - 13 AUG 10:30A
PRIORITY OVERNIGHT

77845
TX-US IAH

CHAIN OF CUSTODY RECORD

B&B Laboratories, Inc.

Home Office 14391B South Dowling Road College Station TX 77845 phone (979) 693-3446 fax (979) 693-6389 http://www.tdi-bi.com

TDI Brooks

Client: ARCADIS

Project ID: Mayflower Pipeline Incident B008600.1301

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs + 8270 SIM	Analyses: TEH by mod 8015	Analyses:	Analyses:	Analyses: Cooler #	Analyses:	Other Instructions / Comments
													Sdg 13081301 Cooler 3 of 4 (1)
SED-DA-021 (0-0.5)	8/9/13	1235	Sed	none	8 oz	1	X	X			2		Full List
SED-DA-021 (0.5-1.0)		1240			4 oz						2		44 PAH List
SED-DA-021 (1.0-1.5)		1245									2		Extract + Hold
SED-DA-021 (1.5-2.0)		1250									2		Extract + Hold
SED-DA-021 (2.0-3.0)		1255									2		Extract + Hold
SED-DA-021 (3.0-3.5)		1300									2		
SED-DA-042 (0-0.5)		1400			8 oz			X			2		Full List
SED-DA-042 (0-0.5) ms		1400			8 oz			X			2		Full List
SED-DA-042 (0-0.5) msD		1400			8 oz			X			2		Full List
SED-DA-042 (0.5-1.0)		1405			4 oz						2		44 PAHs List
					Total # of Containers	10							

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays	ARCADIS	8-12-13	1700	Printed Name: Amanda Brewster	B&B Labs	8/13/13	11:30
Signature:				Signature: Amanda Brewster			
Printed Name:				Printed Name:			
Signature:				Signature:			

Matrix:

T=Tissue S=Soil/Sediment R=Rinseate P=Product G=Gas Ws=Waste HW=Hazardous Waste W=Water

Sample Container: Vol/material

G=Glass P=Plastic C=Core B=Bag

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TDI Brooks

Client: ARCADIS

Project ID: Mayflower Pipeline Incident B0086003.1361

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs + 8270 SIM	TEH by 8015 Soils			Cooler #	Other Instructions / Comments
												sdg 13081301 Cooler 3 of 4 (2)
SED-DA-042 (1.0-1.5)	8/9/13	1410	Sed	none	4oz	1	X				2	44 PAHs List
SED-DA-EB-07-080913	8/9/13	1015	Water	none	LAG	(2)	X	X			2,2	Full List
SED-DA-DI-Water	8/9/13	1020	Water	none	LAG	(2)	X	X			2,2	Full List
SED-DA-EB-08-081013	8/10/13	825	Water	none	LAG	(2)	X	X			4,4	Full List
SED-DA-045 (0-0.5)		900	Sed		8oz	1	X	X			4	Full List
SED-DA-045 (0.5-1.0)		905			4oz	1					4	44 PAH List
SED-DA-052 (0-0.5)		930			8oz	1		X			4	Full List
SED-DA-052 (0.5-1.0)		935			4oz	1					4	44 PAH List
SED-DA-052 (1.0-1.5)		940			4oz	1					4	44 PAH List
SED-DA-Dup-06-081013					8oz	1	X	X			4	Full List

Total # of Containers: 13

Analyses

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays	ARCADIS	8-12-13	1700	Printed Name: Amanda Brewster	B&B Labs	8/13/13	11:30
Signature:				Signature: Amanda Brewster			
Printed Name:				Printed Name:			
Signature:				Signature:			

Matrix:

T=Tissue G=Gas
S=Soil/Sediment Ws=Waste
R=Rinseate HW=Hazardous Waste
P=Product W=Water

Sample Container: Vol/material

G=Glass C=Core
P=Plastic B=Bag

CHAIN OF CUSTODY RECORD

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TDI Brooks

Client: ARCADIS

Project ID: May Ranger Pipeline Incident B00860031301

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs + 8270 SIM	TEH by mod 8015			Cooler #		Other Instructions / Comments
SED-DA-018 (0-0.5)	8/10/13	1040	Sed	none	8oz	1	X	X			4		sdg 13081301 cooler 3 of 4 (3) Full List
SED-DA-018 (0.5-1.0)		1045			4oz		X				4		44 PAH List
SED-DA-018 (1.0-1.5)		1050			4oz		X				4		
SED-DA-018 (1.5-2.0)		1055			4oz		X				4		
SED-DA-019 (0-0.5)		1115			8oz		X	X			4		Full List
SED-DA-019 (0-0.5) (ms)		1115			8oz		X	X			4		label: MS/MSD
SED-DA-019 (0-0.5) (msd)		1115			8oz		X	X			4		label: MS/MSD
SED-DA-019 (0.5-1.0)		1120			4oz		X				4		44 PAH List
SED-DA-019 (1.0-1.5)		1125			4oz		X				4		44 PAH List
SED-DA-019 (1.5-2.0)		1130			4oz		X				4		Extract + Hold
					Total # of Containers	10							

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays	ARCADIS	8-12-13	1700	Printed Name: Amanda Brewster	B&B Labs	8/13/13	11:30
Signature:				Signature: Amanda Brewster			
Printed Name:				Printed Name:			
Signature:				Signature:			

Matrix:

T=Tissue S=Soil/Sediment R=Rinseate P=Product G=Gas Ws=Waste HW=Hazardous Waste W=Water

Sample Container: Vol/material

G=Glass P=Plastic C=Core B=Bag

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TDI Brooks

Client: ARCADIS

Project ID: Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs + 3270 S.I.M.	Analyses: TEH by mod. 8015	Analyses: Cooler #	Other Instructions	Comments
SED-DA-019 (2.0-2.5)	8/10/13	1135	Sed	none	4oz	1	X		4	SDG 1308130 Cooler 3 of 4 (4)	Extract + Hold
So-DA-026 (0-0.5)	8/11/13	830			4oz	1	X		1		4/4 PAHs List
So-DA-026 (0-0.5) MS		830				1	X		1		
So-DA-026 (0-0.5) MSD		830				1	X		1		
So-DA-026 (0.5-1.0)		835				1	X		1		
So-DA-026 (1.0-1.5)		840				1	X		1		
So-DA-028 (0-0.5)		1000				1	X		1		
So-DA-028 (0.5-1.0)		1005				1	X		1		
So-DA-028 (1.0-1.5)		1010				1	X		1		
So-DA-EB-04-081113		1000	Water		4oz	2	X		1,1		

Total # of Containers: 10

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays	ARCADIS	8-12-13	1700	Printed Name: Amanda Brewster	B&B Labs	8/13/13	11:30
Signature:				Signature: Amanda Brewster			
Printed Name:				Printed Name:			
Signature:				Signature:			

Matrix:

T=Tissue S=Soil/Sediment R=Rinseate P=Product G=Gas Ws=Waste HW=Hazardous Waste W=Water

Sample Container: Volmaterial

G=Glass P=Plastic C=Core B=Bag

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TDI Brooks

Client: ARCADIS

Project ID: Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays Daniel Mays

Analyses

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs + 8270 SIM	TEH by Mod 8015			Cooler #		Comments
													Other Instructions: Sdg 1308130l Cooler 3 of 4 (5)
SO-DA-029 (0-0.5)	8/11/13	1030	Sed	none	4oz	1	X				1		44 PAHs List
SO-DA-029 (0.5-1.0)	↓	1035	↓		↓	1	X				1		↓
SO-DA-029 (1.0-1.5)		1040				1	X				1		
SED-DA-046 (0-0.5)	8/12/13	835			8oz	1		X			3		Full List
SED-DA-046 (0.5-1.0)		840			4oz	1					3		44 PAH List
SED-DA-046 (1.0-1.5)		845			4oz	1					3		44 PAH List
SED-DA-049 (0-0.5)		905			8oz	1		X			3		Full List
SED-DA-049 (0.5-1.0)		910			4oz	1					3		44 PAH List
SED-DA-049 (1.0-1.5)		915			4oz	1					3		44 PAH List
SED-DA-043 (0-0.5)	↓	950	↓	↓	8oz	1	↓	X			3		Full List
					Total # of Containers								

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays	ARCADIS	8-12-13	1700	Printed Name: Amanda Brewster	B&B Labs	8/13/13	11:30
Signature: ↓	↓	↓	↓	Signature: Amanda Brewster			
Printed Name:				Printed Name:			
Signature:				Signature:			

Matrix:

T=Tissue G=Gas
S=Soil/Sediment Ws=Waste
R=Rinseate HW=Hazardous Waste
P=Product W=Water

Sample Container: Vol/material

G=Glass C=Core
P=Plastic B=Bag

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TDI Brooks

Client: ARCADIS

Project ID: Maxflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs + 8270 Sim	Analyses: TEH by Mod 8015	Analyses:	Analyses:	Analyses: Cooler #	Analyses:	Other Instructions / Comments
													sdg 13081301 Cooler 3 of 4 (6)
SED-DA-043 (0.5-1.0)	8/12/13	955	Sed	none	4oz	1	X				3		44 PAH List
SED-DA-043 (1.0-1.5)		1000			4oz						3		44 PAH List
SED-DA-044 (0-0.5)		1010			8oz			X			3		Full List
SED-DA-044 (0.5-1.0)		1015			4oz						3		44 PAH List
SED-DA-044 (1.0-1.5)		1020			4oz						3		44 PA List
SED-DA-047 (0-0.5)		1030			8oz			X			3		Full List
SED-DA-047 (0.5-1.0)		1035			4oz						3		44 PAH List
SED-DA-047 (1.0-1.5)		1040			4oz						3		44 PA List
SED-DA-048 (0-0.5)		1245			8oz			X			3		Full List
SED-DA-048 (0-0.5) ms		1245			8oz			X			3		Full List
					Total # of Containers								

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays	ARCADIS	8-12-13	1700	Printed Name: Amanda Brewster	B&B Labs	8/13/13	11:30
Signature:				Signature: Amanda Brewster			
Printed Name:				Printed Name:			
Signature:				Signature:			

Matrix:

T=Tissue S=Soil/Sediment R=Rinseate P=Product G=Gas Ws=Waste HW=Hazardous Waste W=Water

Sample Container: Vol/material

G=Glass P=Plastic C=Core B=Bag

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TDI Brooks

Client: ARCADIS

Project ID: Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs + 8270 Sim	Analyses: TEH by mod 8015	Analyses:	Analyses: Cooler #	Analyses:	Other Instructions / Comments
												sdg 13081301 Cooler 3 of 4 (7)
SED-DA-048 (0-0.5) MSD	8/12/13	1245	Sed	none	8 oz	1	X	X		3		Full List
SED-DA-048 (0.5-1.0)	↓	1250	↓	↓	4 oz	1	X			3		44 PAHs List
SED-DA-048 (1.0-1.5)	↓	1255	↓	↓	4 oz	1	X			3		44 PAHs List
SED-DA-Dup-07-081213	↓		↓	↓	8 oz	1	X	X		3		Full List
					Total # of Containers							

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Daniel Mays	ARCADIS	8-12-13	1706	Printed Name: Amanda Brewster	B&B Labs	8/13/13	11:30
Signature: ↓	↓	↓	↓	Signature: Amanda Brewster			
Printed Name:				Printed Name:			
Signature:				Signature:			

Matrix:

T=Tissue G=Gas
S=Soil/Sediment Ws=Waste
R=Rinseate HW=Hazardous Waste
P=Product W=Water

Sample Container: Vol/material

G=Glass C=Core
P=Plastic B=Bag

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64453	J13034	Arcadis - Mayflower AR	ARC1765	SED-DA-EB-07-080913	08/09/13	08/13/13	PAH, TPH, ALI	WATER	1 of 2	13081301	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302
64454	J13034	Arcadis - Mayflower AR	ARC1766	SED-DA-EB-07-080913	08/09/13	08/13/13	HOLD	WATER	2 of 2	13081301	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302
64455	J13034	Arcadis - Mayflower AR	ARC1767	SED-DA-DI-Water	08/09/13	08/13/13	PAH, TPH, ALI	WATER	1 of 2	13081301	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302
64456	J13034	Arcadis - Mayflower AR	ARC1768	SED-DA-DI-Water	08/09/13	08/13/13	HOLD	WATER	2 of 2	13081301	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302
64457	J13034	Arcadis - Mayflower AR	ARC1769	SED-DA-EB-08-081013	08/10/13	08/13/13	PAH, TPH, ALI	WATER	1 of 2	13081301	Cooler 4	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302
64458	J13034	Arcadis - Mayflower AR	ARC1770	SED-DA-EB-08-081013	08/10/13	08/13/13	HOLD	WATER	2 of 2	13081301	Cooler 4	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302
64459	J13034	Arcadis - Mayflower AR	ARC1771	SO-DA-EB-04-081113	08/11/13	08/13/13	PAH	WATER	44 analytes, 1 of 2	13081301	Cooler 1	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302
64460	J13034	Arcadis - Mayflower AR	ARC1772	SO-DA-EB-04-081113	08/11/13	08/13/13	HOLD	WATER	2 of 2	13081301	Cooler 1	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302
64461	J13034	Arcadis - Mayflower AR	ARC1773	SO-DA-026 (0-0.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64462	J13034	Arcadis - Mayflower AR	ARC1774	SO-DA-026 (0-0.5) MS	08/11/13	08/13/13	PAH	SOIL	44 analytes, MS	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64463	J13034	Arcadis - Mayflower AR	ARC1775	SO-DA-026 (0-0.5) MSD	08/11/13	08/13/13	PAH	SOIL	44 analytes, MSD	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64464	J13034	Arcadis - Mayflower AR	ARC1776	SO-DA-026 (0.5-1.0)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64465	J13034	Arcadis - Mayflower AR	ARC1777	SO-DA-026 (1.0-1.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64466	J13034	Arcadis - Mayflower AR	ARC1778	SO-DA-028 (0-0.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64467	J13034	Arcadis - Mayflower AR	ARC1779	SO-DA-028 (0.5-1.0)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64468	J13034	Arcadis - Mayflower AR	ARC1780	SO-DA-028 (1.0-1.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64469	J13034	Arcadis - Mayflower AR	ARC1781	SO-DA-029 (0-0.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64470	J13034	Arcadis - Mayflower AR	ARC1782	SO-DA-029 (0.5-1.0)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64471	J13034	Arcadis - Mayflower AR	ARC1783	SO-DA-029 (1.0-1.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64472	J13034	Arcadis - Mayflower AR	ARC1784	SED-DA-021 (0-0.5)	08/09/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64473	J13034	Arcadis - Mayflower AR	ARC1785	SED-DA-021 (0.5-1.0)	08/09/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64474	J13034	Arcadis - Mayflower AR	ARC1786	SED-DA-021 (1.0-1.5)	08/09/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64475	J13034	Arcadis - Mayflower AR	ARC1787	SED-DA-021 (1.5-2.0)	08/09/13	08/13/13	extract & HOLD	SED		13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64476	J13034	Arcadis - Mayflower AR	ARC1788	SED-DA-021 (2.0-3.0)	08/09/13	08/13/13	extract & HOLD	SED		13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64477	J13034	Arcadis - Mayflower AR	ARC1789	SED-DA-021 (3.0-3.3)	08/09/13	08/13/13	extract & HOLD	SED		13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64478	J13034	Arcadis - Mayflower AR	ARC1790	SED-DA-042 (0-0.5)	08/09/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64479	J13034	Arcadis - Mayflower AR	ARC1791	SED-DA-042 (0-0.5) MS	08/09/13	08/13/13	PAH, TPH, ALI	SED	MS	13081301	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64480	J13034	Arcadis - Mayflower AR	ARC1792	SED-DA-042 (0-0.5) MSD	08/09/13	08/13/13	PAH, TPH, ALI	SED	MSD	13081301	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64481	J13034	Arcadis - Mayflower AR	ARC1793	SED-DA-042 (0.5-1.0)	08/09/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64482	J13034	Arcadis - Mayflower AR	ARC1794	SED-DA-042 (1.0-1.5)	08/09/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64483	J13034	Arcadis - Mayflower AR	ARC1795	SED-DA-046 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64484	J13034	Arcadis - Mayflower AR	ARC1796	SED-DA-046 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64485	J13034	Arcadis - Mayflower AR	ARC1797	SED-DA-046 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64486	J13034	Arcadis - Mayflower AR	ARC1798	SED-DA-049 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64487	J13034	Arcadis - Mayflower AR	ARC1799	SED-DA-049 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64488	J13034	Arcadis - Mayflower AR	ARC1800	SED-DA-049 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64489	J13034	Arcadis - Mayflower AR	ARC1801	SED-DA-043 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64490	J13034	Arcadis - Mayflower AR	ARC1802	SED-DA-043 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64491	J13034	Arcadis - Mayflower AR	ARC1803	SED-DA-043 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64492	J13034	Arcadis - Mayflower AR	ARC1804	SED-DA-044 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64493	J13034	Arcadis - Mayflower AR	ARC1805	SED-DA-044 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64494	J13034	Arcadis - Mayflower AR	ARC1806	SED-DA-044 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64495	J13034	Arcadis - Mayflower AR	ARC1807	SED-DA-047 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64496	J13034	Arcadis - Mayflower AR	ARC1808	SED-DA-047 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64497	J13034	Arcadis - Mayflower AR	ARC1809	SED-DA-047 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64498	J13034	Arcadis - Mayflower AR	ARC1810	SED-DA-048 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64499	J13034	Arcadis - Mayflower AR	ARC1811	SED-DA-048 (0-0.5) MS	08/12/13	08/13/13	PAH, TPH, ALI	SED	MS	13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64500	J13034	Arcadis - Mayflower AR	ARC1812	SED-DA-048 (0-0.5) MSD	08/12/13	08/13/13	PAH, TPH, ALI	SED	MSD	13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64501	J13034	Arcadis - Mayflower AR	ARC1813	SED-DA-048 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64502	J13034	Arcadis - Mayflower AR	ARC1814	SED-DA-048 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64503	J13034	Arcadis - Mayflower AR	ARC1815	SED-DA-DUP-07-081213	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64504	J13034	Arcadis - Mayflower AR	ARC1816	SED-DA-045 (0-0.5)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64505	J13034	Arcadis - Mayflower AR	ARC1817	SED-DA-045 (0.5-1.0)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64506	J13034	Arcadis - Mayflower AR	ARC1818	SED-DA-052 (0-0.5)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64507	J13034	Arcadis - Mayflower AR	ARC1819	SED-DA-052 (0.5-1.0)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64508	J13034	Arcadis - Mayflower AR	ARC1820	SED-DA-052 (1.0-1.5)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64509	J13034	Arcadis - Mayflower AR	ARC1821	SED-DA-DUP-06-081013	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64510	J13034	Arcadis - Mayflower AR	ARC1822	SED-DA-018 (0-0.5)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64511	J13034	Arcadis - Mayflower AR	ARC1823	SED-DA-018 (0.5-1.0)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64512	J13034	Arcadis - Mayflower AR	ARC1824	SED-DA-018 (1.0-1.5)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64513	J13034	Arcadis - Mayflower AR	ARC1825	SED-DA-018 (1.5-2.0)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64514	J13034	Arcadis - Mayflower AR	ARC1826	SED-DA-019 (0-0.5)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64515	J13034	Arcadis - Mayflower AR	ARC1827	SED-DA-019 (0-0.5) MS	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64516	J13034	Arcadis - Mayflower AR	ARC1828	SED-DA-019 (0-0.5) MSD	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64517	J13034	Arcadis - Mayflower AR	ARC1829	SED-DA-019 (0.5-1.0)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
	J13034	Arcadis - Mayflower AR	ARC1830	SED-DA-019 (1.0-1.5)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
	J13034	Arcadis - Mayflower AR	ARC1831	SED-DA-019 (1.5-2.0)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
64520	J13034	Arcadis - Mayflower AR	ARC1832	SED-DA-019 (2.0-2.5)	08/10/13	08/13/13	HOLD	SED	on HOLD per Lyndi Mott 8/13/13	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar		B0066003.1302

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081301
Client: Arcadis - Mayflower AR
Initiation Date: 8/13/13

Number of Samples: 4
Matrix: Water
Due Date: 45 days : 9/27/13
Comments: 3 waters: PAH, TPH, AL
1 water: PAH 44 analytes
received 8/13/13

Analyses

☑	PAHs	☐	OCs/PCBs	☑	Aliphatics/TPH	☐	EOM
☐	Dry Wt.	☐	%Lipid	☐	TOC/TIC	☐	
☑	Short Columns	☐	Long Columns	☐		☐	

Requested QA/QC (per batch of _____ Client Samples)

☑ Blank	☐ SRM/LCS_____	☑ Blank Spike	
☐ Blank Spike Duplicate		☐ Matrix Spike _____	
☐ Matrix Spike Duplicate _____		☐ Duplicate_____	

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): alk / PAH Volume(s): 100 uL

Spike Standard(s): alk / PAH Volume(s): 100 uL

Internal Standard(s): alk / PAH Volume(s): 100 uL

Final Extract Volume (ml): 1.0 Final Solvent: DCM

Comments:

~~PAH's only~~ 8/13/13

Sample Custodian Signature: amanda Brewster Date: 8/13/13

Laboratory Manager Signature: _____ Date: 8/13/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64453	J13034	Arcadis - Mayflower AR	ARC1765	SED-DA-EB-07-080913	08/09/13	08/13/13	PAH, TPH, ALI	WATER	1 of 2	13081301	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302
64455	J13034	Arcadis - Mayflower AR	ARC1767	SED-DA-DI-Water	08/09/13	08/13/13	PAH, TPH, ALI	WATER	1 of 2	13081301	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302
64457	J13034	Arcadis - Mayflower AR	ARC1769	SED-DA-EB-08-081013	08/10/13	08/13/13	PAH, TPH, ALI	WATER	1 of 2	13081301	Cooler 4	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302
64459	J13034	Arcadis - Mayflower AR	ARC1771	SO-DA-EB-04-081113	08/11/13	08/13/13	PAH	WATER	44 analytes, 1 of 2	13081301	Cooler 1	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081301
Client: Arcadis - Mayflower AR
Initiation Date: 8/13/13

Number of Samples: 13
Matrix: sediments
Due Date: 45 days: 9/27/13
Comments: PAH, TPH, ALI
received 8/13/13

Analyses

☑	PAHs	☐	OCs/PCBs	☑	Aliphatics/TPH	☑	EOM
☑	Dry Wt.	☐	%Lipid	☐	TOC/TIC	☐	
☑	Short Columns	☐	Long Columns	☐		☐	

Requested QA/QC (per batch of _____ Client Samples)

☑	Blank	☑ SRM/LCS 1941b	☐ Blank Spike
☐	Blank Spike Duplicate	☑	Matrix Spike _____
☑	Matrix Spike Duplicate _____	☑	Duplicate _____

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, ALI — Volume(s): 100 ml
Spike Standard(s): PAH, ALI — Volume(s): 100 ml
Internal Standard(s): PAH, ALI — Volume(s): 100 ml
Final Extract Volume (ml): 1.0 — Final Solvent: DCM

Comments:

Sample Custodian Signature: Amanda Brewster — Date: 8/13/13
Laboratory Manager Signature: _____ — Date: 8/13/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64472	J13034	Arcadis - Mayflower AR	ARC1784	SED-DA-021 (0-0.5)	08/09/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64478	J13034	Arcadis - Mayflower AR	ARC1790	SED-DA-042 (0-0.5)	08/09/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64479	J13034	Arcadis - Mayflower AR	ARC1791	SED-DA-042 (0-0.5) MS	08/09/13	08/13/13	PAH, TPH, ALI	SED	MS	13081301	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64480	J13034	Arcadis - Mayflower AR	ARC1792	SED-DA-042 (0-0.5) MSD	08/09/13	08/13/13	PAH, TPH, ALI	SED	MSD	13081301	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64483	J13034	Arcadis - Mayflower AR	ARC1795	SED-DA-046 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64486	J13034	Arcadis - Mayflower AR	ARC1798	SED-DA-049 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64489	J13034	Arcadis - Mayflower AR	ARC1801	SED-DA-043 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64492	J13034	Arcadis - Mayflower AR	ARC1804	SED-DA-044 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64495	J13034	Arcadis - Mayflower AR	ARC1807	SED-DA-047 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64498	J13034	Arcadis - Mayflower AR	ARC1810	SED-DA-048 (0-0.5)	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64499	J13034	Arcadis - Mayflower AR	ARC1811	SED-DA-048 (0-0.5) MS	08/12/13	08/13/13	PAH, TPH, ALI	SED	MS	13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64500	J13034	Arcadis - Mayflower AR	ARC1812	SED-DA-048 (0-0.5) MSD	08/12/13	08/13/13	PAH, TPH, ALI	SED	MSD	13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64503	J13034	Arcadis - Mayflower AR	ARC1815	SED-DA-DUP-07-081213	08/12/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302

T3

300

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081301
Client: Arcadis - MayflowerAR
Initiation Date: 8/13/13

Number of Samples: 27
Matrix: soil/sediment
Due Date: 45 days: 9/27/13
Comments: PAH: 44 analytes
received 8/13/13

Analyses

☑	PAHs	☐	OCs/PCBs	☑	Aliphatics/TPH	☐	EOM
☑	Dry Wt.	☐	%Lipid	☐	TOC/TIC	☐	
☑	Short Columns	☐	Long Columns	☐		☐	

Requested QA/QC (per batch of _____ Client Samples)

☑ Blank	☑ SRM/LCS 1944/6	☐ Blank Spike	
☐ Blank Spike Duplicate		☐ Matrix Spike	
☑ Matrix Spike Duplicate		☑ Duplicate	

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, ACI — Volume(s): 100µL
Spike Standard(s): PAH, ACI — Volume(s): 100µL
Internal Standard(s): PAH, ACI — Volume(s): 100µL
Final Extract Volume (ml): 1.0 — Final Solvent: DCM

Comments:

PAH, 44 list

Sample Custodian Signature: Amanda Brewster — Date: 8/13/13
Laboratory Manager Signature: _____ — Date: _____

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64461	J13034	Arcadis - Mayflower AR	ARC1773	SO-DA-026 (0-0.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64462	J13034	Arcadis - Mayflower AR	ARC1774	SO-DA-026 (0-0.5) MS	08/11/13	08/13/13	PAH	SOIL	44 analytes, MS	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64463	J13034	Arcadis - Mayflower AR	ARC1775	SO-DA-026 (0-0.5) MSD	08/11/13	08/13/13	PAH	SOIL	44 analytes, MSD	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64464	J13034	Arcadis - Mayflower AR	ARC1776	SO-DA-026 (0.5-1.0)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64465	J13034	Arcadis - Mayflower AR	ARC1777	SO-DA-026 (1.0-1.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64466	J13034	Arcadis - Mayflower AR	ARC1778	SO-DA-028 (0-0.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64467	J13034	Arcadis - Mayflower AR	ARC1779	SO-DA-028 (0.5-1.0)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64468	J13034	Arcadis - Mayflower AR	ARC1780	SO-DA-028 (1.0-1.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64469	J13034	Arcadis - Mayflower AR	ARC1781	SO-DA-029 (0-0.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64470	J13034	Arcadis - Mayflower AR	ARC1782	SO-DA-029 (0.5-1.0)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64471	J13034	Arcadis - Mayflower AR	ARC1783	SO-DA-029 (1.0-1.5)	08/11/13	08/13/13	PAH	SOIL	44 analytes	13081301	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64473	J13034	Arcadis - Mayflower AR	ARC1785	SED-DA-021 (0.5-1.0)	08/09/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64474	J13034	Arcadis - Mayflower AR	ARC1786	SED-DA-021 (1.0-1.5)	08/09/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64481	J13034	Arcadis - Mayflower AR	ARC1793	SED-DA-042 (0.5-1.0)	08/09/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64482	J13034	Arcadis - Mayflower AR	ARC1794	SED-DA-042 (1.0-1.5)	08/09/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64484	J13034	Arcadis - Mayflower AR	ARC1796	SED-DA-046 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64485	J13034	Arcadis - Mayflower AR	ARC1797	SED-DA-046 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64487	J13034	Arcadis - Mayflower AR	ARC1799	SED-DA-049 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64488	J13034	Arcadis - Mayflower AR	ARC1800	SED-DA-049 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64490	J13034	Arcadis - Mayflower AR	ARC1802	SED-DA-043 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64491	J13034	Arcadis - Mayflower AR	ARC1803	SED-DA-043 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64493	J13034	Arcadis - Mayflower AR	ARC1805	SED-DA-044 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64494	J13034	Arcadis - Mayflower AR	ARC1806	SED-DA-044 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64496	J13034	Arcadis - Mayflower AR	ARC1808	SED-DA-047 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64497	J13034	Arcadis - Mayflower AR	ARC1809	SED-DA-047 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64501	J13034	Arcadis - Mayflower AR	ARC1813	SED-DA-048 (0.5-1.0)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64502	J13034	Arcadis - Mayflower AR	ARC1814	SED-DA-048 (1.0-1.5)	08/12/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302

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B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081301
Client: Arcadis-Mayflower AR
Initiation Date: 8/13/13

Number of Samples: 3
Matrix: sediments
Due Date: 45 days: 9/27/13
Comments: extract : hold
received 8/13/13

Analyses

☑	PAHs	☐	OCs/PCBs	☑	Aliphatics/TPH	☐	EOM
☑	Dry Wt.	☐	%Lipid	☐	TOC/TIC	☐	
☑	Short Columns	☐	Long Columns	☐		☐	

Requested QA/QC (per batch of _____ Client Samples)

☑	Blank	☑ SRM/LCS PAHs	☐ Blank Spike
☐	Blank Spike Duplicate	☑	Matrix Spike
☑	Matrix Spike Duplicate	☑	Duplicate

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, ALI — Volume(s): 100 ul

Spike Standard(s): PAH, ALI — Volume(s): 100 ul

Internal Standard(s): PAH, ALI — Volume(s): 100 ul

Final Extract Volume (ml): 1.0 — Final Solvent: DCM

Comments:

Sample Custodian Signature: Amanda Brewster — Date: 8/13/13

Laboratory Manager Signature: _____ — Date: 8/15/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64475	J13034	Arcadis - Mayflower AR	ARC1787	SED-DA-021 (1.5-2.0)	08/09/13	08/13/13	extract & HOLD	SED		13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64476	J13034	Arcadis - Mayflower AR	ARC1788	SED-DA-021 (2.0-3.0)	08/09/13	08/13/13	extract & HOLD	SED		13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64477	J13034	Arcadis - Mayflower AR	ARC1789	SED-DA-021 (3.0-3.3)	08/09/13	08/13/13	extract & HOLD	SED		13081301	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302

3

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From: Parmelee, Rhiannon
Sent: Monday, August 12, 2013 5:34 PM
To: Mott, Lyndi
Cc: Tomlinson, Lisa; Skwarski, Alison
Subject: RE: DARSP on hold?

Here are the samples I want all of the labs to hold and not analyze yet (ALS/B&B will be shipped today):

SED-DA-045(0.0-0.5)
SED-DA-045(0.5-1.0)

SED-DA-052(0.0-0.5)
SED-DA-052(0.5-1.0)
SED-DA-052(1.0-1.5)

SED-DA-018(0.0-0.5)
SED-DA-018(0.5-1.0)
SED-DA-018(1.0-1.5)
SED-DA-018(1.5-2.0)

SED-DA-019(0.0-0.5)
SED-DA-019(0.0-0.5) MS/MSD
SED-DA-019(0.5-1.0)
SED-DA-019(1.0-1.5)
SED-DA-019(1.5-2.0)
SED-DA-019(2.0-2.5)

amanda brewster

From: juanramirez@tdi-bi.com
Sent: Tuesday, August 13, 2013 9:55 AM
To: 'Amanda J. Brewster'
Subject: FW: DARSP on hold

Juan Ramirez
Environmental Lab Manager
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College Station, TX 77845
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Cell – (979) 777-0793

Web Site: http://tdi-bi.com/

From: Mott, Lyndi [mailto:Lyndi.Mott@arcadis-us.com]
Sent: Monday, August 12, 2013 8:14 PM
To: Juan Ramirez
Cc: Tomlinson, Lisa; Capria, Dennis; Chandler, Jennifer
Subject: RE: DARSP on hold

Juan,

There is also a field duplicate with these samples that should also be placed on hold.
SED-DA-DUP-06

Thank you,
Lyndi Mott

From: Mott, Lyndi
Sent: Monday, August 12, 2013 5:43 PM
To: Juan Ramirez
Cc: Tomlinson, Lisa; Capria, Dennis; Chandler, Jennifer
Subject: FW: DARSP on hold?

Juan,

The following samples from the Downstream Area (DARSP) that were collected over the weekend and are being shipped today are to be placed on hold. We should be able to give direction on how to proceed by the end of the week.

Thank you,

amanda brewster

From: amanda brewster <amandabrewster@tdi-bi.com>
Sent: Tuesday, August 13, 2013 3:32 PM
To: 'Mays, Daniel'; 'Lewis, Ryan'; Parmelee, Rhiannon (Rhiannon.Parmelee@arcadis-us.com); 'Jennifer.Chandler@arcadis-us.com'; 'Dennis.Capria@arcadis-us.com'; Mott, Lyndi (Lyndi.Mott@arcadis-us.com)
Cc: Juan Ramirez (juanramirez@tdi-bi.com); Donell Frank; 'tommcdonald@tdi-bi.com' (tommcdonald@tdi-bi.com)
Subject: Samples Received 8/13/13
Attachments: COC 8-13-13.pdf

Hi Daniel/Ryan,

We received your coolers today in good condition.
The internal temperature of Cooler 1 was 5.1ºC and the temperature blank was 1.2ºC
The internal temperature of Cooler 2 was 1.5ºC and the temperature blank was 2.3ºC
The internal temperature of Cooler 3 was 2.1ºC and the temperature blank was 1.9ºC
The internal temperature of Cooler 4 was 6.1ºC and the temperature blank was 0.9ºC

A PDF of the COCs is attached for your records.

Regards,
Amanda

From: Mays, Daniel [mailto:Daniel.Mays@arcadis-us.com]
Sent: Monday, August 12, 2013 6:46 PM
To: amanda brewster
Cc: Lewis, Ryan
Subject: Coolers Shipped 8-12-13

Good Evening Amanda,

The coolers shipped today from the XOM-Mayflower Site are under tracking #8022 2781 5939.

Additionally Ryan Lewis will be sending this e-mails in the future as I will be offsite.

Regards,
Danny Mays | Environmental Specialist, E.I. | daniel.mays@arcadis-us.com
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Professional Affiliate/ARCADIS G&M of North Carolina, Inc.
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amanda brewster

From: juanramirez@tdi-bi.com
Sent: Wednesday, August 14, 2013 11:05 AM
To: 'Mott, Lyndi'
Cc: 'Parmelee, Rhiannon'; 'Tomlinson, Lisa'; 'Skwarski, Alison'; 'Chandler, Jennifer'; 'Amanda J. Brewster'; Donell Frank; 'Tom Mc Donald'
Subject: RE: DARSP samples taken off hold

Hello Lyndi,

Will update our records and will send you an updated inventory of samples received as of today with requested analysis.

Juan

Juan Ramirez
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From: Mott, Lyndi [mailto:Lyndi.Mott@arcadis-us.com]
Sent: Wednesday, August 14, 2013 10:29 AM
To: Juan Ramirez
Cc: Parmelee, Rhiannon; Tomlinson, Lisa; Skwarski, Alison; Chandler, Jennifer
Subject: DARSP samples taken off hold
Importance: High

Juan,

We are good to go with processing all of these samples EXCEPT SED-DA-019(2.0-2.5). We want to archive SED-DA-019(2.0-2.5). The team was able to collect the 2.0-3.0 interval for this location, which was the intended target.

As a reminder, we can analyze the following that were collected on Saturday:

SED-DA-045(0.0-0.5)
SED-DA-045(0.5-1.0)

SED-DA-052(0.0-0.5)
SED-DA-052(0.5-1.0)
SED-DA-052(1.0-1.5)

SED-DA-018(0.0-0.5)
SED-DA-018(0.5-1.0)
SED-DA-018(1.0-1.5)
SED-DA-018(1.5-2.0)

SED-DA-019(0.0-0.5)
SED-DA-019(0.0-0.5) MS/MSD
SED-DA-019(0.5-1.0)
SED-DA-019(1.0-1.5)
SED-DA-019(1.5-2.0)

SED-DA-DUP-06

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B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081301
Client: Arcadis-Mayflower AR
Initiation Date: 8/14/13

Number of Samples: 8
Matrix: sediments
Due Date: 45 days: 9/28/13
Comments: PAH: 44 analytes
received 8/13/13

Analyses

☑	PAHs	☐	OCs/PCBs	☑	Aliphatics/TPH	☐	EOM
☐	Dry Wt.	☐	%Lipid	☐	TOC/TIC	☐	
☐	Short Columns	☐	Long Columns	☐		☐	

Requested QA/QC (per batch of _____ Client Samples)

☑	Blank	☑ SRM/LCS 1941b	☐ Blank Spike
☐	Blank Spike Duplicate	☐	Matrix Spike _____
☐	Matrix Spike Duplicate _____	☐	Duplicate _____

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): Poly A-C / Volume(s): 100 ul
Spike Standard(s): Poly A-C / Volume(s): 100 ul
Internal Standard(s): Poly A-C / Volume(s): 100 ul
Final Extract Volume (ml): 1.0 Final Solvent: DCM

Comments:

Sample Custodian Signature: amanda Brewster Date: 8/14/13
Laboratory Manager Signature: _____ Date: 8/14/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64505	J13034	Arcadis - Mayflower AR	ARC1817	SED-DA-045 (0.5-1.0)	08/10/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64507	J13034	Arcadis - Mayflower AR	ARC1819	SED-DA-052 (0.5-1.0)	08/10/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64506	J13034	Arcadis - Mayflower AR	ARC1820	SED-DA-052 (1.0-1.5)	08/10/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64511	J13034	Arcadis - Mayflower AR	ARC1823	SED-DA-018 (0.5-1.0)	08/10/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64512	J13034	Arcadis - Mayflower AR	ARC1824	SED-DA-018 (1.0-1.5)	08/10/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64513	J13034	Arcadis - Mayflower AR	ARC1825	SED-DA-018 (1.5-2.0)	08/10/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64517	J13034	Arcadis - Mayflower AR	ARC1829	SED-DA-019 (0.5-1.0)	08/10/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64518	J13034	Arcadis - Mayflower AR	ARC1830	SED-DA-019 (1.0-1.5)	08/10/13	08/13/13	PAH	SED	44 analytes	13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302

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B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081301
Client: Arcadis-Mayflower AR
Initiation Date: 8/14/13

Number of Samples: 1
Matrix: sed
Due Date: N/A
Comments: extract: HOLD
received 8/13/13

Analyses

☑	PAHs	☐	OCs/PCBs	☑	Aliphatics/TPH	☑	EOM
☐	Dry Wt.	☐	%Lipid	☐	TOC/TIC	☐	
☑	Short Columns	☐	Long Columns	☐		☐	

Requested QA/QC (per batch of _____ Client Samples)

☑	Blank	☑ SRM/LCS	☐ Blank Spike
☐	Blank Spike Duplicate	☐	Matrix Spike _____
☑	Matrix Spike Duplicate _____	☐	Duplicate _____

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): 4H-A-L Volume(s): 100 µL

Spike Standard(s): PAH-A-L Volume(s): 100 µL

Internal Standard(s): PAH-A-L Volume(s): 100 µL

Final Extract Volume (ml): 1.0 Final Solvent: DCM

Comments:

Sample Custodian Signature: amanda Brewster Date: 8/14/13

Laboratory Manager Signature: [signature] Date: 8/14/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64519	J13034	Arcadis - Mayflower AR	ARC1831	SED-DA-019 (1.5-2.0)	08/10/13	08/13/13	extract & HOLD	SED		13081301	Cooler 4	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081301
Client: Arcadis - Mayflower AR
Initiation Date: 8/14/13

Number of Samples: 7
Matrix: sediments
Due Date: 45 days: 9/28/13
Comments: PAH, TPH, ALI
received 8/13/13

Analyses

☑	PAHs	☐	OCs/PCBs	☑	Aliphatics/TPH	☐	EOM
☐	Dry Wt.	☐	%Lipid	☐	TOC/TIC	☐	
☐	Short Columns	☐	Long Columns	☐		☐	

Requested QA/QC (per batch of _____ Client Samples)

☑ Blank	☑ SRM/LCS PAH/ALI	☐ Blank Spike	
☐ Blank Spike Duplicate		☑ Matrix Spike	
☐ Matrix Spike Duplicate		☐ Duplicate	

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, ALI — Volume(s): 100 µl
Spike Standard(s): PAH, ALI — Volume(s): 100 µl
Internal Standard(s): PAH, ALI — Volume(s): 100 µl
Final Extract Volume (ml): 1.0 — Final Solvent: DCM

Comments:

Sample Custodian Signature: Amanda Brewster — Date: 8/14/13
Laboratory Manager Signature: _____ — Date: 8/14/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64504	J13034	Arcadis - Mayflower AR	ARC1816	SED-DA-045 (0-0.5)	08/10/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64506	J13034	Arcadis - Mayflower AR	ARC1818	SED-DA-052 (0-0.5)	08/10/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64509	J13034	Arcadis - Mayflower AR	ARC1821	SED-DA-DUP-06-081013	08/10/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64510	J13034	Arcadis - Mayflower AR	ARC1822	SED-DA-018 (0-0.5)	08/10/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64514	J13034	Arcadis - Mayflower AR	ARC1826	SED-DA-019 (0-0.5)	08/10/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64515	J13034	Arcadis - Mayflower AR	ARC1827	SED-DA-019 (0-0.5) MS	08/10/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64516	J13034	Arcadis - Mayflower AR	ARC1828	SED-DA-019 (0-0.5) MSD	08/10/13	08/13/13	PAH, TPH, ALI	SED		13081301	Cooler 4	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302

amanda brewster

From: juanramirez@tdi-bi.com
Sent: Thursday, August 15, 2013 9:04 AM
To: 'Mott, Lyndi'; 'amanda brewster'; 'Donell Frank'
Cc: 'Chandler, Jennifer'; 'Capria, Dennis'; 'Tom Mc Donald'
Subject: RE: Samples Received 8/13/13

We will extract the duplicate bottle with the next set of waters.

Juan

Juan Ramirez
Environmental Lab Manager
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College Station, TX 77845
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From: Mott, Lyndi [mailto:Lyndi.Mott@arcadis-us.com]
Sent: Thursday, August 15, 2013 8:59 AM
To: juanramirez@tdi-bi.com; 'amanda brewster'; 'Donell Frank'
Cc: Chandler, Jennifer; Capria, Dennis; 'Tom Mc Donald'
Subject: RE: Samples Received 8/13/13

Juan,

If you have other water matrices to extract by 8/16, can you include the 2nd liter of DI water. That way we would have a duplicate analysis of the DI water. I apologize that I didn't let you know sooner. I didn't realize they had already shipped the DI water.

Thank you,
Lyndi Mott

From: juanramirez@tdi-bi.com [mailto:juanramirez@tdi-bi.com]
Sent: Thursday, August 15, 2013 8:50 AM
To: Mott, Lyndi; 'amanda brewster'; 'Donell Frank'
Cc: Chandler, Jennifer; Capria, Dennis; 'Tom Mc Donald'
Subject: RE: Samples Received 8/13/13

Lyndi,

We have extracted 1 liter bottle for ARC1767 (SED-DA-DI-Water). Do we also need to extract the 2nd 1 liter bottle? Extraction Holding time for the sample is due 8/16/2013.

Juan

Juan Ramirez
Environmental Lab Manager
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Web Site: http://tdi-bi.com/

From: Mott, Lyndi [mailto:Lyndi.Mott@arcadis-us.com]
Sent: Thursday, August 15, 2013 8:05 AM
To: amanda brewster; Juan Ramirez; Donell Frank
Cc: Chandler, Jennifer; Capria, Dennis
Subject: RE: Samples Received 8/13/13

All,

On this coc is a sample labeled as DI water; SED-DA-DI water. We sent 2 liters just in case we need to reanalyze. This is unopened DI water that we received from Lancaster. We want to see what is in the DI water since we are seeing hits in the equipment blanks. We are trying to determine if the source is from the field or the DI water since your method has much lower detection limits than Lancaster. Please analyze the DI water in the same manner as the equipment blanks. Thank you,

Lyndi Mott | Project Chemistry/Data Quality Specialist | lyndi.mott@arcadis-us.com

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From: amanda brewster [mailto:amandabrewster@tdi-bi.com]
Sent: Tuesday, August 13, 2013 3:32 PM
To: Mays, Daniel; Lewis, Ryan; Parmelee, Rhiannon; Chandler, Jennifer; Capria, Dennis; Mott, Lyndi
Cc: Juan Ramirez; Donell Frank; tommcdonald@tdi-bi.com
Subject: Samples Received 8/13/13

Hi Daniel/Ryan,

We received your coolers today in good condition.
The internal temperature of Cooler 1 was 5.1ºC and the temperature blank was 1.2ºC
The internal temperature of Cooler 2 was 1.5ºC and the temperature blank was 2.3ºC
The internal temperature of Cooler 3 was 2.1ºC and the temperature blank was 1.9ºC
The internal temperature of Cooler 4 was 6.1ºC and the temperature blank was 0.9ºC

A PDF of the COCs is attached for your records.

Regards,
Amanda

From: Mays, Daniel [mailto:Daniel.Mays@arcadis-us.com]
Sent: Monday, August 12, 2013 6:46 PM
To: amanda brewster
Cc: Lewis, Ryan
Subject: Coolers Shipped 8-12-13

Good Evening Amanda,

The coolers shipped today from the XOM-Mayflower Site are under tracking #8022 2781 5939.

Additionally Ryan Lewis will be sending this e-mails in the future as I will be offsite.

Regards,
Danny Mays | Environmental Specialist, E.I. | daniel.mays@arcadis-us.com
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Professional Affiliate/ARCADIS G&M of North Carolina, Inc.

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13081301
Client: Arcadis-Mayflower AR
Initiation Date: 8/15/13
received 8/13/13

Number of Samples: 1
Matrix: water
Due Date: 45 days: 9/29/13
Comments: PAH, TPH, ALI
collected 8/09/13
extract by 8/15/13

Analyses

☑	PAHs	☐	OCs/PCBs	☑	~~Aliphatics/TPH~~	☐	EOM
☐	Dry Wt.	☐	%Lipid	☐	TOC/TIC	☐	
☐	Short Columns	☐	Long Columns	☐		☐	

Requested QA/QC (per batch of _____ Client Samples)

☐ Blank	☐ SRM/LCS _____	☐ Blank Spike	
☐ Blank Spike Duplicate		☐ Matrix Spike _____	
☐ Matrix Spike Duplicate _____		☐ Duplicate _____	

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, ALI — Volume(s): 100ul
Spike Standard(s): PAH, ALI — Volume(s): 100ul
Internal Standard(s): PAH, ALI — Volume(s): 100ul
Final Extract Volume (ml): 1.0 — Final Solvent: DCM

Comments:

Sample Custodian Signature: Amanda Brewster — Date: 8/15/13
Laboratory Manager Signature: _____ — Date: 8/15/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64456	J13034	Arcadis - Mayflower AR	ARC1768	SED-DA-DI-Water	08/09/13	08/13/13	PAH, TPH, ALI	WATER	2 of 2	13081301	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302

Laboratory Bench Sheet Logs

B&B LABORATORIES ENVIRONMENTAL EXTRACTION LOG

13081301

MATRIX
- ☐ OTHER
- ☒ WATER
- ☐ SEDIMENT
- ☐ TISSUE

Job #: J13034 SDG #: 13080901,

Client: Arcadis - Mayflower AR

Analysis: ☒ PAH ☐ PESTS ☐ PCB ☒ ALI

Other: TPH

Extraction Solvent: DCM

Final Solvent: DCM Final Volume: 1.0 mL

Lipids Y / (N)
Dry Wt. Y (N)
Copper Y / (N)
EOM (Y) N
Columns (Y) N
Long / (Short)

Surrogate: 100 µL
PAH: AR-WKSU-2500-002
Pest/PCB: —
Aliphatic: AL-WKSU-200-001
Other: —

Spike: 100 µL
PAH: AR-WKSK-1000-02
Pest/PCB: —
Aliphatic: AL-WKSK-100-02
Other: —

GC Int Std: 100 µL
PAH: AR-WKIS-2500-002
Pest/PCB: —
Aliphatic: AR-WKIS-500-00
Other: —

Turbo Vap II
Bath T (C):
Pressure (>20psi):
Check Water Level:
Turbo Vap Date:

General Comments:

Report 13-3099
Add PAH + ALI Standards, ~~analyze PAH only~~ - CK
see comments for specific analysis

	Added	Witness
Surrogate:	8/13/13 HA	8-13-13
Spike:	8/13/13 HA	8-13-13
Internal:	8/15/13 CK	8-15-13

	Sample Name	Client ID	Wet Wt. (g or L)	Dry Wt. %	Dry Wt. (g)	Extraction Comments	Internal Chain of Custody
1	ENV3080A	Procedural Blank	1.00				Extraction Prep
2	ENV3080B	~~SRM 1944~~ 8/13 CK Blank Spike	1.00				Date: 8-13-13 / Date: 8-13-13
3	ENV3080C	Blank Spike Duplicate	1.00				Initials: ER / Initials: ER
4	ARC1762	SO-DA-EB-02-080713	1.04			PAH only	Extraction
5	ARC1763	SO-DA-EB-03-080813	1.04			PAH only	Date: 8-13-13 / Date: 8-13-13
6	ARC1765	SED-DA-EB-07-080913	1.07				Initials: ER / Initials: ER
7	ARC1767	SED-DA-DI-Water	1.05	8/13/13 OK			Concentration
8	ARC1769	SED-DA-EB-08-081013	1.07				Date: 8-14-13 / Date: 8-14-13
9	ARC1771	SO-DA-EB-04-081113	1.02			PAH only	Initials: ER / Initials: ER
10							Short Columns
11							Date: 8-14-13 / Date: 8-14-13
12							Initials: ER / Initials: ER

ENV 3080

B&B LABORATORIES ENVIRONMENTAL EXTRACTION LOG

	Sample Name	Client ID	Wet Wt. (g or L)	Dry Wt. %	Dry Wt. (g)	Extraction Comments
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						

8/13/13 CK

Internal Chain of Custody

Concentration Short Columns	
Date: 8-15-13	Date: 8-15-13
Initials: CK	Initials: EN
Columns SA1	
Date:	Date:
Initials:	Initials:
Concentration SA1	
Date:	Date:
Initials:	Initials:
Columns SA2	
Date:	Date:
Initials:	Initials:
Concentration SA2	
Date:	Date:
Initials:	Initials:
Transfer for HPLC	
Date:	Date:
Initials:	Initials:
HPLC	
Date:	Date:
Initials:	Initials:
Post-HPLC Concentration	
Date:	Date:
Initials:	Initials:
Final Extract Transfer	
Date: 8/15/13	Initials: CK

Dry Weight Page

—

Lipid/EOM Page

EOM1020

Clean-up/Separation/Other Columns

—

Lot Numbers

DCM: 52314
Hexane: —
Hydromatrix: —
Water: DI045-B
Silica: BCBH1613V
Alumina: TG14BZEMS
Sodium Sulfate: 2092C525
Pentane: —
Copper: —
Hydrochloric Acid: 52144
SPE Columns: —
Other: —

Sample Storage Box #

J13034-1

HPLC Storage Box #

—

QC Review

Date	Initials
8/15/13	

Copied to Folders

8/15/13 CK

MATRIX
OTHER
SEDIMENT
(WATER)

Job #: J13034 SDG #: 13080901, 13081301

Client: Arcadis - Mayflower AR

General comments:

Lab Manager Date/Int: 8/14/13 CK

Transferred by Date/Int: 8/14/13 CK
From ENV Pg: ENV3080
From DRY Pg: —

Date/Int: 8-14-13 CK

Bal. Cal. ✓

Date/Int: 8/14/13 CK

	Sample Name	Client ID	Smpl Wt/Vol (g/L) Wet Wt. Dry Wt.	Dry Wt. (%)	Final Extract Vol (mL)	Initial Filter Wt (mg)	Filter & Sample Wt (mg)	Wt. of 100 µl EOM Wt. (mg)	EOM µg/g (Wet Wt. Basis)	EOM µg/g (Dry Wt. Basis)	Comments
1	ENV3080A	Procedural Blank	1.00		3	24.308	24.308	0.000	0		
2	ENV3080B	Blank Spike	1.00		3	23.763	23.777	0.014	420		
3	ENV3080C	Blank Spike Duplicate	1.00		3	22.743	22.758	0.015	450		
4	ARC1762	SO-DA-EB-02-080713	1.04		3	24.534	24.538	0.004	115		
5	ARC1763	SO-DA-EB-03-080813	1.04		3	24.170	24.175	0.005	144		
6	ARC1765	SED-DA-EB-07-080913	1.07		3	24.155	24.164	0.009	252		
7	ARC1767	SED-DA-DI-Water	1.05		3	24.198	24.204	0.006	171		
8	ARC1769	SED-DA-EB-08-081013	1.07		3	22.665	22.672	0.007	196		
9	ARC1771	SO-DA-EB-04-081113	1.02		3	23.781	23.784	0.003	88		
10											
11											
12											

8/14/13 CK

8/14/13 CK

EOM 1020

B&B LABORATORIES EOM LOGBOOK

	Sample Name	Client ID	Smpl Wt./Vol (g/L) Wet Wt. Dry Wt.	Dry Wt. (%)	Final Extract Vol (mL)	Initial Filter Wt (mg)	Filter & Sample Wt (mg)	Wt. of 100 µl EOM Wt. (mg)	EOM µg/g (Wet Wt. Basis)	EOM µg/g (Dry Wt. Basis)	Comments
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											

8/14/13 OK

$$EOM = \frac{(EOM\ Wt.\ (mg))\ (Final\ Extract\ Vol.\ (ml))}{(Smpl\ Wt/Vol.\ (g/L))\ (0.10\ ml)} \times 1000$$

$$\%RPD = \frac{(EOM_1 - EOM_2)}{(EOM_1 + EOM_2) \times 0.5} \times 100\%$$

	Initial Filter Wt (mg)	Filter & Sample Wt (mg)	Wt. of 100 µl Lipid Wt. (mg)
Solvent Blank	24.549	24.549	0.000
EOM Standard	24.221	34.287	10.066

EOM - WKLC - 10 - 004

The Relative Percent Difference (RPD) between duplicates must be ≤ 25%.

Date/Int:	RPD
Sample:	
Duplicate:	

Last Page