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

Arcadis
Mayflower AR Project
(Contract # B0086003.1302)
August 2, 2013 through August 6, 2013
Collection Dates

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

(QC Batch ENV 3072)

August 21, 2013

Technical Report 13-3092

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Mayflower AR Project
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Introduction

B&B Laboratories received a shipment of three (3) ice chests that were sent by Daniel Mays of Arcadis using FedEx on August 5, 2013 and arrived on August 6, 2013 in College Station, Texas. The ice chests arrived sealed and in good condition.

Cooler Number	Temperature	Samples Received
1	5.0°C 1.6°C (Temp Blank)	Twenty-one (21) sediments in 8oz or 4oz jars Two (2) 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.
2	0.0°C 1.1°C (Temp Blank)	Twenty-one (21) sediments in 8oz or 4oz jars Two (2) 1L water samples in B/R amber bottles.

B&B Laboratories received a shipment of one(1) ice chest that was sent by Daniel Mays of Arcadis using FedEx on August 6, 2013 and arrived on August 7, 2013 in College Station, Texas. The ice chests arrived sealed and in good condition.

Cooler Number	Temperature	Samples Received
1	0.6°C 0.3°C (Temp Blank)	Twenty-one (21) 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 2, 2013 and August 6, 2013 in support of the Mayflower AR, Project (Arcadis-US Contract # B0086003.1301 and B0086003.1302). The water samples were logged in according to B&B Laboratories standard operating procedure (B&B 1009) and were stored in an access-controlled refrigerator (4.0°C) prior to analysis. The sediment samples were logged in according to B&B Laboratories standard operating procedure (B&B 1009) and were stored in an access-controlled freezer (<-16.0°C) prior to analysis. 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

- 2-Methylphenanthrene was detected outside of the certified concentration limits of ±20% in MS70054K (AR-SRM2779-WK-4.0-002).

Comment

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

Additional QC Batch Information

Observation

- No variances were observed.

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

Arcadis-Mayflower AR
Sample Inventory

#	File Number	Client Identification	Collection Date	Receive Date	Analysis	Matrix	Comments	B&B SDG	Project #
1	ARC1695	SED-DA-EB-05-080313	08/03/13	08/06/13	PAH, TPH, ALI	Water	1 of 2	13080601	B0086003.1302
2	ARC1697	SO-DA-EB-01-080213	08/02/13	08/06/13	PAH, TPH, ALI	Water	1 of 2	13080601	B0086003.1302
3	ARC1699	SED-DA-EB-06-080613	08/06/13	08/07/13	PAH, TPH, ALI	Water	1 of 2	13080701	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	ARC1695.D	ARC1697.D	ARC1699.D
Client Name	SED-DA-EB-05-080313	SO-DA-EB-01-080213	SED-DA-EB-06-080613
Matrix	Water	Water	Water
Collection Date	08/03/13	08/02/13	08/06/13
Received Date	08/06/13	08/06/13	08/07/13
Extraction Date	08/07/13	08/07/13	08/07/13
Extraction Batch	ENV 3072	ENV 3072	ENV 3072
Date Acquired	09-Aug-2013, 03:15:58	09-Aug-2013, 04:26:13	09-Aug-2013, 09:24:36
Method	ALIFRONT.M	ALIFRONT.M	ALIFRONT.M
Sample Volume (L)	1.1	1.0	1.1
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	332		<13	U	<13	U
Total Resolved Hydrocarbons	284		<13	U	<13	U
Unresolved Complex Mixture	48		<13	U	<13	U
EOM (µg/L)	897		59	J	425	

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)	Su Recovery (%)
n-dodecane-d26	72	58	67
n-eicosane-d42	99	89	98
n-triacontane-d62	98	89	98

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

Sample Name	ENV3072A.D
Client Name	Procedural Blank
Matrix	Water
Collection Date	NA
Received Date	NA
Extraction Date	08/07/13
Extraction Batch	ENV 3072
Date Acquired	08-Aug-2013, 23:44:35
Method	ALIFRONT.M
Sample Volume (L)	1.0
Dilution	1X

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

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

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

Sample Name	ENV3072B.D	ENV3072C.D
Client Name	Blank Spike	Blank Spike Duplicate
Matrix	Water	Water
Collection Date	NA	NA
Received Date	NA	NA
Extraction Date	08/07/13	08/07/13
Extraction Batch	ENV 3072	ENV 3072
Date Acquired	09-Aug-2013, 00:54:51	09-Aug-2013, 02:05:40
Method	ALIFRONT.M	ALIFRONT.M
Sample Volume (L)	1.0	1.0
Dilution	1X	1X

Target Compounds	Su. Corrected Conc. (µg/L)	Recovery (%)	Q	Su. Corrected Conc. (µg/L)	Recovery (%)	Q	RPD (%)	Q	Spike Amount (µg)
n-C9	6.87	69		6.74	68		2		10.0
n-C10	7.46	75		7.51	75		1		10.0
n-C11	7.84	79		7.93	80		1		9.90
n-C12	7.97	80		8.08	81		1		10.0
n-C13	8.32	83		8.35	84		0		10.0
n-C14	8.55	87		8.62	87		1		9.86
n-C15	9.42	94		9.35	94		1		9.98
n-C16	9.74	98		9.68	97		1		10.0
n-C17	10.2	102		10.0	100		2		9.94
Pristane	10.3	104		10.1	102		1		9.90
n-C18	10.5	105		10.3	103		2		10.0
Phytane	10.4	105		10.2	103		2		9.91
n-C19	10.6	106		10.4	104		2		10.0
n-C20	10.5	105		10.3	103		2		10.0
n-C21	10.4	103		10.2	102		2		10.0
n-C22	10.5	106		10.3	104		2		9.95
n-C23	10.3	104		10.1	102		2		9.91
n-C24	10.3	103		10.1	101		2		10.0
n-C25	10.3	103		10.1	101		2		10.0
n-C26	10.4	104		10.2	102		2		10.0
n-C27	10.4	105		10.2	103		2		9.89
n-C28	10.6	106		10.4	104		2		10.0
n-C29	10.5	104		10.3	103		2		10.0
n-C30	10.4	104		10.2	102		2		10.0
n-C31	10.5	104		10.3	103		1		10.0
n-C32	10.4	104		10.3	102		1		10.0
n-C33	10.4	104		10.4	103		1		10.0
n-C34	10.5	105		10.4	104		1		10.0
n-C35	10.6	106		10.4	104		2		10.0
n-C36	10.4	105		10.3	104		2		9.90
n-C37	10.7	107		10.5	105		1		10.0
n-C38	10.4	104		10.3	103		1		10.0
n-C39	10.6	106		10.5	104		1		10.0
n-C40	10.6	105		10.4	104		2		10.0
Average %Recovery		100			98				

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)
n-dodecane-d26	77	79
n-eicosane-d42	98	98
n-triacontane-d62	98	98

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

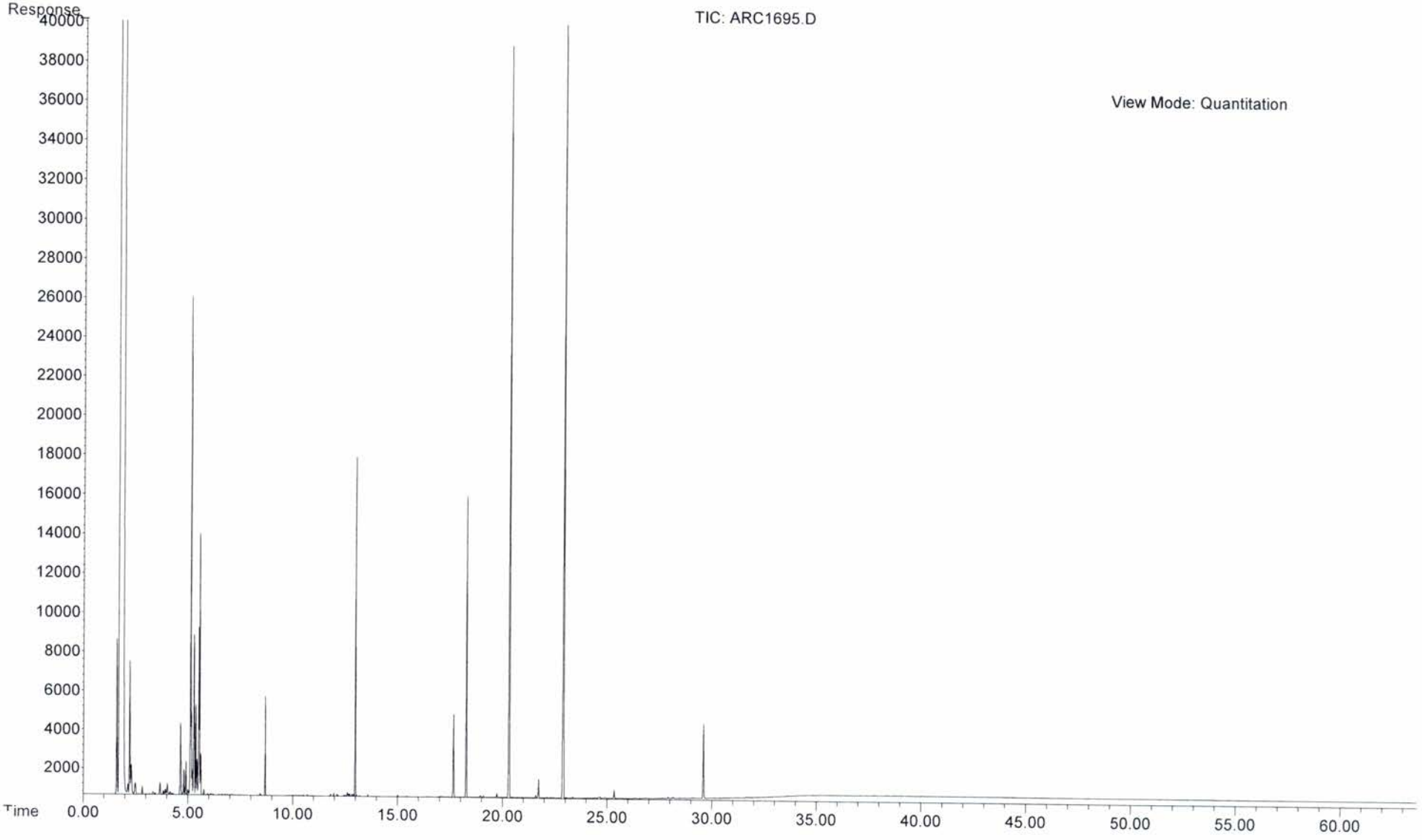
Sample Name	FID10070C.D
Client Name	AL-WKSRM2779-20-01
Matrix	Reference Oil
Collection Date	NA
Received Date	NA
Extraction Date	08/07/13
Extraction Batch	ENV 3072
Date Acquired	08-Aug-2013, 19:03:04
Method	ALIFRONT.M
Sample Dry Weight (mg)	20.0
Sample Wet Weight (mg)	NA
% Dry	NA
% Moisture	NA
% Lipid (dry)	NA
% Lipid (wet)	NA
Dilution	1X

Target Compounds	Su. Corrected Conc. (µg/mg)	Q	Q	RPD (%)	B&B Average	-20% Conc. (µg/mg)	+20% Conc. (µg/mg)
n-C9	13.3			1	13.5	10.8	16.2
n-C10	11.9			1	12.0	9.60	14.4
n-C11	10.8			0	10.8	8.64	13.0
n-C12	9.34			5	9.82	7.86	11.8
n-C13	8.44			0	8.41	6.73	10.1
i-C15	1.92			1	1.95	1.56	2.34
n-C14	7.36			4	7.70	6.16	9.24
i-C16	2.77			6	2.95	2.36	3.54
n-C15	7.18			1	7.23	5.78	8.68
n-C16	5.73			7	6.15	4.92	7.38
i-C18	1.46			7	1.56	1.25	1.87
n-C17	4.93			5	4.69	3.75	5.63
Pristane	2.57			6	2.42	1.94	2.90
n-C18	3.89			1	3.84	3.07	4.61
Phytane	1.51			0	1.51	1.21	1.81
n-C19	3.62			4	3.47	2.78	4.16
n-C20	3.11			9	2.84	2.27	3.41
n-C21	2.60			9	2.37	1.90	2.84
n-C22	2.22			8	2.04	1.63	2.45
n-C23	1.94			5	1.84	1.47	2.21
n-C24	1.70			2	1.66	1.33	1.99
n-C25	1.43			4	1.37	1.10	1.64
n-C26	1.23			8	1.13	0.904	1.36
n-C27	0.938			5	0.892	0.714	1.07
n-C28	0.752			3	0.776	0.621	0.931
n-C29	0.763			3	0.739	0.591	0.887
n-C30	0.695			4	0.666	0.533	0.799
n-C31	0.587			9	0.539	0.431	0.647
n-C32	0.472			6	0.443	0.354	0.532
n-C33	0.514			10	0.467	0.374	0.560
n-C34	0.443			3	0.428	0.342	0.514
n-C35	0.351			3	0.342	0.274	0.410
n-C36	0.210	J		0	0.211	0.169	0.253
n-C37	0.226	J		9	0.206	0.165	0.247
n-C38	0.175	J		2	0.172	0.138	0.206
n-C39	0.160	J		5	0.169	0.135	0.203
n-C40	0.169	J		4	0.176	0.141	0.211
Total Petroleum Hydrocarbons	606			0	607	484	726

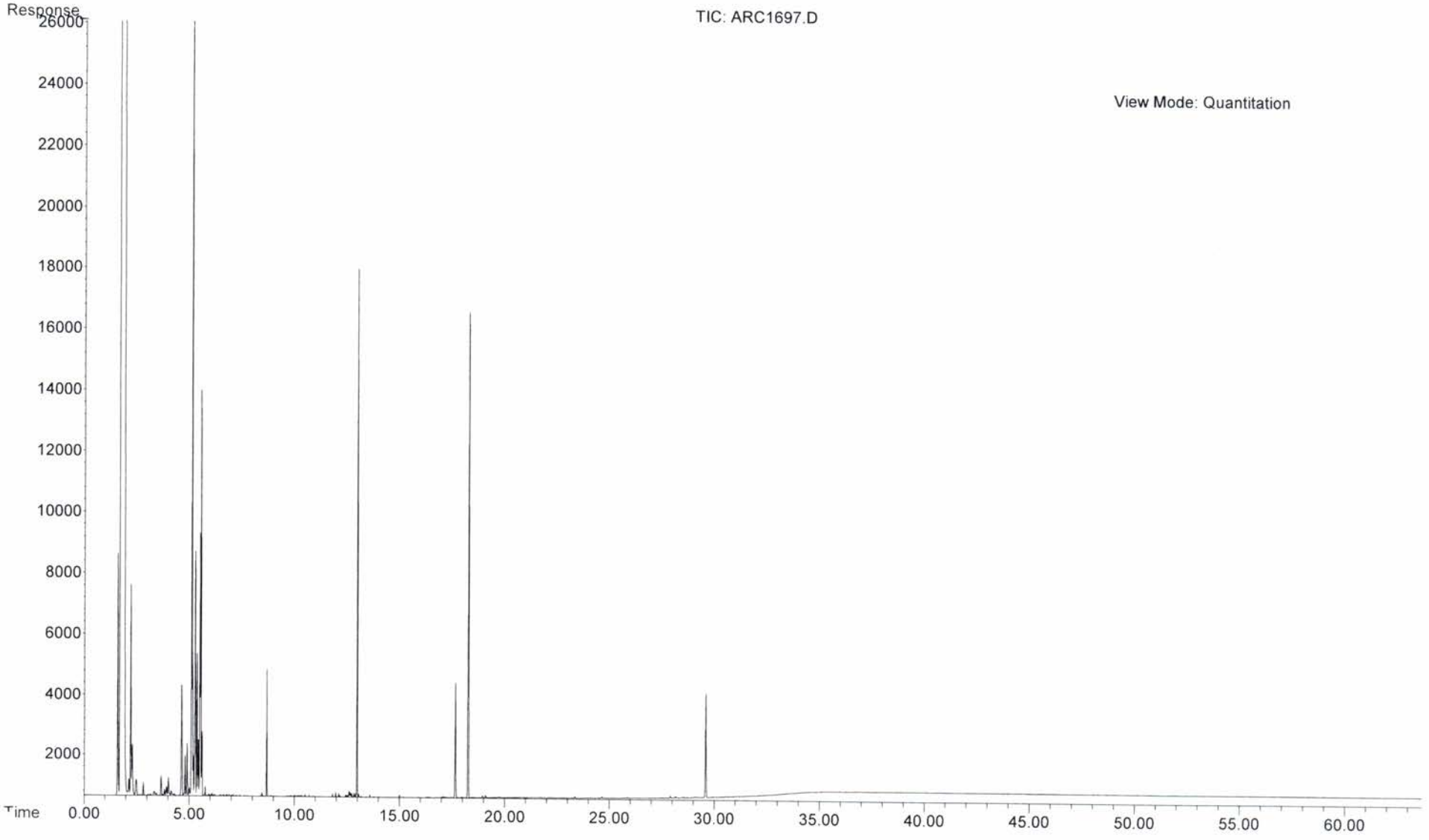
Surrogate (Su)	Su Recovery (%)
n-dodecane-d26	99
n-eicosane-d42	97
n-triacontane-d62	98

Total Petroleum Hydrocarbons Chromatograms

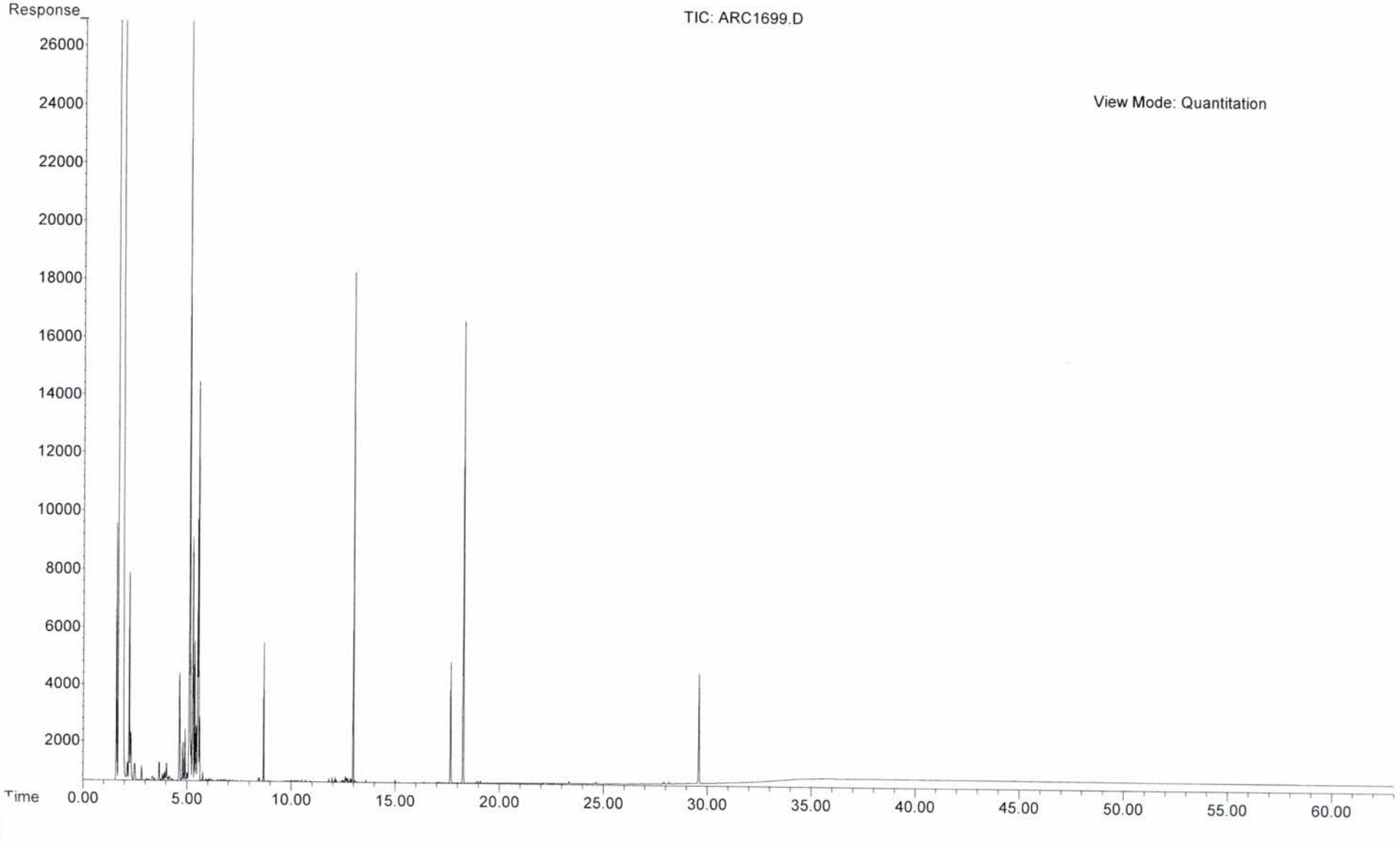
File :P:\2013\J13034\Aliphatics\ENV 3072\FID10070\ARC1695.D
Operator : Meghan Dailey
Acquired : 09-Aug-2013, 03:15 using AcqMethod ALIFRONT.M
Instrument : HP5890
Sample Name: SED-DA-EB-05-080313
Misc Info :
Vial Number: 9



File :P:\2013\J13034\Aliphatics\ENV 3072\FID10070\ARC1697.D
Operator : Meghan Dailey
Acquired : 09-Aug-2013, 04:26 using AcqMethod ALIFRONT.M
Instrument : HP5890
Sample Name: SO-DA-EB-01-080213
Misc Info :
Vial Number: 10



File :P:\2013\J13034\Aliphatics\ENV 3072\FID10070\ARC1699.D
Operator : Meghan Dailey
Acquired : 09-Aug-2013, 09:24 using AcqMethod ALIFRONT.M
Instrument : HP5890
Sample Name: SED-DA-EB-06-080613
Misc Info :
Vial Number: 11



Polycyclic Aromatic Hydrocarbon Concentration

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1695.D	ARC1697.D	ARC1699.D
Client Name	SED-DA-EB-05-080313	SO-DA-EB-01-080213	SED-DA-EB-06-080613
Matrix	Water	Water	Water
Collection Date	08/03/13	08/02/13	08/06/13
Received Date	08/06/13	08/06/13	08/07/13
Extraction Date	08/07/13	08/07/13	08/07/13
Extraction Batch	ENV 3072	ENV 3072	ENV 3072
Date Acquired	8/11/13 6:33	8/11/13 7:42	8/11/13 8:50
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Volume (L)	1.1	1.0	1.1
% Dry	NA	NA	NA
% Moisture	NA	NA	NA
Dilution	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/L)	Q	Su. Corrected Conc. (ng/L)	Q	Su. Corrected Conc. (ng/L)	Q
cis/trans Decalin	<1.1	U	<1.1	U	<1.1	U
C1-Decalins	<2.3	U	<2.3	U	<2.3	U
C2-Decalins	<2.3	U	<2.3	U	<2.3	U
C3-Decalins	<2.3	U	<2.3	U	<2.3	U
C4-Decalins	<2.3	U	<2.3	U	<2.3	U
Naphthalene	103		131		228	
C1-Naphthalenes	2.90		2.77		2.83	
C2-Naphthalenes	<5.8	U	<5.8	U	<5.8	U
C3-Naphthalenes	<5.8	U	<5.8	U	<5.8	U
C4-Naphthalenes	<5.8	U	<5.8	U	<5.8	U
Benzothiophene	<1.3	U	<1.3	U	<1.3	U
C1-Benzothiophenes	<2.6	U	<2.6	U	<2.6	U
C2-Benzothiophenes	<2.6	U	<2.6	U	<2.6	U
C3-Benzothiophenes	<2.6	U	<2.6	U	<2.6	U
C4-Benzothiophenes	<2.6	U	<2.6	U	<2.6	U
Biphenyl	1.60	J	1.37	J	0.964	J
Acenaphthylene	<1.2	U	<1.2	U	<1.2	U
Acenaphthene	<1.4	U	<1.4	U	<1.4	U
Dibenzofuran	1.53		1.41		1.040	J
Fluorene	0.993		0.973		0.782	J
C1-Fluorenes	<1.6	U	<1.6	U	<1.6	U
C2-Fluorenes	<1.6	U	<1.6	U	<1.6	U
C3-Fluorenes	<1.6	U	<1.6	U	<1.6	U
Carbazole	<0.8	U	0.879		0.543	J
Anthracene	<0.8	U	<0.8	U	<0.8	U
Phenanthrene	3.92		4.19		3.29	
C1-Phenanthrenes/Anthracenes	<0.7	U	<0.7	U	<0.7	U
C2-Phenanthrenes/Anthracenes	<3	U	<3	U	<3	U
C3-Phenanthrenes/Anthracenes	<3	U	<3	U	<3	U
C4-Phenanthrenes/Anthracenes	<3	U	<3	U	<3	U
Dibenzothiophene	<0.8	U	<0.8	U	<0.8	U
C1-Dibenzothiophenes	<0.7	U	<0.7	U	<0.7	U
C2-Dibenzothiophenes	<1.3	U	<1.3	U	<1.3	U
C3-Dibenzothiophenes	<1.3	U	<1.3	U	<1.3	U
C4-Dibenzothiophenes	<1.3	U	<1.3	U	<1.3	U
Fluoranthene	<1.1	U	1.66		1.40	
Pyrene	<1.4	U	1.20	J	0.919	J
C1-Fluoranthenes/Pyrenes	<2.5	U	<2.5	U	<2.5	U
C2-Fluoranthenes/Pyrenes	<2.5	U	<2.5	U	<2.5	U
C3-Fluoranthenes/Pyrenes	<2.5	U	<2.5	U	<2.5	U
C4-Fluoranthenes/Pyrenes	<2.5	U	<2.5	U	<2.5	U
Naphthobenzothiophene	<1	U	<1	U	<1	U
C1-Naphthobenzothiophenes	<2.1	U	<2.1	U	<2.1	U
C2-Naphthobenzothiophenes	<2.1	U	<2.1	U	<2.1	U
C3-Naphthobenzothiophenes	<2.1	U	<2.1	U	<2.1	U
C4-Naphthobenzothiophenes	<2.1	U	<2.1	U	<2.1	U
Benz(a)anthracene	<0.7	U	<0.7	U	<0.7	U
Chrysene/Triphenylene	<0.8	U	<0.8	U	<0.8	U
C1-Chrysenes	<1.6	U	<1.6	U	<1.6	U
C2-Chrysenes	<1.6	U	<1.6	U	<1.6	U
C3-Chrysenes	<1.6	U	<1.6	U	<1.6	U
C4-Chrysenes	<1.6	U	<1.6	U	<1.6	U
Benzo(b)fluoranthene	<2.4	U	<2.4	U	<2.4	U
Benzo(k,j)fluoranthene	<2.5	U	<2.5	U	<2.5	U
Benzo(a)fluoranthene	<2.5	U	<2.5	U	<2.5	U
Benzo(e)pyrene	<2.7	U	<2.7	U	<2.7	U
Benzo(a)pyrene	<1.9	U	<1.9	U	<1.9	U
Perylene	<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
Dibenzo(a,h)anthracene	<1.1	U	<1.1	U	<1.1	U
Benzo(g,h,i)perylene	<2.5	U	<2.5	U	<2.5	U
Total PAHs	114		145		240	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC1695.D	ARC1697.D	ARC1699.D
Client Name	SED-DA-EB-05-080313	SO-DA-EB-01-080213	SED-DA-EB-06-080613
Matrix	Water	Water	Water
Collection Date	08/03/13	08/02/13	08/06/13
Received Date	08/06/13	08/06/13	08/07/13
Extraction Date	08/07/13	08/07/13	08/07/13
Extraction Batch	ENV 3072	ENV 3072	ENV 3072
Date Acquired	8/11/13 6:33	8/11/13 7:42	8/11/13 8:50
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Volume (L)	1.1	1.0	1.1
% Dry	NA	NA	NA
% Moisture	NA	NA	NA
Dilution	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/L)	Q	Su. Corrected Conc. (ng/L)	Q	Su. Corrected Conc. (ng/L)	Q
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	2.76		2.88		2.78	
1-Methylnaphthalene	2.08		1.71		1.94	
2,6-Dimethylnaphthalene	<0.7	U	<0.7	U	<0.7	U
1,6,7-Trimethylnaphthalene	<0.7	U	<0.7	U	<0.7	U
1-Methylfluorene	<1.5	U	<1.5	U	<1.5	U
4-Methyldibenzothiophene	<1	U	<1	U	<1	U
2/3-Methyldibenzothiophene	<1	U	<1	U	<1	U
1-Methyldibenzothiophene	<1	U	<1	U	<1	U
3-Methylphenanthrene	<0.9	U	<0.9	U	<0.9	U
2-Methylphenanthrene	<0.9	U	<0.9	U	<0.9	U
2-Methylanthracene	<0.9	U	<0.9	U	<0.9	U
4/9-Methylphenanthrene	<0.9	U	<0.9	U	<0.9	U
1-Methylphenanthrene	<0.9	U	<0.9	U	<0.9	U
3,6-Dimethylphenanthrene	<1.7	U	<1.7	U	<1.7	U
Retene	<1.6	U	<1.6	U	<1.6	U
2-Methylfluoranthene	<1.1	U	<1.1	U	<1.1	U
Benzo(b)fluorene	<1.4	U	<1.4	U	<1.4	U
C29-Hopane	<8.2	U	<8.2	U	<8.2	U
18a-Oleanane	<8.2	U	<8.2	U	<8.2	U
C30-Hopane	<8.2	U	<8.2	U	<8.2	U
C20-TAS	<2.6	U	<2.6	U	<2.6	U
C21-TAS	<2.6	U	<2.6	U	<2.6	U
C26(20S)-TAS	<2.6	U	<2.6	U	<2.6	U
C26(20R)/C27(20S)-TAS	<2.6	U	<2.6	U	<2.6	U
C28(20S)-TAS	<2.6	U	<2.6	U	<2.6	U
C27(20R)-TAS	<2.6	U	<2.6	U	<2.6	U
C28(20R)-TAS	<2.6	U	<2.6	U	<2.6	U
Surrogate Recovery						
Naphthalene-d8	81		74		80	
Acenaphthene-d10	85		77		83	
Phenanthrene-d10	75		73		77	
Chrysene-d12	78		72		73	
Perylene-d12	84		78		81	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Procedural Blank Report

Sample Name	ENV3072A.D
Client Name	Procedural Blank
Matrix	Water
Collection Date	NA
Received Date	NA
Extraction Date	08/07/13
Extraction Batch	ENV 3072
Date Acquired	8/11/13 3:08
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	3.32		8.72	2.91
C1-Naphthalenes	1.58		4.09	1.36
C2-Naphthalenes	<5.8	U	17.45	5.82
C3-Naphthalenes	<5.8	U	17.45	5.82
C4-Naphthalenes	<5.8	U	17.45	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	1.00	J	15.27	5.09
Acenaphthylene	<1.2	U	3.52	1.17
Acenaphthene	<1.4	U	4.31	1.44
Dibenzofuran	<1.2	U	3.57	1.19
Fluorene	<0.8	U	2.44	0.813
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	0.939	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	6.84			

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Procedural Blank Report

Sample Name	ENV3072A.D
Client Name	Procedural Blank
Matrix	Water
Collection Date	NA
Received Date	NA
Extraction Date	08/07/13
Extraction Batch	ENV 3072
Date Acquired	8/11/13 3:08
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	1.78		3.31	1.10
1-Methylnaphthalene	0.835	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	79
Acenaphthene-d10	83
Phenanthrene-d10	78
Chrysene-d12	83
Perylene-d12	87

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Blank Spike Report

Sample Name	ENV3072B.D	ENV3072C.D
Client Name	Blank Spike	Blank Spike Dupl.
Matrix	Water	Water
Collection Date	NA	NA
Received Date	NA	NA
Extraction Date	08/07/13	08/07/13
Extraction Batch	ENV 3072	ENV 3072
Date Acquired	8/11/13 4:16	8/11/13 5:25
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 (%)	RPD (%)	Q	Spike amount (ng)
cis/trans Decalin	80.5		81		93.7		95	15		98.9
C1-Decalins	NA				NA					
C2-Decalins	NA				NA					
C3-Decalins	NA				NA					
C4-Decalins	NA				NA					
Naphthalene	95.2		95		118.3		118	22		100
C1-Naphthalenes	NA				NA					
C2-Naphthalenes	NA				NA					
C3-Naphthalenes	NA				NA					
C4-Naphthalenes	NA				NA					
Benzothiophene	92.5		93		95.4		96	3		99.4
C1-Benzothiophenes	NA				NA					
C2-Benzothiophenes	NA				NA					
C3-Benzothiophenes	NA				NA					
C4-Benzothiophenes	NA				NA					
Biphenyl	91.9		93		89.7		91	2		99.1
Acenaphthylene	86.5		87		88.0		89	2		99.2
Acenaphthene	94.6		94		97.0		97	3		100
Dibenzofuran	94.8		95		95.0		95	0		99.5
Fluorene	95.5		95		96.8		97	1		100
C1-Fluorenes	NA				NA					
C2-Fluorenes	NA				NA					
C3-Fluorenes	NA				NA					
Carbazole	86.4		87		88.2		89	2		99.1
Anthracene	86.2		86		86.0		86	0		100
Phenanthrene	90.7		92		91.2		92	1		99.1
C1-Phenanthrenes/Anthracenes	NA				NA					
C2-Phenanthrenes/Anthracenes	NA				NA					
C3-Phenanthrenes/Anthracenes	NA				NA					
C4-Phenanthrenes/Anthracenes	NA				NA					
Dibenzothiophene	114		116		114		116	0		98.6
C1-Dibenzothiophenes	NA				NA					
C2-Dibenzothiophenes	NA				NA					
C3-Dibenzothiophenes	NA				NA					
C4-Dibenzothiophenes	NA				NA					
Fluoranthene	102		102		101		101	0		100
Pyrene	91.5		92		91.1		91	0		100
C1-Fluoranthenes/Pyrenes	NA				NA					
C2-Fluoranthenes/Pyrenes	NA				NA					
C3-Fluoranthenes/Pyrenes	NA				NA					
C4-Fluoranthenes/Pyrenes	NA				NA					
Naphthobenzothiophene	94.6		94		92.2		92	3		101
C1-Naphthobenzothiophenes	NA				NA					
C2-Naphthobenzothiophenes	NA				NA					
C3-Naphthobenzothiophenes	NA				NA					
C4-Naphthobenzothiophenes	NA				NA					
Benz(a)anthracene	93.3		93		90.6		91	3		99.8
Chrysene/Triphenylene	94.8		95		95.2		96	0		99.4
C1-Chrysenes	NA				NA					
C2-Chrysenes	NA				NA					
C3-Chrysenes	NA				NA					
C4-Chrysenes	NA				NA					
Benzo(b)fluoranthene	98.7		99		99.4		99	1		100
Benzo(k,j)fluoranthene	99.9		100		99.5		100	0		99.6
Benzo(a)fluoranthene	NA				NA					
Benzo(e)pyrene	107		107		105		105	2		99.6
Benzo(a)pyrene	94.6		95		93.1		93	2		99.8
Perylene	111		111		110		110	1		100
Indeno(1,2,3-c,d)pyrene	91.5		93		91.5		93	0		98.3
Dibenzo(a,h)anthracene	98.7		100		95.2		96	4		99.1
Benzo(g,h,i)perylene	92.9		94		91.3		92	2		99.1
Average % Recovery			97				97			

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Blank Spike Report

Sample Name	ENV3072B.D	ENV3072C.D
Client Name	Blank Spike	Blank Spike Dupl.
Matrix	Water	Water
Collection Date	NA	NA
Received Date	NA	NA
Extraction Date	08/07/13	08/07/13
Extraction Batch	ENV 3072	ENV 3072
Date Acquired	8/11/13 4:16	8/11/13 5:25
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)
Individual Alkyl Isomers and Hopanes											
2-Methylnaphthalene	91.2		91		93.0		93		2		100
1-Methylnaphthalene	91.5		92		93.2		93		2		99.9
2,6-Dimethylnaphthalene	86.4		86		88.6		89		2		100
1,6,7-Trimethylnaphthalene	96.5		97		98.3		98		2		100
1-Methylfluorene	94.9		94		94.7		94		0		101
4-Methyldibenzothiophene	90.2		89		92.6		92		3		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	101		103		100		102		1		98.9
3,6-Dimethylphenanthrene	96.0		96		95.2		95		1		100
Retene	88.3		99		84.8		95		4		89.4
2-Methylfluoranthene	98.5		98		95.7		95		3		101
Benzo(b)fluorene	115		114		113.4		112		2		101
C29-Hopane	NA				NA						
18a-Oleanane	NA				NA						
C30-Hopane	102		102		111		111		8		100
C20-TAS	NA				NA						
C21-TAS	NA				NA						
C26(20S)-TAS	NA				NA						
C26(20R)/C27(20S)-TAS	118		118		113		113		5		100
C28(20S)-TAS	NA				NA						
C27(20R)-TAS	NA				NA						
C28(20R)-TAS	NA				NA						

Surrogate Recovery		
Naphthalene-d8	78	80
Acenaphthene-d10	84	86
Phenanthrene-d10	80	81
Chrysene-d12	83	82
Perylene-d12	86	87

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

Sample Name	MS70054K.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 3072
Date Acquired	8/11/13 1:59
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	643						
C1-Decalins	936						
C2-Decalins	797						
C3-Decalins	697						
C4-Decalins	383						
Naphthalene	688			22	855 ± 46	647	1081
C1-Naphthalenes	1417						
C2-Naphthalenes	1726						
C3-Naphthalenes	1150						
C4-Naphthalenes	592						
Benzothiophene	7.5	J					
C1-Benzothiophenes	32.5						
C2-Benzothiophenes	27.1						
C3-Benzothiophenes	36.6						
C4-Benzothiophenes	23.9						
Biphenyl	150						
Acenaphthylene	8.27	J					
Acenaphthene	16.6						
Dibenzofuran	28.6						
Fluorene	118						
C1-Fluorenes	263						
C2-Fluorenes	360						
C3-Fluorenes	255						
Carbazole	4.2	J					
Anthracene	4.0	J		15	3.42 ± 0.59	2.26	4.81
Phenanthrene	235			9	258 ± 27	185	342
C1-Phenanthrenes/Anthracenes	476						
C2-Phenanthrenes/Anthracenes	536						
C3-Phenanthrenes/Anthracenes	354						
C4-Phenanthrenes/Anthracenes	223						
Dibenzothiophene	45.2			14	51.8 ± 2.1	39.8	64.7
C1-Dibenzothiophenes	133						
C2-Dibenzothiophenes	165						
C3-Dibenzothiophenes	125						
C4-Dibenzothiophenes	63.3						
Fluoranthene	4.97	J		13	4.36 ± 0.40	3.17	5.71
Pyrene	13.1			12	14.81 ± 0.39	11.5	18.2
C1-Fluoranthenes/Pyrenes	64.5						
C2-Fluoranthenes/Pyrenes	134						
C3-Fluoranthenes/Pyrenes	130						
C4-Fluoranthenes/Pyrenes	112						
Naphthobenzothiophene	17.8						
C1-Naphthobenzothiophenes	51.0						
C2-Naphthobenzothiophenes	55.4						
C3-Naphthobenzothiophenes	43.9						
C4-Naphthobenzothiophenes	18.4						
Benz(a)anthracene	6.60	J		6	7.03 ± 0.85	4.94	9.5
Chrysene/Triphenylene	38.8			20	47.4 ± 1.7	36.6	58.9
C1-Chrysenes	84.6						
C2-Chrysenes	109						
C3-Chrysenes	72.9						
C4-Chrysenes	44.7						
Benzo(b)fluoranthene	4.30	J		27	5.62 ± 0.34	4.22	7.15
Benzo(k,j)fluoranthene	0.168	J					
Benzo(a)fluoranthene	<10	U					
Benzo(e)pyrene	8.8	J		20	10.78 ± 0.60	8.14	13.7
Benzo(a)pyrene	1.69	J					
Perylene	0.501	J					
Indeno(1,2,3-c,d)pyrene	0.599	J					
Dibenzo(a,h)anthracene	0.528	J		8	0.574 ± 0.091	0.386	0.798
Benzo(g,h,i)perylene	1.53	J		32	2.11 ± 0.26	1.48	2.84
Total PAHs	13740						

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

Sample Name	MS70054K.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 3072
Date Acquired	8/11/13 1:59
Method	PAH-2012.M
Sample Weight (mg)	4.1

Target Compounds **Individual Alkyl Isomers and Hopanes**	Su. Corrected Conc. (ng/mg)	Q	RPD (%)	SRM 2779 Certified Value (ug/g)	-20% Certified Value (ug/g)	+20% Certified Value (ug/g)
2-Methylnaphthalene	1416		14	1630 ± 50	1264	2016
1-Methylnaphthalene	938		19	1140 ± 20	896	1392
2,6-Dimethylnaphthalene	840					
1,6,7-Trimethylnaphthalene	235					
1-Methylfluorene	194					
4-Methyldibenzothiophene	84.8					
2/3-Methyldibenzothiophene	38.8					
1-Methyldibenzothiophene	25.8					
3-Methylphenanthrene	171		18	206 ± 32	139	286
2-Methylphenanthrene	164	*	34	230 ± 14	173	293
2-Methylanthracene	10.4					
4/9-Methylphenanthrene	182		24	232 ± 19	170	301
1-Methylphenanthrene	148		13	169 ± 10	127	215
3,6-Dimethylphenanthrene	41					
Retene	21.9					
2-Methylfluoranthene	5.53	J				
Benzo(b)fluorene	15.8					
C29-Hopane	20.4					
18a-Oleanane	<10	U				
C30-Hopane	40.3					
C20-TAS	3.30	J				
C21-TAS	7.99	J				
C26(20S)-TAS	3.19	J				
C26(20R)/C27(20S)-TAS	11.3					
C28(20S)-TAS	8.0	J				
C27(20R)-TAS	6.71	J				
C28(20R)-TAS	6.26	J				

Surrogate Recovery

Naphthalene-d8	92
Acenaphthene-d10	93
Phenanthrene-d10	90
Chrysene-d12	99
Perylene-d12	82

Peak Resolution

4/9-Methylphenanthrene from 1-Methylyphenanthrene (m/z 192)	89%

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

Sample Name	MS70054L.D
Client Name	AR-WKCC-250-038
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3072
Date Acquired	8/11/13 9:59
Method	PAH-2012.M
Sample Volume (mL)	1.0

Target Compounds	Concentration (ng/mL)	Q	RPD (%)	LCM Certified Conc. (ng/mL)	-15% Certified Conc. (ng/mL)	+15% Certified Conc. (ng/mL)
cis/trans Decalin	242		2.0	247	210	284
C1-Decalins	NA					
C2-Decalins	NA					
C3-Decalins	NA					
C4-Decalins	NA					
Naphthalene	251		0.2	250	213	288
C1-Naphthalenes	NA					
C2-Naphthalenes	NA					
C3-Naphthalenes	NA					
C4-Naphthalenes	NA					
Benzothiophene	247		0.8	249	211	286
C1-Benzothiophenes	NA					
C2-Benzothiophenes	NA					
C3-Benzothiophenes	NA					
C4-Benzothiophenes	NA					
Biphenyl	239		3.7	248	211	285
Acenaphthylene	216		14.0	248	211	285
Acenaphthene	246		1.7	251	213	288
Dibenzofuran	235		5.6	249	211	286
Fluorene	234		6.7	251	213	288
C1-Fluorenes	NA					
C2-Fluorenes	NA					
C3-Fluorenes	NA					
Carbazole	222		11.1	248	211	285
Anthracene	240		4.4	251	213	288
Phenanthrene	250		0.7	248	211	285
C1-Phenanthrenes/Anthracenes	NA					
C2-Phenanthrenes/Anthracenes	NA					
C3-Phenanthrenes/Anthracenes	NA					
C4-Phenanthrenes/Anthracenes	NA					
Dibenzothiophene	269		8.7	247	210	283
C1-Dibenzothiophenes	NA					
C2-Dibenzothiophenes	NA					
C3-Dibenzothiophenes	NA					
C4-Dibenzothiophenes	NA					
Fluoranthene	276		9.7	250	213	288
Pyrene	244		2.4	250	213	288
C1-Fluoranthenes/Pyrenes	NA					
C2-Fluoranthenes/Pyrenes	NA					
C3-Fluoranthenes/Pyrenes	NA					
C4-Fluoranthenes/Pyrenes	NA					
Naphthobenzothiophene	239		4.9	252	214	289
C1-Naphthobenzothiophenes	NA					
C2-Naphthobenzothiophenes	NA					
C3-Naphthobenzothiophenes	NA					
C4-Naphthobenzothiophenes	NA					
Benz(a)anthracene	215		14.7	250	212	287
Chrysene/Triphenylene	265		6.6	249	211	286
C1-Chrysenes	NA					
C2-Chrysenes	NA					
C3-Chrysenes	NA					
C4-Chrysenes	NA					
Benzo(b)fluoranthene	248		1.0	251	213	288
Benzo(k,j)fluoranthene	271		8.6	249	212	286
Benzo(a)fluoranthene	NA					
Benzo(e)pyrene	265		6.4	249	212	286
Benzo(a)pyrene	233		6.9	250	212	287
Perylene	235		6.4	250	213	288
Indeno(1,2,3-c,d)pyrene	215		13.4	246	209	283
Dibenzo(a,h)anthracene	225		9.6	248	211	285
Benzo(g,h,i)perylene	225		9.6	248	211	285

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

Sample Name	MS70054L.D
Client Name	AR-WKCC-250-038
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3072
Date Acquired	8/11/13 9:59
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	240		4.1	250	213	288
1-Methylnaphthalene	244		2.4	250	212	287
2,6-Dimethylnaphthalene	233		7.0	250	213	288
1,6,7-Trimethylnaphthalene	241		3.8	250	213	288
1-Methylfluorene	215		15.8	252	214	290
4-Methyldibenzothiophene	257		2.1	252	214	290
2/3-Methyldibenzothiophene	NA					
1-Methyldibenzothiophene	NA					
3-Methylphenanthrene	NA					
2-Methylphenanthrene	NA					
2-Methylanthracene	NA					
4/9-Methylphenanthrene	NA					
1-Methylphenanthrene	264		6.7	247	210	284
3,6-Dimethylphenanthrene	274		9.2	250	213	288
Retene	217		2.8	223	190	257
2-Methylfluoranthene	242		3.9	252	214	289
Benzo(b)fluorene	251		0.5	252	214	290
C29-Hopane	NA					
18a-Oleanane	NA					
C30-Hopane	224		11.0	250	213	288
C20-TAS	NA					
C21-TAS	NA					
C26(20S)-TAS	NA					
C26(20R)/C27(20S)-TAS	216		14.8	250	213	288
C28(20S)-TAS	NA					
C27(20R)-TAS	NA					
C28(20R)-TAS	NA					

Surrogate Recovery

Naphthalene-d8	97
Acenaphthene-d10	95
Phenanthrene-d10	104
Chrysene-d12	103
Perylene-d12	96

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

Sample Name	MS70054I.D
Client Name	AR-WKICV-250-004
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3072
Date Acquired	8/10/13 23:42
Method	PAH-2012.M
Sample Volume (mL)	1.0

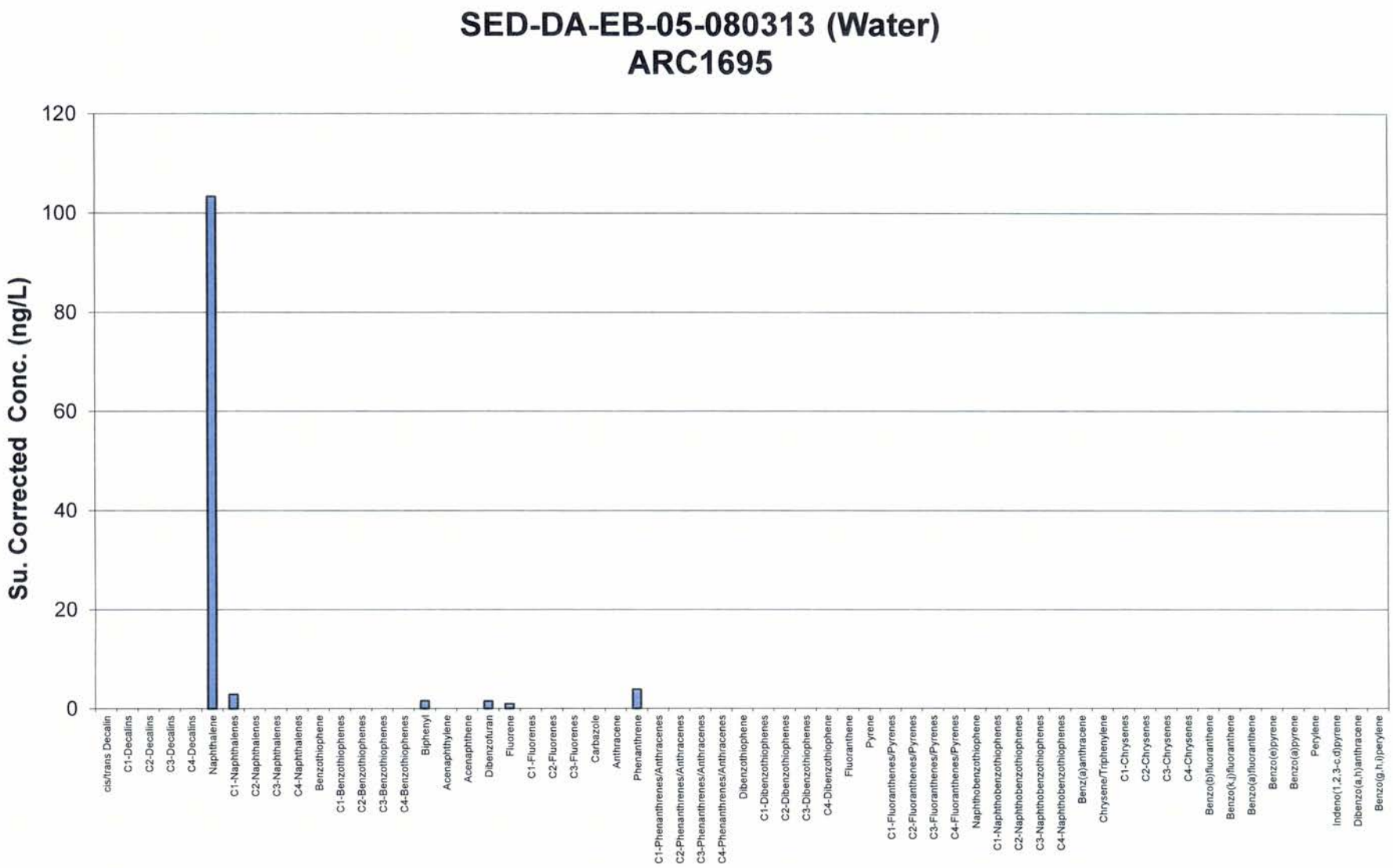
Target Compounds	Concentration (ng/mL)	Q	RPD (%)	ICV Certified Conc. (ng/mL)	-20% Certified Conc. (ng/mL)	+20% Certified Conc. (ng/mL)
cis/trans Decalin	267		6.5	250	200	300
C1-Decalins	NA					
C2-Decalins	NA					
C3-Decalins	NA					
C4-Decalins	NA					
Naphthalene	280		11.1	250	200	300
C1-Naphthalenes	NA					
C2-Naphthalenes	NA					
C3-Naphthalenes	NA					
C4-Naphthalenes	NA					
Benzothiophene	282		12.0	250	200	300
C1-Benzothiophenes	NA					
C2-Benzothiophenes	NA					
C3-Benzothiophenes	NA					
C4-Benzothiophenes	NA					
Biphenyl	278		10.3	251	201	301
Acenaphthylene	250					
Acenaphthene	281		11.7	250	200	300
Dibenzofuran	279		10.8	250	200	300
Fluorene	274		9.2	250	200	300
C1-Fluorenes	NA					
C2-Fluorenes	NA					
C3-Fluorenes	NA					
Carbazole	234		6.9	250	200	300
Anthracene	261		4.1	250	200	300
Phenanthrene	270		7.8	250	200	300
C1-Phenanthrenes/Anthracenes	NA					
C2-Phenanthrenes/Anthracenes	NA					
C3-Phenanthrenes/Anthracenes	NA					
C4-Phenanthrenes/Anthracenes	NA					
Dibenzothiophene	278		10.5	250	200	300
C1-Dibenzothiophenes	NA					
C2-Dibenzothiophenes	NA					
C3-Dibenzothiophenes	NA					
C4-Dibenzothiophenes	NA					
Fluoranthene	279		10.9	250	200	300
Pyrene	268		7.0	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	252		0.8	250	200	300
Chrysene/Triphenylene	288		14.2	250	200	300
C1-Chrysenes	NA					
C2-Chrysenes	NA					
C3-Chrysenes	NA					
C4-Chrysenes	NA					
Benzo(b)fluoranthene	280		11.2	250	200	300
Benzo(k,j)fluoranthene	296		16.8	250	200	300
Benzo(a)fluoranthene	NA					
Benzo(e)pyrene	285		13.1	250	200	300
Benzo(a)pyrene	277		10.2	250	200	300
Perylene	275		9.5	251	200	301
Indeno(1,2,3-c,d)pyrene	264		5.4	250	200	300
Dibenzo(a,h)anthracene	282		11.8	250	200	300
Benzo(g,h,i)perylene	269		7.3	250	200	300

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

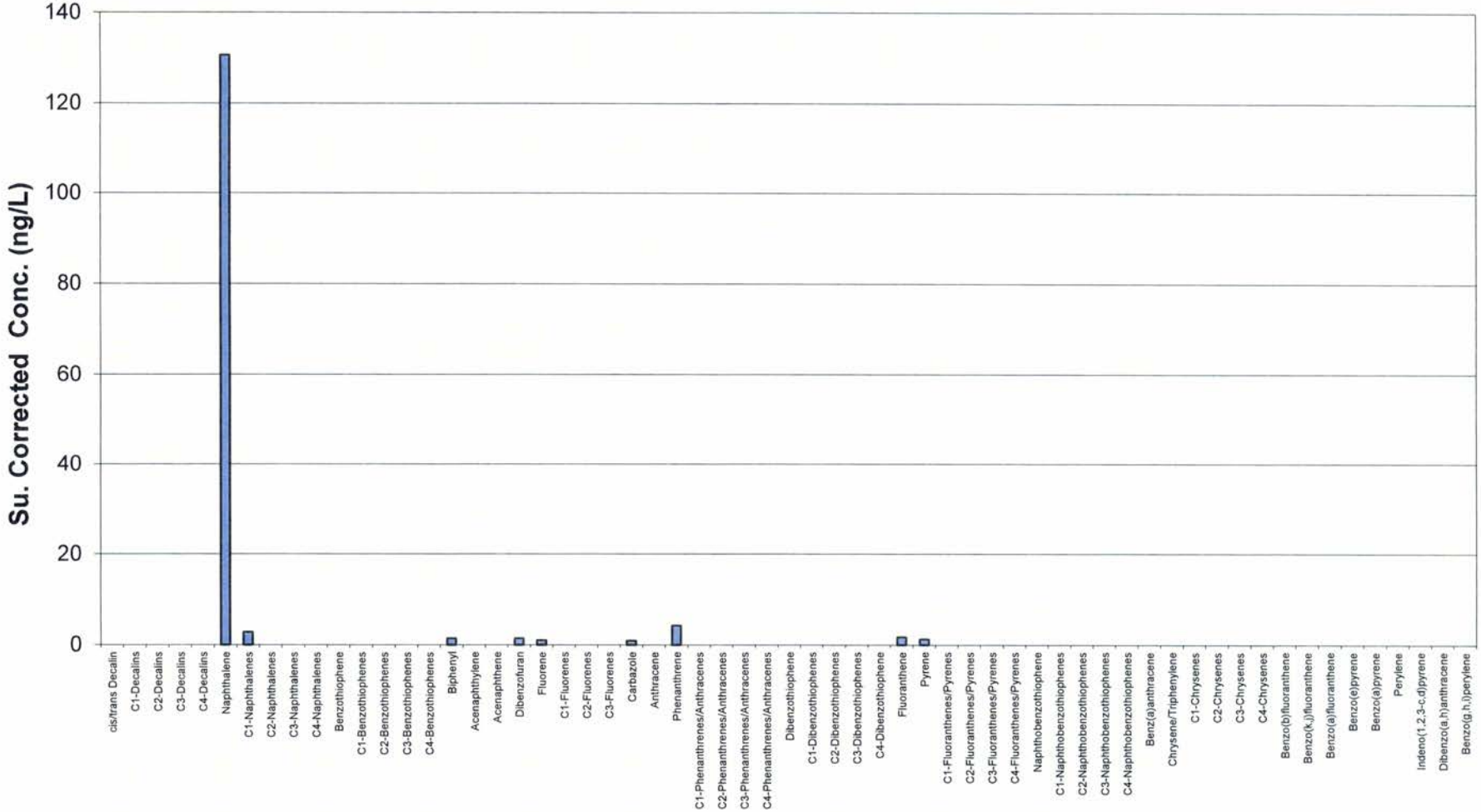
Sample Name	MS70054I.D
Client Name	AR-WKICV-250-004
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV 3072
Date Acquired	8/10/13 23:42
Method	PAH-2012.M
Sample Volume (mL)	1.0

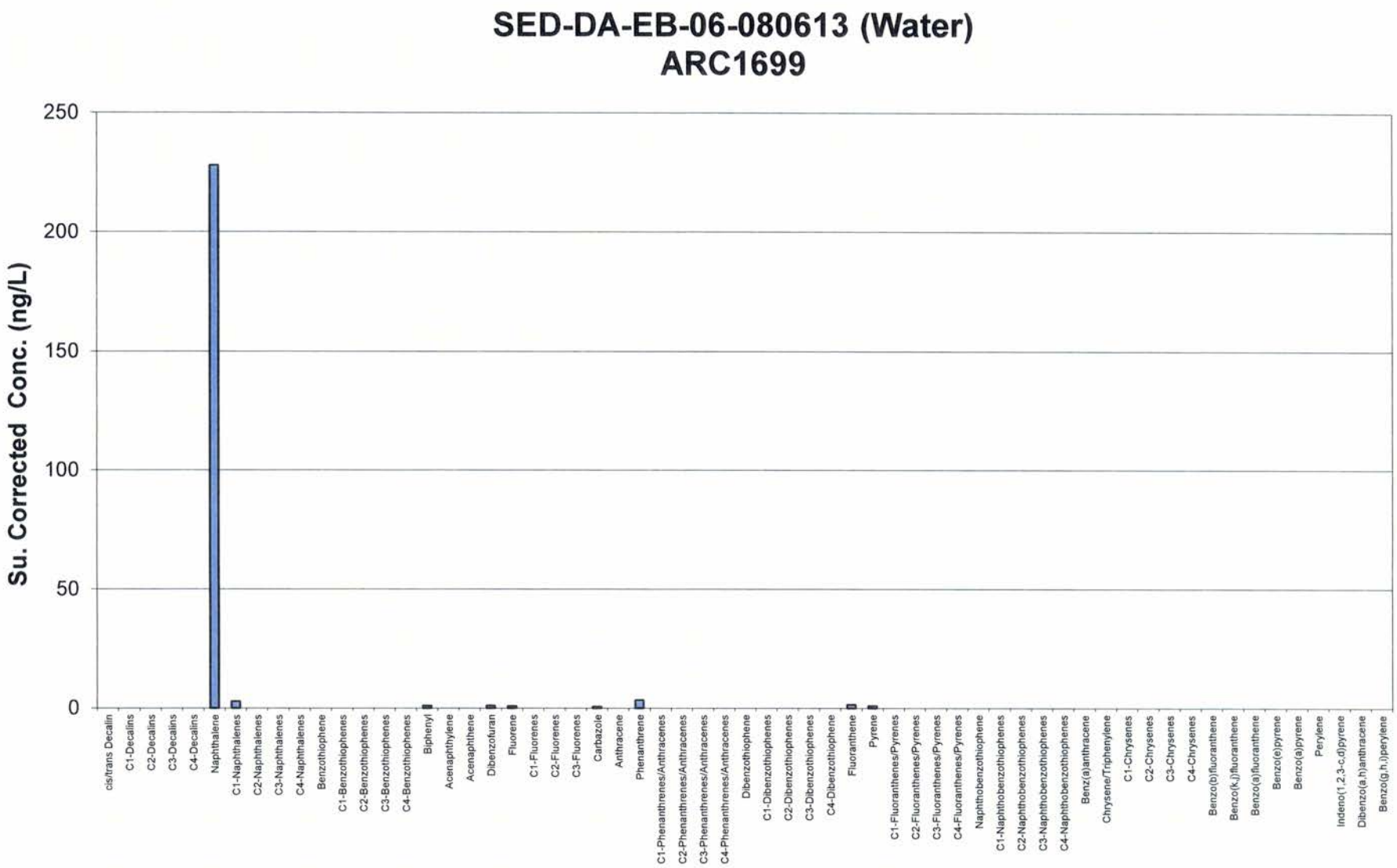
Target Compounds	Concentration (ng/mL)	Q	RPD (%)	ICV Certified Conc. (ng/mL)	-20% Certified Conc. (ng/mL)	+20% Certified Conc. (ng/mL)
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	284		12.6	250	200	301
1-Methylnaphthalene	285		12.8	251	200	301
2,6-Dimethylnaphthalene	271		7.8	250	200	300
1,6,7-Trimethylnaphthalene	275		9.3	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	276		9.9	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	228		9.2	250	200	300
Acenaphthene-d10	223		11.4	250	200	300
Phenanthrene-d10	223		11.5	250	200	300
Chrysene-d12	229		9.0	250	200	300
Perylene-d12	220		13.0	250	200	300

Polycyclic Aromatic Hydrocarbon Histograms


SED-DA-EB-05-080313 (Water)
ARC1695
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-Dibenzothiophene
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

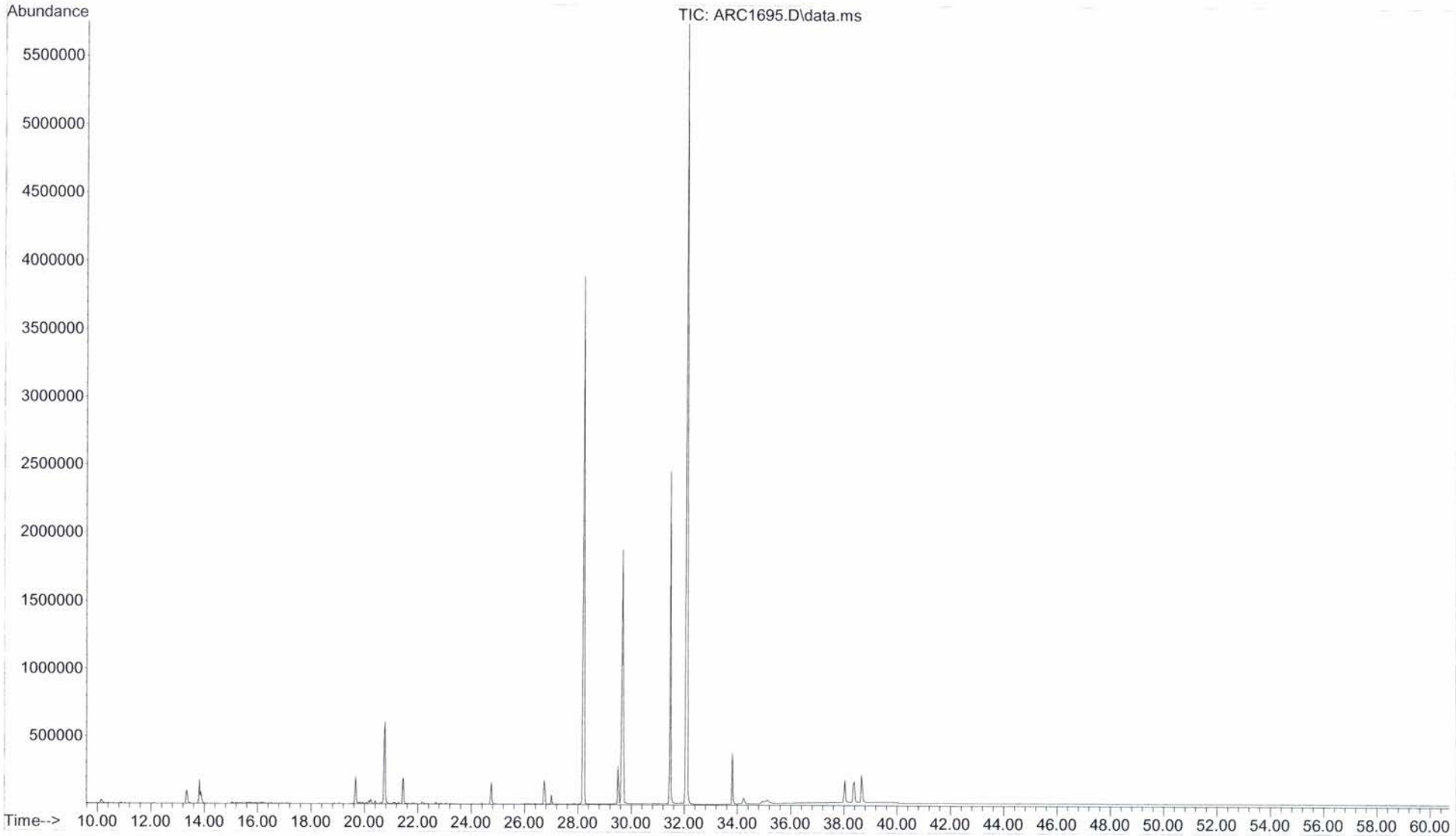
SO-DA-EB-01-080213 (Water)
ARC1697



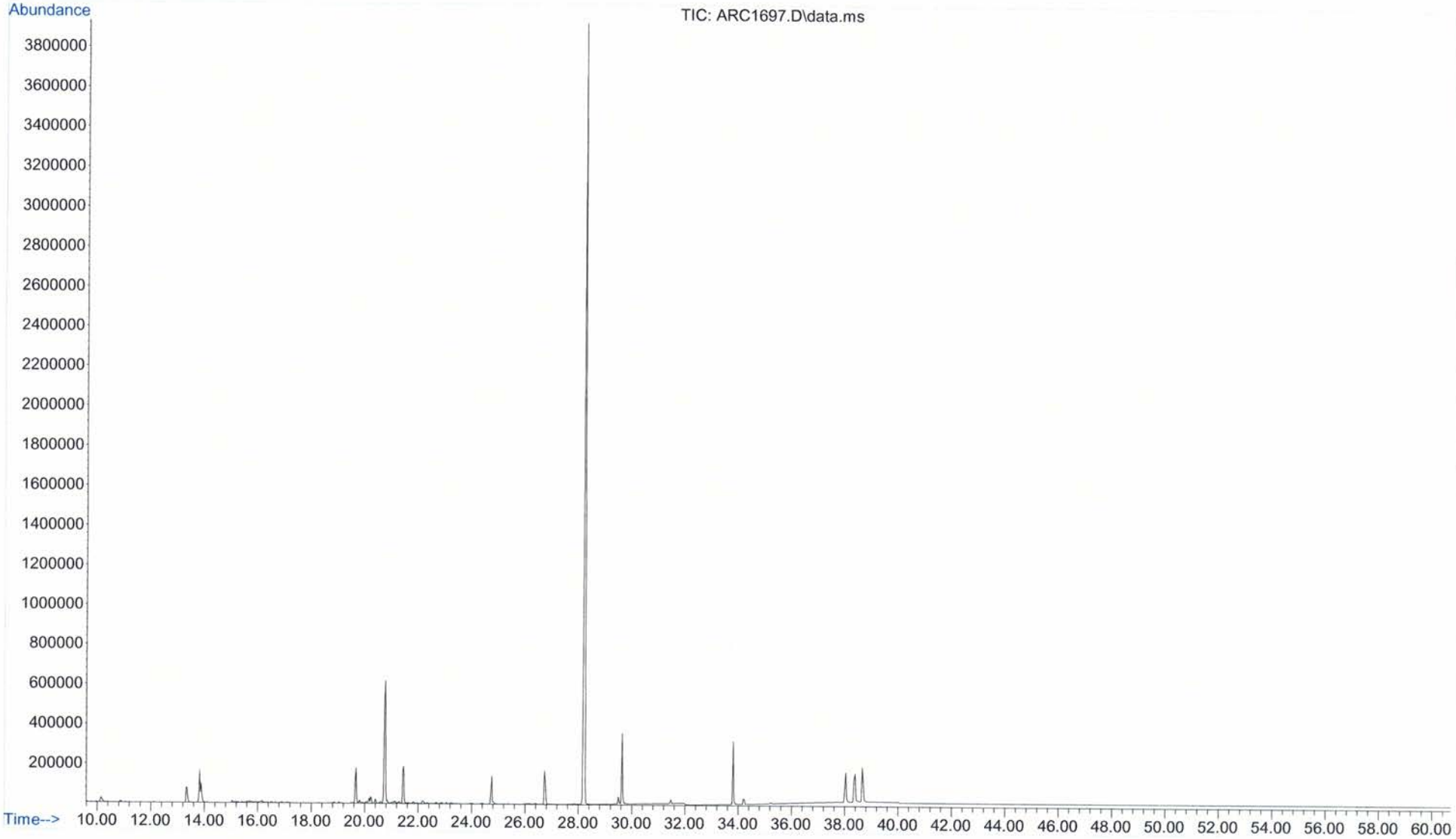

SED-DA-EB-06-080613 (Water)
ARC1699
Su. Corrected Conc. (ng/L)
250
200
150
100
50
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
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-Dibenzothiophene
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

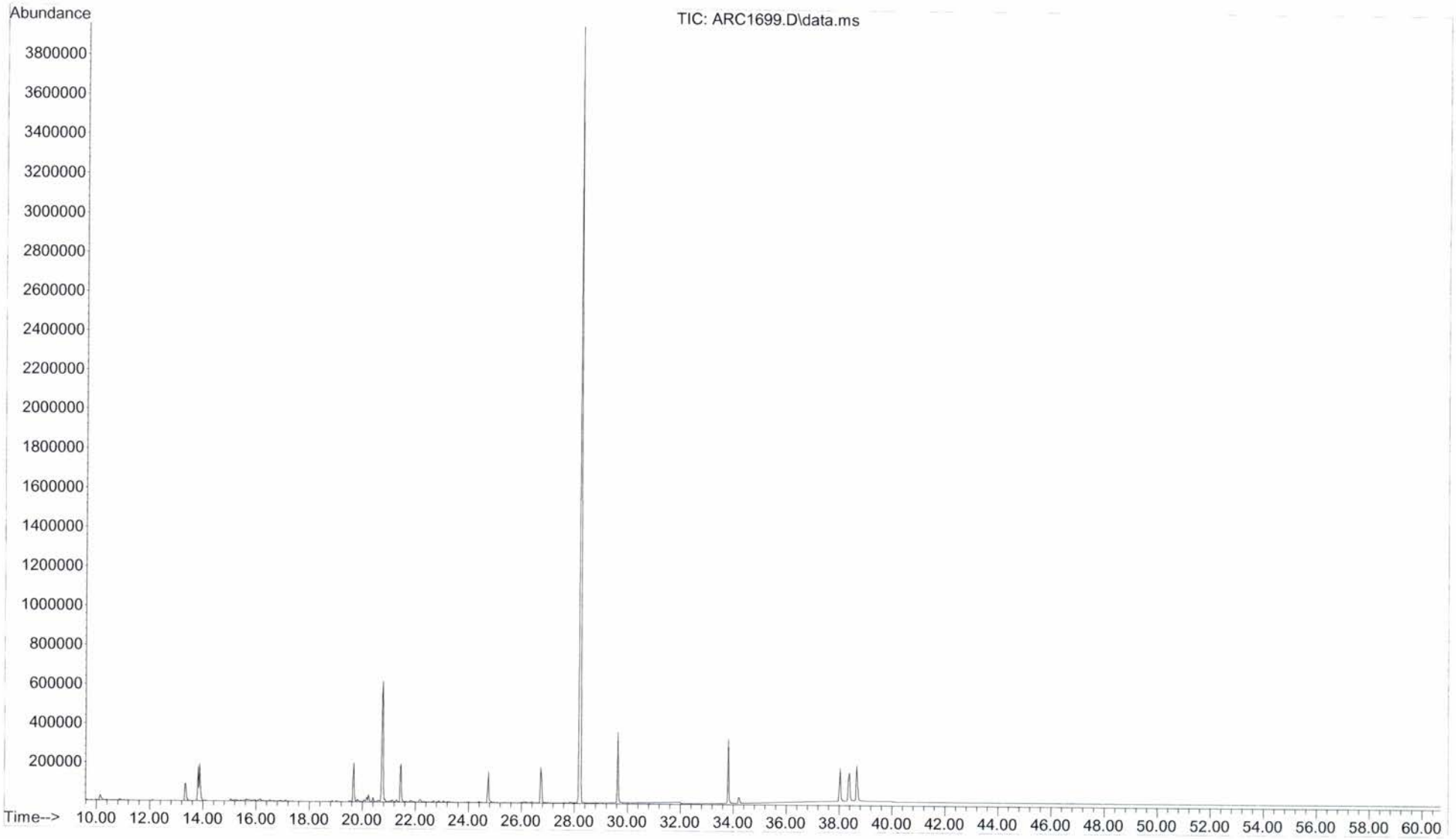
File :C:\GCMS7\MS70054\ARC1695.D
Operator : YM
Acquired : 11 Aug 2013 6:33 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SED-DA-EB-05-080313
Misc Info :
Vial Number: 15



File :C:\GCMS7\MS70054\ARC1697.D
Operator : YM
Acquired : 11 Aug 2013 7:42 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SO-DA-EB-01-080213
Misc Info :
Vial Number: 16



File :C:\GCMS7\MS70054\ARC1699.D
Operator : YM
Acquired : 11 Aug 2013 8:50 using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: SED-DA-EB-06-080613
Misc Info :
Vial Number: 17



Total Petroleum Hydrocarbons/ Aliphatic Hydrocarbons Raw Data

B&B LABORATORIES ALIPHATICS/TEH QA FORM

Extraction Page: ENV-3072	Analyst: M. Dailey
Client: Arcadis - Mayflower	Date: 8/21/13
Job: #: J13034	Project Quality Manager: D Frank
SDG #: various	Date: 08/23/13

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 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: FID10070 2013-08-08 13-09-03

Acquisition date: 8/8/2013 1:09:05 PM

Acquired by: Meghan Dailey

Data Directory C:\CHEM32\3\DATA\FID10070 2013-08-08 13-09-03

Line	Location	Sample Name	Datafile	Method	Injection Date
4	Vial 1	Solvent Blank	FID10070A.D	ALIFRONT.M	08/08/2013 16:42:22
5	Vial 2	AL-WKCC-25-023	FID10070B.D	ALIFRONT.M	08/08/2013 17:52:45
6	Vial 3	AL-WKSRM2779-20-01	FID10070C.D	ALIFRONT.M	08/08/2013 19:03:04
7	Vial 1	Solvent Blank	FID10070D.D	ALIFRONT.M	08/08/2013 20:13:18
8	Vial 4	AL-WKRetWin-001	FID10070E.D	ALIFRONT.M	08/08/2013 21:23:37
9	Vial 5	AL-WKPem-001	FID10070F.D	ALIFRONT.M	08/08/2013 22:33:51
10	Vial 6		ENV3072A.D	ALIFRONT.M	08/08/2013 23:44:35
11	Vial 7		ENV3072B.D	ALIFRONT.M	08/09/2013 00:54:51
12	Vial 8		ENV3072C.D	ALIFRONT.M	08/09/2013 02:05:40
13	Vial 9		ARC1695.D	ALIFRONT.M	08/09/2013 03:15:58
14	Vial 10		ARC1697.D	ALIFRONT.M	08/09/2013 04:26:13

↳ instrument stopped communicating w/ compter after this sample. Everything was restarted (comp. & GC) then a CCC was run (see pg. 2) and Sequence was resumed. 8/9/13 m

FID Sequence Summary Report

B&B Laboratories, Inc.

Sequence name: FID10070 2013-08-09 08-13-13

Acquisition date: 8/9/2013 8:13:14 AM

Acquired by: Meghan Dailey

Data Directory C:\Chem32\3\DATA\FID10070 2013-08-09 08-13-13

Line	Location	Sample Name	Datafile	Method	Injection Date
14	Vial 12	AL-WKCC-25-023	FID10070G.D		08/09/2013 08:14:17
16	Vial 11		ARC1699.D		08/09/2013 09:24:36
17	Vial 12	AL-WKCC-25-023	FID10070H.D		08/09/2013 10:34:15

There is no line 15 in sequence. This may've occurred during WKCC insertion. 8/9/13 MD

Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3072\FID10070\
Data File : FID10070B.D
Signal(s) : FID1A.CH
Acq On : 08-Aug-2013, 17:52:45
Operator : Meghan Dailey
Sample : AL-WKCC-25-023
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 09 09:04:11 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

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	124	0.00
2		n-C8	0.962	0.924	4.0	118	0.00
3		n-C9	1.018	0.993	2.5	119	0.00
4		n-C10	1.087	1.068	1.7	120	0.00
5		n-C11	1.100	1.089	1.0	120	0.00
6	S	n-dodecane-d26	1.025	1.009	1.6	120	0.00
7		n-C12	1.145	1.150	-0.4	121	0.00
10		n-C13	1.144	1.158	-1.2	123	0.00
12		n-C14	1.177	1.206	-2.5	124	0.00
14		n-C15	1.193	1.225	-2.7	125	0.00
15		n-C16	1.203	1.237	-2.8	125	0.00
16	I	5a-androstane	1.000	1.000	0.0	123	0.00
18		n-C17	0.973	1.010	-3.8	125	0.00
19		Pristane	0.968	1.006	-3.9	126	0.00
20		n-C18	0.961	0.994	-3.4	125	0.00
21		Phytane	0.979	1.012	-3.4	125	0.01
22		n-C19	0.960	0.990	-3.1	125	0.00
23	S	n-eicosane-d42	0.769	0.779	-1.3	123	0.00
24		n-C20	0.965	0.992	-2.8	124	0.00
25		n-C21	0.973	1.004	-3.2	124	0.00
26		n-C22	0.975	1.001	-2.7	124	0.00
27		n-C23	0.980	1.005	-2.6	124	0.00
28		n-C24	0.977	1.003	-2.7	123	0.00
29		n-C25	0.978	1.001	-2.4	123	0.00
30		n-C26	0.980	0.998	-1.8	123	0.00
31		n-C27	0.954	0.971	-1.8	123	0.00
32		n-C28	0.966	0.981	-1.6	122	0.00
33		n-C29	0.970	0.982	-1.2	122	0.00
34	S	n-triacontane-d62	0.747	0.741	0.8	120	0.00
35		n-C30	0.959	0.971	-1.3	122	0.00
36		n-C31	0.941	0.957	-1.7	123	0.00
37		n-C32	0.927	0.948	-2.3	123	0.00
38		n-C33	0.904	0.926	-2.4	123	0.00
39		n-C34	0.918	0.938	-2.2	123	0.00
40		n-C35	0.899	0.919	-2.2	124	0.00
41		n-C36	0.967	1.000	-3.4	124	0.00
42		n-C37	0.882	0.903	-2.4	124	0.00
43		n-C38	0.892	0.899	-0.8	123	0.00

44	n-C39	0.851	0.866	-1.8	123	0.00
45	n-C40	0.791	0.796	-0.6	121	0.00

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.018	0.000	100.0#	0#	-9.12#
9	i-14	0.019	0.000	100.0#	0#	-9.81#
11	i-15	0.019	0.000	100.0#	0#	-10.95#
13	i-16	0.019	0.000	100.0#	0#	-11.84#
17	i-18	0.019	0.000	100.0#	0#	-13.80#
46	TPH	0.018	0.000	100.0#	0#	-29.66#
47	TRH1	0.018	0.000	100.0#	0#	-7.91#
48	TRH2	0.018	0.000	100.0#	0#	-16.25#
49	TRH3	0.018	0.000	100.0#	0#	-23.87#
50	TRH4	0.018	0.000	100.0#	0#	-28.99#
51	TRH5	0.018	0.000	100.0#	0#	-34.08#
52	TRH6	0.018	0.000	100.0#	0#	-45.78#
53	GRO	0.018	0.000	100.0#	0#	-5.38#
54	DRO	0.018	0.000	100.0#	0#	-14.61#
55	RRO	0.018	0.000	100.0#	0#	-33.70#

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

FID1C08FRONT080613.M Fri Aug 09 09:04:17 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3072\FID10070\
Data File : FID10070B.D
Signal(s) : FID1A.CH
Acq On : 08-Aug-2013, 17:52:45
Operator : Meghan Dailey
Sample : AL-WKCC-25-023
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 09 09:04:11 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
	Internal Standards				
1) I	n-hexadecane-d34	12.986	353770	50.000	ug/mlm
16) I	5a-androstane	18.280	443234	50.072	ug/mlm
	System Monitoring Compounds				
6) S	n-dodecane-d26	8.683	178470	24.619	ug/mlm
23) S	n-eicosane-d42	17.671	173584	25.505	ug/mlm
34) S	n-triacontane-d62	29.606	164250	24.838	ug/mlm
	Target Compounds				
2)	n-C8	3.533	163659	24.048	ug/mlm
3)	n-C9	4.852	175587	24.386	ug/mlm
4)	n-C10	6.268	188907	24.573	ug/mlm
5)	n-C11	7.626	192861	24.771	ug/mlm
7)	n-C12	8.890	199897	24.675	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	10.065	205234	25.363	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	11.163	212065	25.461	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	12.196	215690	25.558	ug/mlm
15)	n-C16	13.240	216589	25.444	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.353	220756	25.643	ug/mlm
19)	Pristane	14.471	220579	25.743	ug/mlm
20)	n-C18	15.538	220150	25.871	ug/mlm
21)	Phytane	15.703	223322	25.759	ug/mlm
22)	n-C19	16.785	218999	25.763	ug/mlm
24)	n-C20	18.071	219933	25.753	ug/mlm
25)	n-C21	19.378	220140	25.566	ug/mlm
26)	n-C22	20.684	221782	25.690	ug/mlm
27)	n-C23	21.975	220094	25.379	ug/mlm
28)	n-C24	23.244	219334	25.354	ug/mlm
29)	n-C25	24.480	220684	25.491	ug/mlm
30)	n-C26	25.684	221308	25.512	ug/mlm
31)	n-C27	26.851	214868	25.455	ug/mlm
32)	n-C28	27.984	217073	25.377	ug/mlm
33)	n-C29	29.081	217600	25.355	ug/mlm
35)	n-C30	30.144	214047	25.217	ug/mlm
36)	n-C31	31.174	211963	25.440	ug/mlm
37)	n-C32	32.173	207179	25.237	ug/mlm
38)	n-C33	33.145	204965	25.625	ug/mlm
39)	n-C34	34.095	207259	25.505	ug/mlm
40)	n-C35	35.128	203414	25.557	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3072\FID10070\
Data File : FID10070B.D
Signal(s) : FID1A.CH
Acq On : 08-Aug-2013, 17:52:45
Operator : Meghan Dailey
Sample : AL-WKCC-25-023
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 09 09:04:11 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.306	216854	25.328	ug/mlm
42)	n-C37	37.670	199978	25.611	ug/mlm
43)	n-C38	39.254	199287	25.227	ug/mlm
44)	n-C39	41.129	191647	25.453	ug/mlm
45)	n-C40	43.328	175897	25.135	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

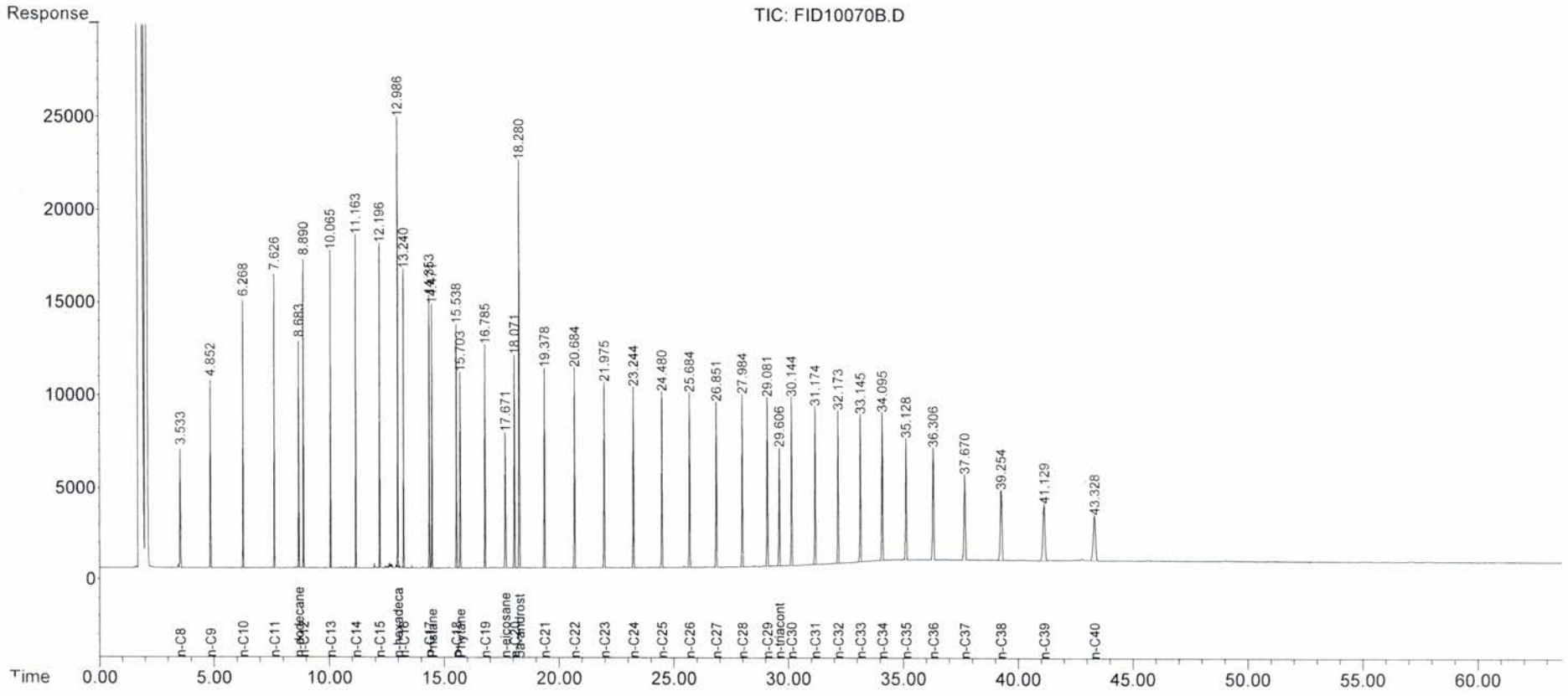
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3072\FID10070\
Data File : FID10070B.D
Signal(s) : FID1A.CH
Acq On : 08-Aug-2013, 17:52:45
Operator : Meghan Dailey
Sample : AL-WKCC-25-023
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 09 09:04:11 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3072\FID10070\
Data File : FID10070G.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 08:14:17
Operator : Meghan Dailey
Sample : AL-WKCC-25-023
Misc :
ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 09 10:55:55 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

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	131	0.00
2		n-C8	0.962	0.977	-1.6	132	0.00
3		n-C9	1.018	1.032	-1.4	131	0.00
4		n-C10	1.087	1.099	-1.1	130	0.00
5		n-C11	1.100	1.112	-1.1	130	0.00
6	S	n-dodecane-d26	1.025	1.026	-0.1	129	0.00
7		n-C12	1.145	1.169	-2.1	131	0.00
10		n-C13	1.144	1.168	-2.1	131	0.00
12		n-C14	1.177	1.205	-2.4	131	0.00
14		n-C15	1.193	1.216	-1.9	131	0.00
15		n-C16	1.203	1.225	-1.8	131	0.00
16	I	5a-androstane	1.000	1.000	0.0	130	0.00
18		n-C17	0.973	0.998	-2.6	131	0.00
19		Pristane	0.968	0.992	-2.5	131	0.00
20		n-C18	0.961	0.981	-2.1	131	0.00
21		Phytane	0.979	1.000	-2.1	131	0.00
22		n-C19	0.960	0.980	-2.1	130	0.00
23	S	n-eicosane-d42	0.769	0.771	-0.3	129	0.00
24		n-C20	0.965	0.987	-2.3	131	0.00
25		n-C21	0.973	0.996	-2.4	130	0.00
26		n-C22	0.975	0.998	-2.4	131	0.00
27		n-C23	0.980	1.003	-2.3	130	0.00
28		n-C24	0.977	1.004	-2.8	131	0.00
29		n-C25	0.978	1.006	-2.9	131	0.00
30		n-C26	0.980	1.008	-2.9	131	0.00
31		n-C27	0.954	0.984	-3.1	131	0.00
32		n-C28	0.966	1.001	-3.6	132	0.00
33		n-C29	0.970	1.003	-3.4	132	0.00
34	S	n-triacontane-d62	0.747	0.758	-1.5	130	0.00
35		n-C30	0.959	0.997	-4.0	133	0.00
36		n-C31	0.941	0.983	-4.5	133	0.00
37		n-C32	0.927	0.974	-5.1	133	0.00
38		n-C33	0.904	0.947	-4.8	133	0.00
39		n-C34	0.918	0.968	-5.4	135	0.00
40		n-C35	0.899	0.943	-4.9	134	0.00
41		n-C36	0.967	1.021	-5.6	134	0.00
42		n-C37	0.882	0.922	-4.5	133	-0.02
43		n-C38	0.892	0.915	-2.6	132	-0.01

44	n-C39	0.851	0.877	-3.1	132	-0.02
45	n-C40	0.791	0.815	-3.0	131	-0.02

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.018	0.000	100.0#	0#	-9.12#
9	i-14	0.019	0.000	100.0#	0#	-9.81#
11	i-15	0.019	0.000	100.0#	0#	-10.95#
13	i-16	0.019	0.000	100.0#	0#	-11.84#
17	i-18	0.019	0.000	100.0#	0#	-13.80#
46	TPH	0.018	0.000	100.0#	0#	-29.66#
47	TRH1	0.018	0.000	100.0#	0#	-7.91#
48	TRH2	0.018	0.000	100.0#	0#	-16.25#
49	TRH3	0.018	0.000	100.0#	0#	-23.87#
50	TRH4	0.018	0.000	100.0#	0#	-28.99#
51	TRH5	0.018	0.000	100.0#	0#	-34.08#
52	TRH6	0.018	0.000	100.0#	0#	-45.78#
53	GRO	0.018	0.000	100.0#	0#	-5.38#
54	DRO	0.018	0.000	100.0#	0#	-14.61#
55	RRO	0.018	0.000	100.0#	0#	-33.70#

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

FID1C08FRONT080613.M Fri Aug 09 10:56:02 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3072\FID10070\
Data File : FID10070G.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 08:14:17
Operator : Meghan Dailey
Sample : AL-WKCC-25-023
Misc :
ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 09 10:55:55 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
	Internal Standards				
1) I	n-hexadecane-d34	12.987	374544	50.000	ug/mlm
16) I	5a-androstane	18.277	468538	50.072	ug/mlm
	System Monitoring Compounds				
6) S	n-dodecane-d26	8.684	192060	25.024	ug/mlm
23) S	n-eicosane-d42	17.669	181651	25.249	ug/mlm
34) S	n-triacontane-d62	29.601	177520	25.395	ug/mlm
	Target Compounds				
2)	n-C8	3.536	183061	25.408	ug/mlm
3)	n-C9	4.855	193273	25.353	ug/mlm
4)	n-C10	6.270	205901	25.298	ug/mlm
5)	n-C11	7.627	208538	25.299	ug/mlm
7)	n-C12	8.892	215208	25.092	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	10.067	219034	25.567	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	11.164	224236	25.429	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	12.197	226668	25.369	ug/mlm
15)	n-C16	13.240	227196	25.210	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.354	230602	25.340	ug/mlm
19)	Pristane	14.472	230004	25.393	ug/mlm
20)	n-C18	15.539	229787	25.545	ug/mlm
21)	Phytane	15.702	233385	25.466	ug/mlm
22)	n-C19	16.785	229150	25.502	ug/mlm
24)	n-C20	18.072	231235	25.614	ug/mlm
25)	n-C21	19.376	230972	25.376	ug/mlm
26)	n-C22	20.684	233785	25.618	ug/mlm
27)	n-C23	21.974	232337	25.344	ug/mlm
28)	n-C24	23.240	232216	25.393	ug/mlm
29)	n-C25	24.478	234518	25.626	ug/mlm
30)	n-C26	25.679	236215	25.760	ug/mlm
31)	n-C27	26.847	230330	25.813	ug/mlm
32)	n-C28	27.978	234131	25.892	ug/mlm
33)	n-C29	29.076	234870	25.889	ug/mlm
35)	n-C30	30.140	232239	25.883	ug/mlm
36)	n-C31	31.168	230101	26.126	ug/mlm
37)	n-C32	32.166	224864	25.912	ug/mlm
38)	n-C33	33.138	221533	26.200	ug/mlm
39)	n-C34	34.087	225949	26.304	ug/mlm
40)	n-C35	35.120	220742	26.236	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3072\FID10070\
Data File : FID10070G.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 08:14:17
Operator : Meghan Dailey
Sample : AL-WKCC-25-023
Misc :
ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 09 10:55:55 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.296	234125	25.868	ug/mlm
42)	n-C37	37.655	215945	26.162	ug/mlm
43)	n-C38	39.240	214478	25.683	ug/mlm
44)	n-C39	41.109	205152	25.776	ug/mlm
45)	n-C40	43.304	190375	25.735	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

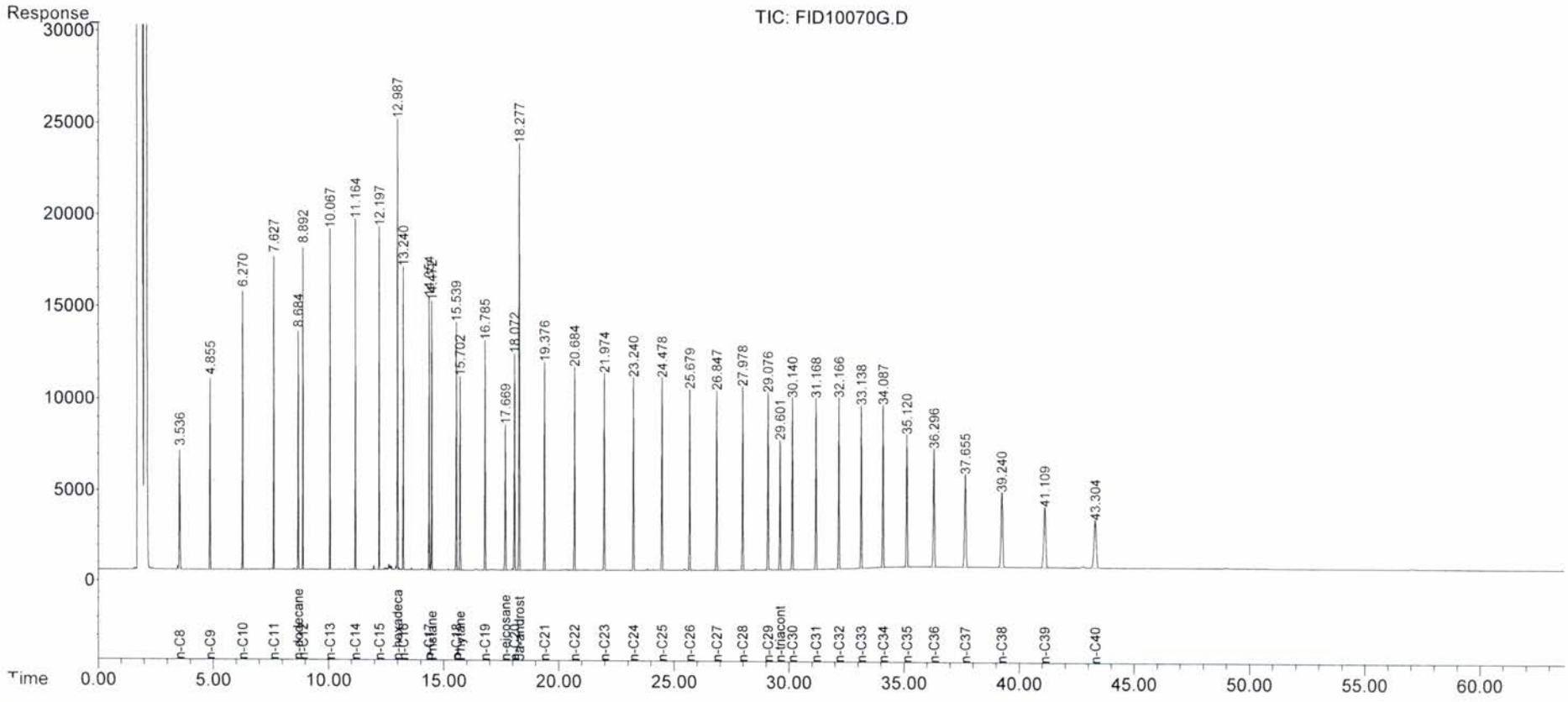
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3072\FID10070\
Data File : FID10070G.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 08:14:17
Operator : Meghan Dailey
Sample : AL-WKCC-25-023
Misc :
ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 09 10:55:55 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3072\FID10070\
Data File : FID10070H.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 10:34:15
Operator : Meghan Dailey
Sample : AL-WKCC-25-023
Misc :
ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 09 14:50:53 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

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	116	0.00
2		n-C8	0.962	0.957	0.5	115	0.00
3		n-C9	1.018	1.016	0.2	114	0.00
4		n-C10	1.087	1.084	0.3	114	0.00
5		n-C11	1.100	1.100	0.0	114	0.00
6	S	n-dodecane-d26	1.025	1.017	0.8	113	0.00
7		n-C12	1.145	1.159	-1.2	115	0.00
10		n-C13	1.144	1.163	-1.7	116	0.00
12		n-C14	1.177	1.204	-2.3	116	0.00
14		n-C15	1.193	1.218	-2.1	116	0.00
15		n-C16	1.203	1.224	-1.7	116	0.00
16	I	5a-androstane	1.000	1.000	0.0	114	0.00
18		n-C17	0.973	1.009	-3.7	116	0.00
19		Pristane	0.968	1.003	-3.6	116	0.00
20		n-C18	0.961	0.991	-3.1	115	0.00
21		Phytane	0.979	1.008	-3.0	115	0.00
22		n-C19	0.960	0.986	-2.7	115	0.00
23	S	n-eicosane-d42	0.769	0.776	-0.9	114	0.00
24		n-C20	0.965	0.987	-2.3	114	0.00
25		n-C21	0.973	0.995	-2.3	114	-0.01
26		n-C22	0.975	0.991	-1.6	113	0.00
27		n-C23	0.980	0.996	-1.6	113	0.00
28		n-C24	0.977	0.994	-1.7	113	-0.01
29		n-C25	0.978	0.993	-1.5	113	-0.01
30		n-C26	0.980	0.993	-1.3	113	-0.01
31		n-C27	0.954	0.967	-1.4	113	-0.01
32		n-C28	0.966	0.982	-1.7	113	-0.01
33		n-C29	0.970	0.989	-2.0	114	-0.01
34	S	n-triacontane-d62	0.747	0.745	0.3	112	-0.01
35		n-C30	0.959	0.981	-2.3	114	-0.01
36		n-C31	0.941	0.972	-3.3	115	-0.01
37		n-C32	0.927	0.968	-4.4	116	-0.01
38		n-C33	0.904	0.949	-5.0	117	-0.01
39		n-C34	0.918	0.965	-5.1	117	-0.01
40		n-C35	0.899	0.951	-5.8	118	-0.01
41		n-C36	0.967	1.029	-6.4	118	-0.02
42		n-C37	0.882	0.933	-5.8	118	-0.02
43		n-C38	0.892	0.929	-4.1	117	-0.02

44	n-C39	0.851	0.894	-5.1	118	-0.04
45	n-C40	0.791	0.833	-5.3	117	-0.03

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.018	0.000	100.0#	0#	-9.08#
9	i-14	0.019	0.000	100.0#	0#	-9.78#
11	i-15	0.019	0.000	100.0#	0#	-10.94#
13	i-16	0.019	0.000	100.0#	0#	-11.84#
17	i-18	0.019	0.000	100.0#	0#	-13.80#
46	TPH	0.018	0.000	100.0#	0#	-29.66#
47	TRH1	0.018	0.000	100.0#	0#	-7.91#
48	TRH2	0.018	0.000	100.0#	0#	-16.25#
49	TRH3	0.018	0.000	100.0#	0#	-23.87#
50	TRH4	0.018	0.000	100.0#	0#	-28.99#
51	TRH5	0.018	0.000	100.0#	0#	-34.08#
52	TRH6	0.018	0.000	100.0#	0#	-45.78#
53	GRO	0.018	0.000	100.0#	0#	-5.38#
54	DRO	0.018	0.000	100.0#	0#	-14.61#
55	RRO	0.018	0.000	100.0#	0#	-33.70#

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

FID1C08FRONT080613.M Fri Aug 09 14:50:59 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3072\FID10070\
Data File : FID10070H.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 10:34:15
Operator : Meghan Dailey
Sample : AL-WKCC-25-023
Misc :
ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 09 14:50:53 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
	Internal Standards				
1)	I n-hexadecane-d34	12.982	331178	50.000	ug/mlm
16)	I 5a-androstane	18.271	409657	50.072	ug/mlm
	System Monitoring Compounds				
6)	S n-dodecane-d26	8.680	168381	24.812	ug/mlm
23)	S n-eicosane-d42	17.663	159774	25.400	ug/mlm
34)	S n-triacontane-d62	29.595	152627	24.972	ug/mlm
	Target Compounds				
2)	n-C8	3.528	158654	24.903	ug/mlm
3)	n-C9	4.849	168233	24.958	ug/mlm
4)	n-C10	6.265	179512	24.944	ug/mlm
5)	n-C11	7.623	182423	25.029	ug/mlm
7)	n-C12	8.887	188682	24.880	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	10.061	192859	25.459	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	11.159	198249	25.426	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	12.192	200670	25.400	ug/mlm
15)	n-C16	13.235	200712	25.188	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.348	203895	25.626	ug/mlm
19)	Pristane	14.467	203416	25.685	ug/mlm
20)	n-C18	15.533	202846	25.791	ug/mlm
21)	Phytane	15.698	205650	25.665	ug/mlm
22)	n-C19	16.779	201502	25.648	ug/mlm
24)	n-C20	18.064	202177	25.614	ug/mlm
25)	n-C21	19.368	201696	25.344	ug/mlm
26)	n-C22	20.676	203037	25.446	ug/mlm
27)	n-C23	21.966	201704	25.165	ug/mlm
28)	n-C24	23.233	200994	25.138	ug/mlm
29)	n-C25	24.470	202275	25.280	ug/mlm
30)	n-C26	25.673	203410	25.371	ug/mlm
31)	n-C27	26.841	197880	25.364	ug/mlm
32)	n-C28	27.973	200941	25.416	ug/mlm
33)	n-C29	29.070	202462	25.525	ug/mlm
35)	n-C30	30.133	199824	25.471	ug/mlm
36)	n-C31	31.163	198958	25.836	ug/mlm
37)	n-C32	32.162	195502	25.767	ug/mlm
38)	n-C33	33.133	194015	26.244	ug/mlm
39)	n-C34	34.084	196982	26.227	ug/mlm
40)	n-C35	35.115	194554	26.447	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3072\FID10070\
Data File : FID10070H.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 10:34:15
Operator : Meghan Dailey
Sample : AL-WKCC-25-023
Misc :
ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 09 14:50:53 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.290	206310	26.071	ug/mlm
42)	n-C37	37.650	190936	26.458	ug/mlm
43)	n-C38	39.233	190365	26.072	ug/mlm
44)	n-C39	41.094	183005	26.298	ug/mlm
45)	n-C40	43.296	170078	26.296	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

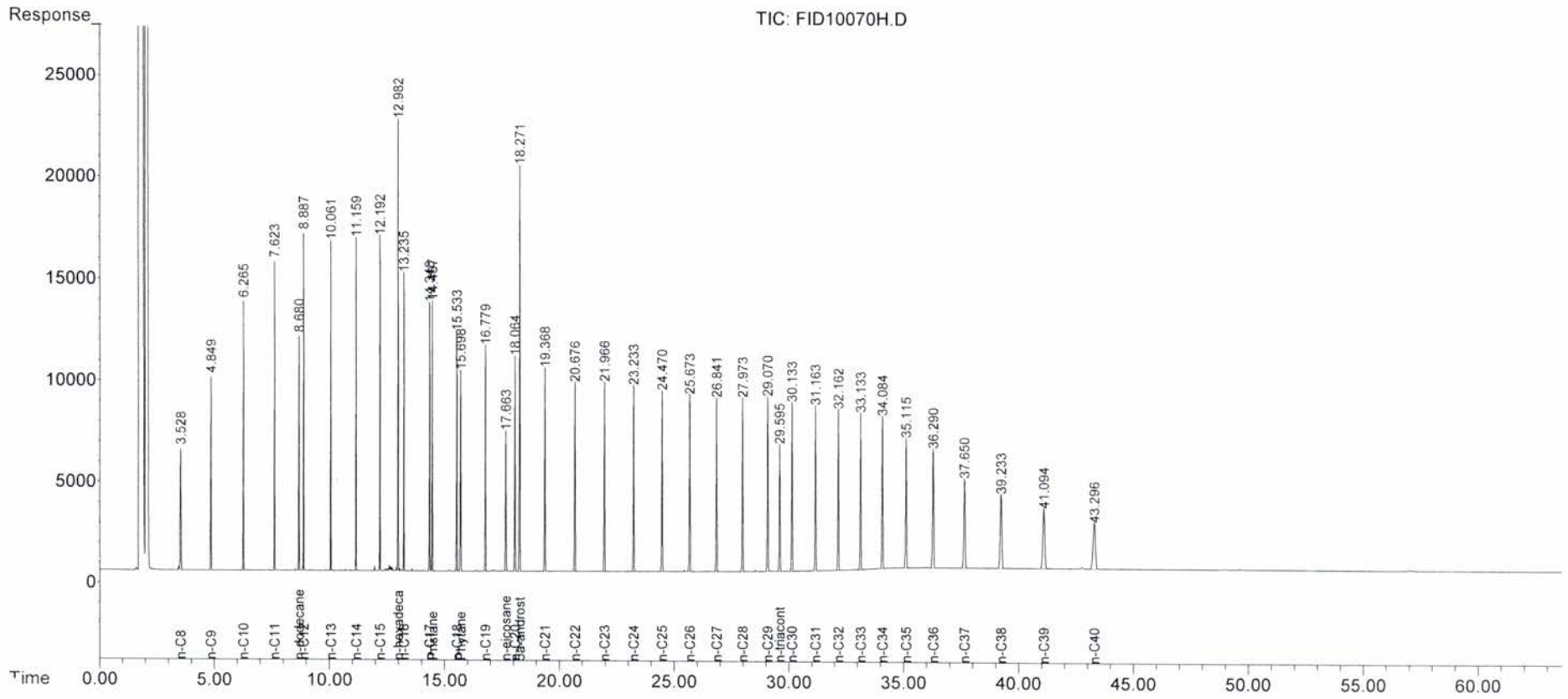
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3072\FID10070\
Data File : FID10070H.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 10:34:15
Operator : Meghan Dailey
Sample : AL-WKCC-25-023
Misc :
ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 09 14:50:53 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**FID10070C.D**		FID10070C.D
Sample Name	**AL-WKSRM2779-20-01**		AL-WKSRM2779-20-01
Misc Info	**0**		08-Aug-2013, 19:03:04
Data File Path	**C:\msdchem\1\DATA\FID10070**		ALIFRONT.M
Operator	**Meghan Dailey**		
Date Acquired	**08-Aug-2013, 19:03:04**		0.05
Instrument Name	**HP5890**		
Acq. Method File	**ALIFRONT.M**	Vial #	3
Vial Number	**3**	IS Area 1	313579
Sample Multiplier	**0.05**	IS Area 2	416206

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.54	1899220	15.74	15.742
3)	n-C9	4.86	1653270	12.95	12.952
4)	n-C10	6.28	1571740	11.53	11.533
5)	n-C11	7.64	1445180	10.47	10.470
7)	n-C12	8.90	1305290	9.09	9.089
8)	i-13	9.08	314910	2.20	2.195
9)	i-14	9.79	198024	1.34	1.341
10)	n-C13	10.08	1177530	8.21	8.209
11)	i-15	10.95	279672	1.87	1.869
12)	n-C14	11.18	1057820	7.16	7.164
13)	i-16	11.84	406964	2.70	2.697
14)	n-C15	12.21	1045100	6.99	6.986
15)	n-C16	13.25	841108	5.57	5.574
17)	i-18	13.82	226907	1.42	1.420
18)	n-C17	14.37	776048	4.80	4.800
19)	Pristane	14.48	402076	2.50	2.499
20)	n-C18	15.55	604073	3.78	3.780
21)	Phytane	15.71	239045	1.47	1.468
22)	n-C19	16.80	561624	3.52	3.518
24)	n-C20	18.09	484794	3.02	3.023
25)	n-C21	19.39	409250	2.53	2.531
26)	n-C22	20.70	350318	2.16	2.161
27)	n-C23	21.99	307313	1.89	1.887
28)	n-C24	23.25	267833	1.65	1.649
29)	n-C25	24.49	225878	1.39	1.389
30)	n-C26	25.69	194778	1.20	1.196
31)	n-C27	26.86	144713	0.91	0.913
32)	n-C28	27.99	117608	0.73	0.732
33)	n-C29	29.09	119624	0.74	0.742
35)	n-C30	30.15	107760	0.68	0.676
36)	n-C31	31.18	89343	0.57	0.571
37)	n-C32	32.18	70758.4	0.46	0.459
38)	n-C33	33.15	75095	0.50	0.500
39)	n-C34	34.10	65851	0.43	0.431
40)	n-C35	35.13	51075.9	0.34	0.342
41)	n-C36	36.31	32736.7	0.20	0.204
42)	n-C37	37.67	32272	0.22	0.220
43)	n-C38	39.27	25180.9	0.17	0.170
44)	n-C39	41.13	21998.6	0.16	0.156
45)	n-C40	43.34	21607	0.16	0.164
46)	TPH	7.64	99536000	647.08	647.075
47)	TRH1	7.64	18247800	118.63	118.628
48)	TRH2	12.21	11117800	72.28	72.277
49)	TRH3	21.99	2159440	14.04	14.038
50)	TRH4	27.99	1225240	7.97	7.965
51)	TRH5	33.15	755756	4.91	4.913
52)	TRH6	37.67	174397	1.13	1.134
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	8.69	127556	0.99	99.3
23)	n-eicosane-d42	17.67	125160	0.98	97.3
34)	n-triacontane-d62	29.62	121277	0.98	97.6
1)	n-hexadecane-d34	12.99	313579	2.50	313579.000
16)	5a-androstane	18.29	416206	2.50	416206.000

Data Path : C:\msdchem\1\DATA\FID10070\
Data File : FID10070C.D
Signal(s) : FID1A.CH
Acq On : 08-Aug-2013, 19:03:04
Operator : Meghan Dailey
Sample : AL-WKSRM2779-20-01
Misc :
ALS Vial : 3 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Aug 09 11:28:28 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	Internal Standards			
1) I	n-hexadecane-d34	12.991	313579	50.000 ug/mlm
16) I	5a-androstane	18.292	416206	50.072 ug/mlm
	System Monitoring Compounds			
6) S	n-dodecane-d26	8.685	127556	0.993 ug/mlm
23) S	n-eicosane-d42	17.675	125160	0.979 ug/mlm
34) S	n-triacontane-d62	29.616	121277	0.977 ug/mlm
	Target Compounds			
2)	n-C8	3.539	1899219	15.742 ug/mlm
3)	n-C9	4.863	1653274	12.952 ug/mlm
4)	n-C10	6.280	1571737	11.533 ug/mlm
5)	n-C11	7.639	1445176	10.470 ug/mlm
7)	n-C12	8.904	1305289	9.089 ug/mlm
8)	i-13	9.085	314910	2.195 ug/mlm
9)	i-14	9.788	198024	1.341 ug/mlm
10)	n-C13	10.080	1177531	8.209 ug/mlm
11)	i-15	10.948	279672	1.869 ug/mlm
12)	n-C14	11.178	1057821	7.164 ug/mlm
13)	i-16	11.844	406964	2.697 ug/mlm
14)	n-C15	12.210	1045097	6.986 ug/mlm
15)	n-C16	13.255	841108	5.574 ug/mlm
17)	i-18	13.816	226907	1.420 ug/mlm
18)	n-C17	14.369	776048	4.800 ug/mlm
19)	Pristane	14.477	402076	2.499 ug/mlm
20)	n-C18	15.554	604073	3.780 ug/mlm
21)	Phytane	15.712	239045	1.468 ug/mlm
22)	n-C19	16.801	561624	3.518 ug/mlm
24)	n-C20	18.088	484794	3.023 ug/mlm
25)	n-C21	19.393	409250	2.531 ug/mlm
26)	n-C22	20.699	350318	2.161 ug/mlm
27)	n-C23	21.988	307313	1.887 ug/mlm
28)	n-C24	23.254	267833	1.649 ug/mlm
29)	n-C25	24.492	225878	1.389 ug/mlm
30)	n-C26	25.694	194778	1.196 ug/mlm
31)	n-C27	26.858	144713	0.913 ug/mlm
32)	n-C28	27.992	117608	0.732 ug/mlm
33)	n-C29	29.086	119624	0.742 ug/mlm
35)	n-C30	30.151	107760	0.676 ug/mlm
36)	n-C31	31.180	89343	0.571 ug/mlm
37)	n-C32	32.179	70758	0.459 ug/mlm
38)	n-C33	33.145	75095	0.500 ug/mlm
39)	n-C34	34.100	65851	0.431 ug/mlm
40)	n-C35	35.131	51076	0.342 ug/mlm
41)	n-C36	36.308	32737	0.204 ug/mlm
42)	n-C37	37.672	32272	0.220 ug/mlm
43)	n-C38	39.269	25181	0.170 ug/mlm
44)	n-C39	41.130	21999	0.156 ug/mlm

Data Path : C:\msdchem\1\DATA\FID10070\
Data File : FID10070C.D
Signal(s) : FID1A.CH
Acq On : 08-Aug-2013, 19:03:04
Operator : Meghan Dailey
Sample : AL-WKSRM2779-20-01
Misc :
ALS Vial : 3 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Aug 09 11:28:28 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
45)	n-C40	43.335	21607	0.164	ug/mlm
46)	TPH	7.639f	99535961	647.077	ug/mlm
47)	TRH1	7.639	18247772	118.628	ug/mlm
48)	TRH2	12.210f	11117834	72.276	ug/mlm
49)	TRH3	21.988f	2159443	14.038	ug/mlm
50)	TRH4	27.992	1225237	7.965	ug/mlm
51)	TRH5	33.145	755756	4.913	ug/mlm
52)	TRH6	37.672f	174397	1.134	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

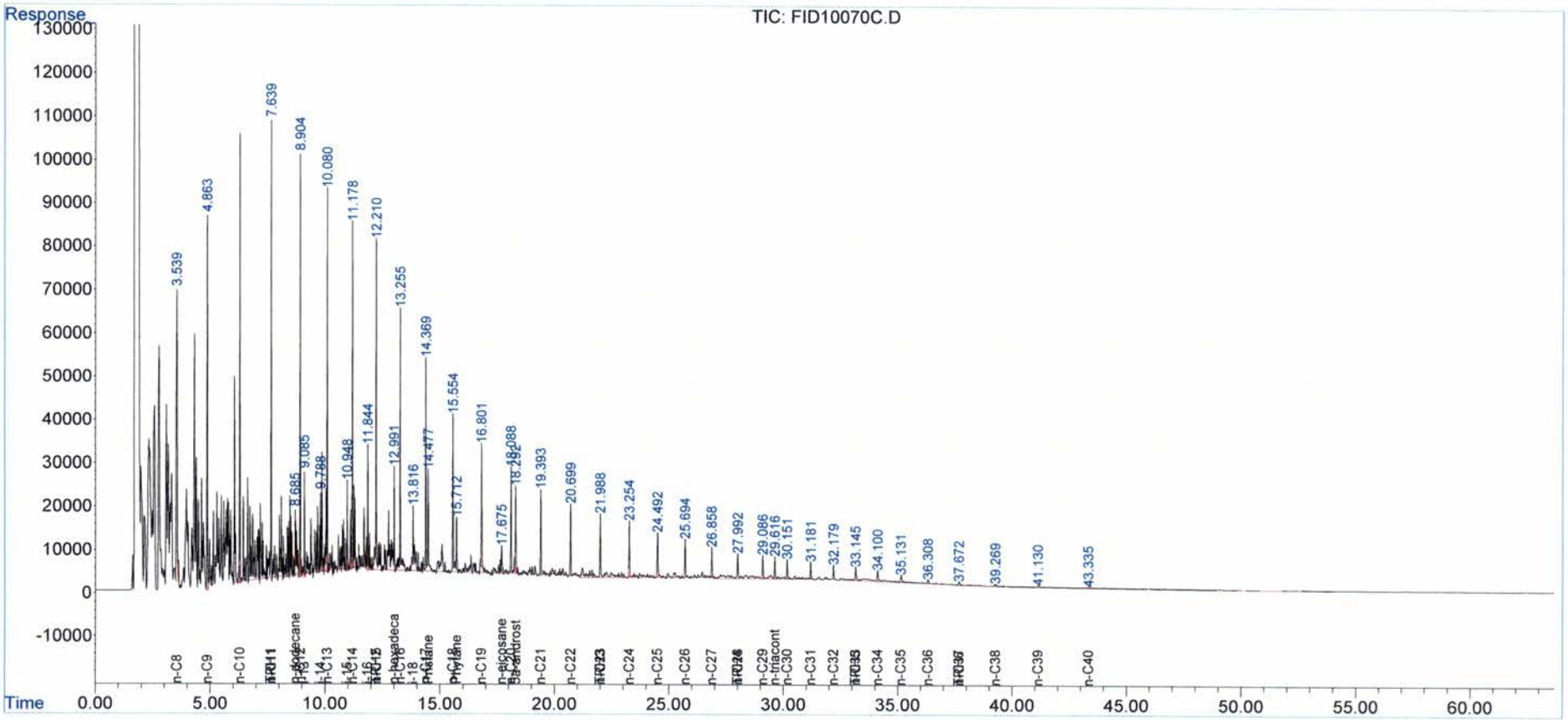
(f)=RT Delta > 1/2 Window (m)=manual int.

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FID10070\
Data File : FID10070C.D
Signal(s) : FID1A.CH
Acq On : 08-Aug-2013, 19:03:04
Operator : Meghan Dailey
Sample : AL-WKSRM2779-20-01
Misc :
ALS Vial : 3 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Aug 09 11:28:28 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**FID10070F.D**		FID10070F.D
Sample Name	**AL-WKPem-001**		AL-WKPem-001
Misc Info	**0**		08-Aug-2013, 22:33:51
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3072\FID10070**		ALIFRONT.M
Operator	**Meghan Dailey**		
Date Acquired	**08-Aug-2013, 22:33:51**		1
Instrument Name	**HP5890**		
Acq. Method File	**ALIFRONT.M**	Vial #	5
Vial Number	**5**	IS Area 1	319320
Sample Multiplier	**1**	IS Area 2	395444

#	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	12.98	8325690	1139.33	1139.330
47)	TRH1	8.68	138101	18.90	18.898
48)	TRH2	12.98	888489	121.59	121.586
49)	TRH3	26.32	8097.94	1.11	1.108
50)	TRH4	29.60	121175	16.58	16.582
51)	TRH5	36.30	118805	16.26	16.258
52)	TRH6	42.87	46672.9	6.39	6.387
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	8.68	129148	19.74	98.7
23)	n-eicosane-d42	17.67	122930	20.25	100.6
34)	n-triacontane-d62	29.60	121163	20.54	102.6
1)	n-hexadecane-d34	12.98	319320	50.00	319320.000
16)	5a-androstane	18.27	395444	50.07	395444.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10070\
Data File : FID10070F.D
Signal(s) : FID1A.CH
Acq On : 08-Aug-2013, 22:33:51
Operator : Meghan Dailey
Sample : AL-WKPem-001
Misc :
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 02 09:07:47 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	12.984	319320	50.000	ug/mlm
16) I	5a-androstane	18.275	395444	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.682	129148	19.738	ug/mlm
23) S	n-eicosane-d42	17.667	122930	20.246	ug/mlm
34) S	n-triacontane-d62	29.600	121163	20.537	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/ml
3)	n-C9	0.000	0	N.D.	ug/mld
4)	n-C10	0.000	0	N.D.	ug/mld
5)	n-C11	0.000	0	N.D.	ug/mld
7)	n-C12	0.000	0	N.D.	ug/mld
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	0.000	0	N.D.	ug/mld
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	0.000	0	N.D.	ug/mld
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	0.000	0	N.D.	ug/mld
15)	n-C16	0.000	0	N.D.	ug/mld
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	0.000	0	N.D.	ug/mld
19)	Pristane	0.000	0	N.D.	ug/mld
20)	n-C18	0.000	0	N.D.	ug/mld
21)	Phytane	0.000	0	N.D.	ug/mld
22)	n-C19	0.000	0	N.D.	ug/mld
24)	n-C20	0.000	0	N.D.	ug/mld
25)	n-C21	0.000	0	N.D.	ug/mld
26)	n-C22	0.000	0	N.D.	ug/mld
27)	n-C23	0.000	0	N.D.	ug/mld
28)	n-C24	0.000	0	N.D.	ug/mld
29)	n-C25	0.000	0	N.D.	ug/mld
30)	n-C26	0.000	0	N.D.	ug/mld
31)	n-C27	0.000	0	N.D.	ug/mld
32)	n-C28	0.000	0	N.D.	ug/mld
33)	n-C29	0.000	0	N.D.	ug/mld
35)	n-C30	0.000	0	N.D.	ug/mld
36)	n-C31	0.000	0	N.D.	ug/mld
37)	n-C32	0.000	0	N.D.	ug/mld
38)	n-C33	0.000	0	N.D.	ug/mld
39)	n-C34	0.000	0	N.D.	ug/mld
40)	n-C35	0.000	0	N.D.	ug/mld

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10070\
Data File : FID10070F.D
Signal(s) : FID1A.CH
Acq On : 08-Aug-2013, 22:33:51
Operator : Meghan Dailey
Sample : AL-WKPem-001
Misc :
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 02 09:07:47 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	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	12.984f	8325691	1139.332	ug/mlm
47)	TRH1	8.682	138101	18.898	ug/mlm
48)	TRH2	12.984f	888489	121.586	ug/mlm
49)	TRH3	26.322f	8098	1.108	ug/mlm
50)	TRH4	29.600	121175	16.582	ug/mlm
51)	TRH5	36.296f	118805	16.258	ug/mlm
52)	TRH6	42.866	46673	6.387	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

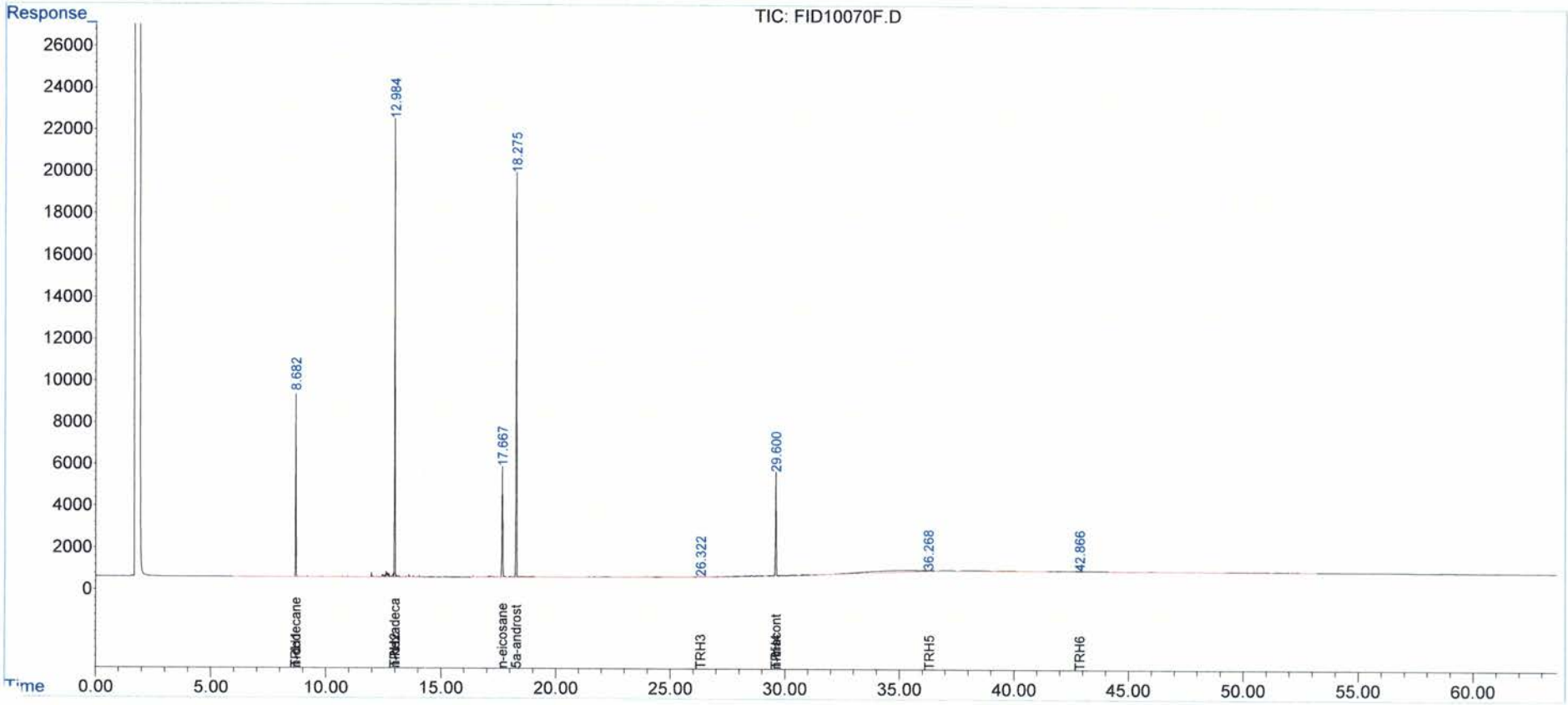
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10070\
Data File : FID10070F.D
Signal(s) : FID1A.CH
Acq On : 08-Aug-2013, 22:33:51
Operator : Meghan Dailey
Sample : AL-WKPem-001
Misc :
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 02 09:07:47 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ENV3072A.D**		ENV3072A.D
Sample Name	**Procedural Blank**		Procedural Blank
Misc Info	**0**		08-Aug-2013, 23:44:35
Data File Path	**C:\msdchem\1\DATA\FID10070**		ALIFRONT.M
Operator	**Meghan Dailey**		
Date Acquired	**08-Aug-2013, 23:44:35**		1
Instrument Name	**HP5890**		
Acq. Method File	**ALIFRONT.M**	Vial #	6
Vial Number	**6**	IS Area 1	279643
Sample Multiplier	**1**	IS Area 2	349979

#	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	12.98	6663340	1030.30	1030.300
47)	TRH1	8.68	139203	21.52	21.524
48)	TRH2	12.98	783239	121.11	121.106
49)	TRH3	23.36	11309.7	1.75	1.749
50)	TRH4	29.59	118000	18.25	18.245
51)	TRH5	34.89	13345	2.06	2.063
52)	TRH6	38.12	20340	3.15	3.145
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	8.68	99679.9	17.40	87.0
23)	n-eicosane-d42	17.66	103775	19.31	95.9
34)	n-triacontane-d62	29.59	100088	19.17	95.7
1)	n-hexadecane-d34	12.98	279643	50.00	279643.000
16)	5a-androstane	18.27	349979	50.07	349979.000

Data Path : C:\msdchem\1\DATA\FID10070\
Data File : ENV3072A.D
Signal(s) : FID1A.CH
Acq On : 08-Aug-2013, 23:44:35
Operator : Meghan Dailey
Sample : Procedural Blank
Misc :
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 21 10:36:18 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
	Internal Standards				
1) I	n-hexadecane-d34	12.983	279643	50.000	ug/mlm
16) I	5a-androstane	18.273	349979	50.072	ug/mlm
	System Monitoring Compounds				
6) S	n-dodecane-d26	8.681	99680	17.395	ug/mlm
23) S	n-eicosane-d42	17.664	103775	19.311	ug/mlm
34) S	n-triacontane-d62	29.595	100088	19.168	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
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

Data Path : C:\msdchem\1\DATA\FID10070\
Data File : ENV3072A.D
Signal(s) : FID1A.CH
Acq On : 08-Aug-2013, 23:44:35
Operator : Meghan Dailey
Sample : Procedural Blank
Misc :
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 21 10:36:18 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	12.983f	6663337	1030.301	ug/mlm
47)	TRH1	8.681	139203	21.524	ug/mlm
48)	TRH2	12.983f	783239	121.106	ug/mlm
49)	TRH3	23.358	11310	1.749	ug/mlm
50)	TRH4	29.595	118000	18.245	ug/mlm
51)	TRH5	34.890	13345	2.063	ug/mlm
52)	TRH6	38.123f	20340	3.145	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

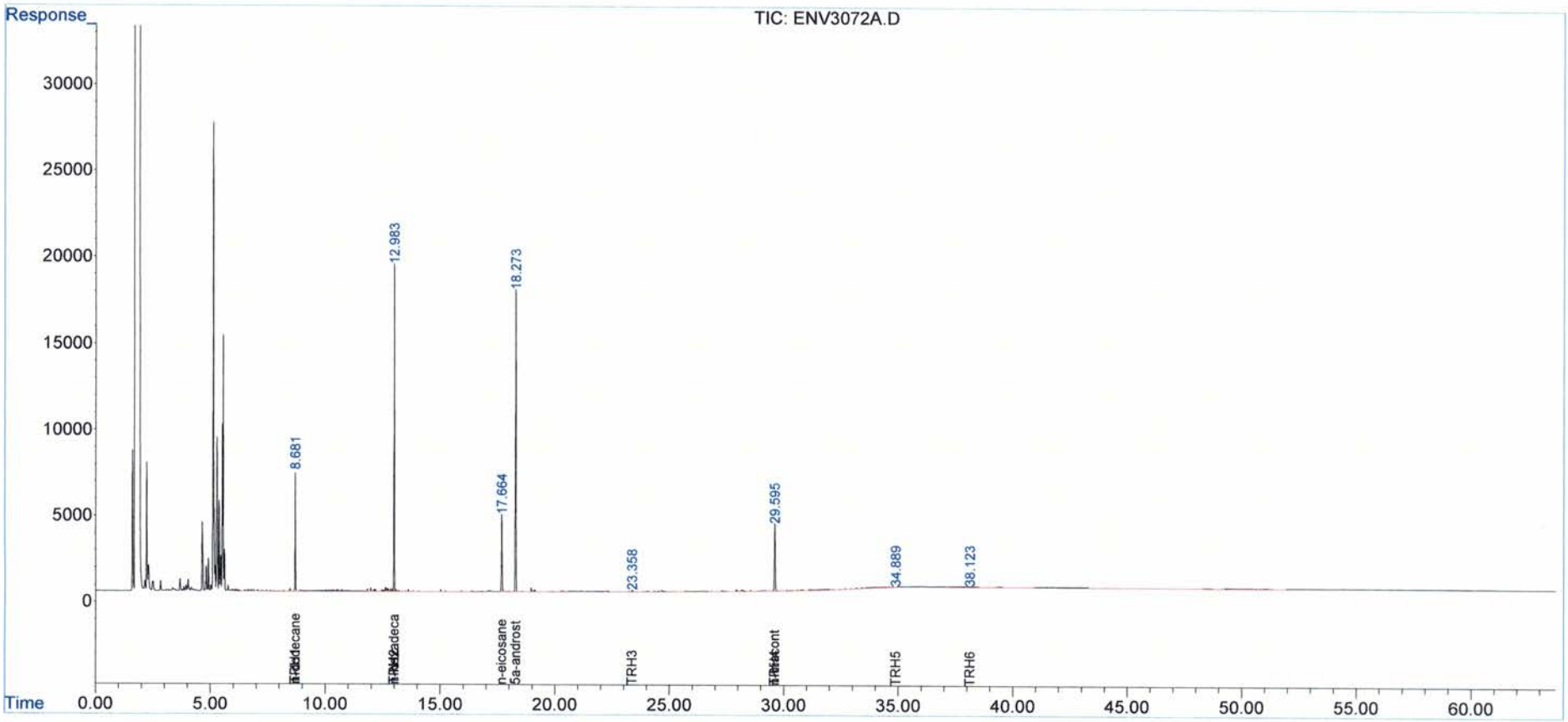
(f)=RT Delta > 1/2 Window (m)=manual int.

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FID10070\
Data File : ENV3072A.D
Signal(s) : FID1A.CH
Acq On : 08-Aug-2013, 23:44:35
Operator : Meghan Dailey
Sample : Procedural Blank
Misc :
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 21 10:36:18 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ENV3072B.D**		ENV3072B.D
Sample Name	**Blank Spike**		Blank Spike
Misc Info	**0**		09-Aug-2013, 00:54:51
Data File Path	**C:\msdchem\1\DATA\FID10070**		ALIFRONT.M
Operator	**Meghan Dailey**		
Date Acquired	**09-Aug-2013, 00:54:51**		1
Instrument Name	**HP5890**		
Acq. Method File	**ALIFRONT.M**	Vial #	7
Vial Number	**7**	IS Area 1	276706
Sample Multiplier	**1**	IS Area 2	342012

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.53	19368.5	3.64	3.639
3)	n-C9	4.85	37974.6	6.74	6.743
4)	n-C10	6.27	44065.5	7.33	7.328
5)	n-C11	7.62	46884	7.70	7.699
7)	n-C12	8.89	49585.9	7.83	7.826
8)	i-13	0.00	0	0.00	0.000
9)	i-14	0.00	0	0.00	0.000
10)	n-C13	10.06	51708	8.17	8.170
11)	i-15	0.00	0	0.00	0.000
12)	n-C14	11.16	54680.8	8.39	8.394
13)	i-16	0.00	0	0.00	0.000
14)	n-C15	12.19	61076.6	9.25	9.253
15)	n-C16	13.23	63676.4	9.56	9.564
17)	i-18	0.00	0	0.00	0.000
18)	n-C17	14.35	66375.9	9.99	9.992
19)	Pristane	14.46	66612.8	10.07	10.075
20)	n-C18	15.53	67954.2	10.35	10.349
21)	Phytane	15.70	68443.1	10.23	10.231
22)	n-C19	16.78	68010.8	10.37	10.369
24)	n-C20	18.06	67782.2	10.29	10.286
25)	n-C21	19.37	67684.8	10.19	10.187
26)	n-C22	20.68	68848.7	10.34	10.335
27)	n-C23	21.97	67771	10.13	10.127
28)	n-C24	23.23	67511.9	10.11	10.114
29)	n-C25	24.47	67815.7	10.15	10.152
30)	n-C26	25.67	68158.6	10.18	10.183
31)	n-C27	26.84	66457	10.20	10.203
32)	n-C28	27.97	68790.4	10.42	10.422
33)	n-C29	29.07	68004.3	10.27	10.269
35)	n-C30	30.13	66659.6	10.18	10.178
36)	n-C31	31.16	65993.5	10.26	10.265
37)	n-C32	32.16	64555.9	10.19	10.191
38)	n-C33	33.13	63334.2	10.26	10.261
39)	n-C34	34.08	64762.9	10.33	10.328
40)	n-C35	35.11	64052.6	10.43	10.429
41)	n-C36	36.29	67639.5	10.24	10.238
42)	n-C37	37.65	63012.1	10.46	10.458
43)	n-C38	39.24	62472.6	10.25	10.249
44)	n-C39	41.09	60422.5	10.40	10.400
45)	n-C40	43.29	55983.1	10.37	10.367
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	8.68	87684.6	15.46	77.3
23)	n-eicosane-d42	17.66	103760	19.76	98.2
34)	n-triacontane-d62	29.60	100201	19.64	98.1
1)	n-hexadecane-d34	12.98	276706	50.00	276706.000
16)	5a-androstane	18.27	342012	50.07	342012.000

Data Path : C:\msdchem\1\DATA\FID10070\
Data File : ENV3072B.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 00:54:51
Operator : Meghan Dailey
Sample : Blank Spike
Misc :
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 09 11:55:00 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
	Internal Standards				
1) I	n-hexadecane-d34	12.981	276706	50.000	ug/mlm
16) I	5a-androstane	18.272	342012	50.072	ug/mlm
	System Monitoring Compounds				
6) S	n-dodecane-d26	8.680	87685	15.465	ug/mlm
23) S	n-eicosane-d42	17.664	103760	19.758	ug/mlm
34) S	n-triacontane-d62	29.598	100201	19.637	ug/mlm
	Target Compounds				
2)	n-C8	3.531	19369	3.639	ug/mlm
3)	n-C9	4.850	37975	6.743	ug/mlm
4)	n-C10	6.265	44066	7.328	ug/mlm
5)	n-C11	7.622	46884	7.699	ug/mlm
7)	n-C12	8.886	49586	7.826	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	10.061	51708	8.170	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	11.158	54681	8.394	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	12.190	61077	9.253	ug/mlm
15)	n-C16	13.234	63676	9.564	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.346	66376	9.992	ug/mlm
19)	Pristane	14.464	66613	10.075	ug/mlm
20)	n-C18	15.531	67954	10.349	ug/mlm
21)	Phytane	15.696	68443	10.231	ug/mlm
22)	n-C19	16.777	68011	10.369	ug/mlm
24)	n-C20	18.063	67782	10.286	ug/mlm
25)	n-C21	19.368	67685	10.187	ug/mlm
26)	n-C22	20.675	68849	10.335	ug/mlm
27)	n-C23	21.966	67771	10.127	ug/mlm
28)	n-C24	23.232	67512	10.114	ug/mlm
29)	n-C25	24.470	67816	10.152	ug/mlm
30)	n-C26	25.672	68159	10.183	ug/mlm
31)	n-C27	26.839	66457	10.203	ug/mlm
32)	n-C28	27.971	68790	10.422	ug/mlm
33)	n-C29	29.069	68004	10.269	ug/mlm
35)	n-C30	30.131	66660	10.178	ug/mlm
36)	n-C31	31.161	65993	10.265	ug/mlm
37)	n-C32	32.161	64556	10.191	ug/mlm
38)	n-C33	33.131	63334	10.261	ug/mlm
39)	n-C34	34.081	64763	10.328	ug/mlm
40)	n-C35	35.115	64053	10.429	ug/mlm
41)	n-C36	36.292	67639	10.238	ug/mlm
42)	n-C37	37.651	63012	10.458	ug/mlm
43)	n-C38	39.235	62473	10.249	ug/mlm
44)	n-C39	41.095	60423	10.400	ug/mlm

Data Path : C:\msdchem\1\DATA\FID10070\
Data File : ENV3072B.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 00:54:51
Operator : Meghan Dailey
Sample : Blank Spike
Misc :
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 09 11:55:00 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
45)	n-C40	43.288	55983	10.367	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

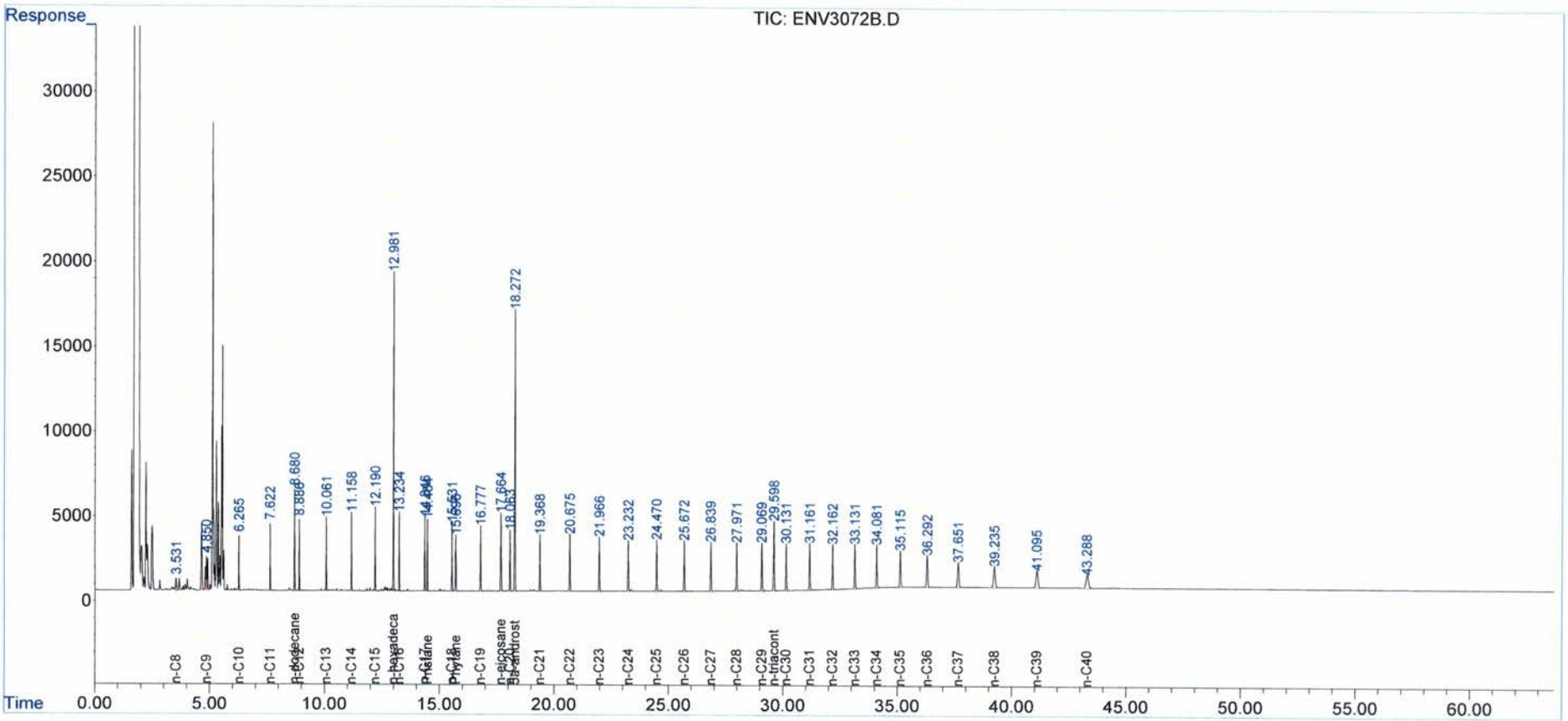
SemiQuant Compounds - Not Calibrated on this Instrument

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

Data Path : C:\msdchem\1\DATA\FID10070\
Data File : ENV3072B.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 00:54:51
Operator : Meghan Dailey
Sample : Blank Spike
Misc :
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 09 11:55:00 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ENV3072C.D**		ENV3072C.D
Sample Name	**Blank Spike Duplicate**		Blank Spike Duplicate
Misc Info	**0**		09-Aug-2013, 02:05:40
Data File Path	**C:\msdchem\1\DATA\FID10070**		ALIFRONT.M
Operator	**Meghan Dailey**		
Date Acquired	**09-Aug-2013, 02:05:40**		1
Instrument Name	**HP5890**		
Acq. Method File	**ALIFRONT.M**	Vial #	8
Vial Number	**8**	IS Area 1	266273
Sample Multiplier	**1**	IS Area 2	332341

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.53	21248.2	4.15	4.148
3)	n-C9	4.85	35677	6.58	6.583
4)	n-C10	6.27	42470.4	7.34	7.340
5)	n-C11	7.62	45406	7.75	7.748
7)	n-C12	8.89	48138.1	7.89	7.895
8)	i-13	0.00	0	0.00	0.000
9)	i-14	0.00	0	0.00	0.000
10)	n-C13	10.06	49666.4	8.15	8.155
11)	i-15	0.00	0	0.00	0.000
12)	n-C14	11.16	52795	8.42	8.422
13)	i-16	0.00	0	0.00	0.000
14)	n-C15	12.19	58010.1	9.13	9.133
15)	n-C16	13.23	60576.4	9.45	9.455
17)	i-18	0.00	0	0.00	0.000
18)	n-C17	14.35	62908.3	9.75	9.746
19)	Pristane	14.47	63520.4	9.89	9.887
20)	n-C18	15.53	64398.5	10.09	10.093
21)	Phytane	15.70	64972.3	9.99	9.995
22)	n-C19	16.78	64578.9	10.13	10.132
24)	n-C20	18.06	64372.7	10.05	10.053
25)	n-C21	19.37	64325.2	9.96	9.963
26)	n-C22	20.67	65162.9	10.07	10.067
27)	n-C23	21.97	64326.1	9.89	9.892
28)	n-C24	23.23	64137.7	9.89	9.888
29)	n-C25	24.47	64296.6	9.91	9.905
30)	n-C26	25.67	64899.2	9.98	9.978
31)	n-C27	26.84	63259.5	9.99	9.995
32)	n-C28	27.97	65150.1	10.16	10.158
33)	n-C29	29.07	64757.9	10.06	10.063
35)	n-C30	30.13	63391.8	9.96	9.960
36)	n-C31	31.16	62955	10.08	10.077
37)	n-C32	32.16	61648.2	10.02	10.015
38)	n-C33	33.13	60803.9	10.14	10.138
39)	n-C34	34.08	61965.5	10.17	10.170
40)	n-C35	35.11	60893	10.20	10.203
41)	n-C36	36.29	64396	10.03	10.031
42)	n-C37	37.64	60321	10.30	10.303
43)	n-C38	39.23	59640.7	10.07	10.069
44)	n-C39	41.10	57761.1	10.23	10.231
45)	n-C40	43.29	53228.6	10.14	10.144
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	8.68	86108.8	15.78	78.9
23)	n-eicosane-d42	17.66	100402	19.67	97.7
34)	n-triacontane-d62	29.60	96842	19.53	97.6
1)	n-hexadecane-d34	12.98	266273	50.00	266273.000
16)	5a-androstane	18.27	332341	50.07	332341.000

Data Path : C:\msdchem\1\DATA\FID10070\
Data File : ENV3072C.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 02:05:40
Operator : Meghan Dailey
Sample : Blank Spike Duplicate
Misc :
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 09 13:36:16 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	Internal Standards			
1) I	n-hexadecane-d34	12.983	266273	50.000 ug/mlm
16) I	5a-androstane	18.272	332341	50.072 ug/mlm
	System Monitoring Compounds			
6) S	n-dodecane-d26	8.680	86109	15.782 ug/mlm
23) S	n-eicosane-d42	17.665	100402	19.675 ug/mlm
34) S	n-triacontane-d62	29.597	96842	19.531 ug/mlm
	Target Compounds			
2)	n-C8	3.527	21248	4.148 ug/mlm
3)	n-C9	4.849	35677	6.583 ug/mlm
4)	n-C10	6.265	42470	7.340 ug/mlm
5)	n-C11	7.623	45406	7.748 ug/mlm
7)	n-C12	8.887	48138	7.895 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	10.062	49666	8.155 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	11.159	52795	8.422 ug/mlm
13)	i-16	0.000	0	N.D. ug/mld
14)	n-C15	12.192	58010	9.133 ug/mlm
15)	n-C16	13.235	60576	9.455 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	14.347	62908	9.746 ug/mlm
19)	Pristane	14.467	63520	9.887 ug/ml
20)	n-C18	15.532	64398	10.093 ug/mlm
21)	Phytane	15.696	64972	9.995 ug/mlm
22)	n-C19	16.778	64579	10.132 ug/mlm
24)	n-C20	18.063	64373	10.053 ug/mlm
25)	n-C21	19.370	64325	9.963 ug/mlm
26)	n-C22	20.675	65163	10.067 ug/mlm
27)	n-C23	21.966	64326	9.892 ug/mlm
28)	n-C24	23.234	64138	9.888 ug/mlm
29)	n-C25	24.470	64297	9.905 ug/mlm
30)	n-C26	25.673	64899	9.978 ug/mlm
31)	n-C27	26.839	63259	9.995 ug/mlm
32)	n-C28	27.970	65150	10.158 ug/mlm
33)	n-C29	29.069	64758	10.063 ug/mlm
35)	n-C30	30.132	63392	9.960 ug/mlm
36)	n-C31	31.160	62955	10.077 ug/mlm
37)	n-C32	32.162	61648	10.015 ug/mlm
38)	n-C33	33.133	60804	10.138 ug/mlm
39)	n-C34	34.083	61966	10.170 ug/mlm
40)	n-C35	35.112	60893	10.203 ug/mlm
41)	n-C36	36.289	64396	10.031 ug/mlm
42)	n-C37	37.645	60321	10.303 ug/mlm
43)	n-C38	39.232	59641	10.069 ug/mlm
44)	n-C39	41.099	57761	10.231 ug/mlm

Data Path : C:\msdchem\1\DATA\FID10070\
Data File : ENV3072C.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 02:05:40
Operator : Meghan Dailey
Sample : Blank Spike Duplicate
Misc :
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 09 13:36:16 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
45)	n-C40	43.288	53229	10.144	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

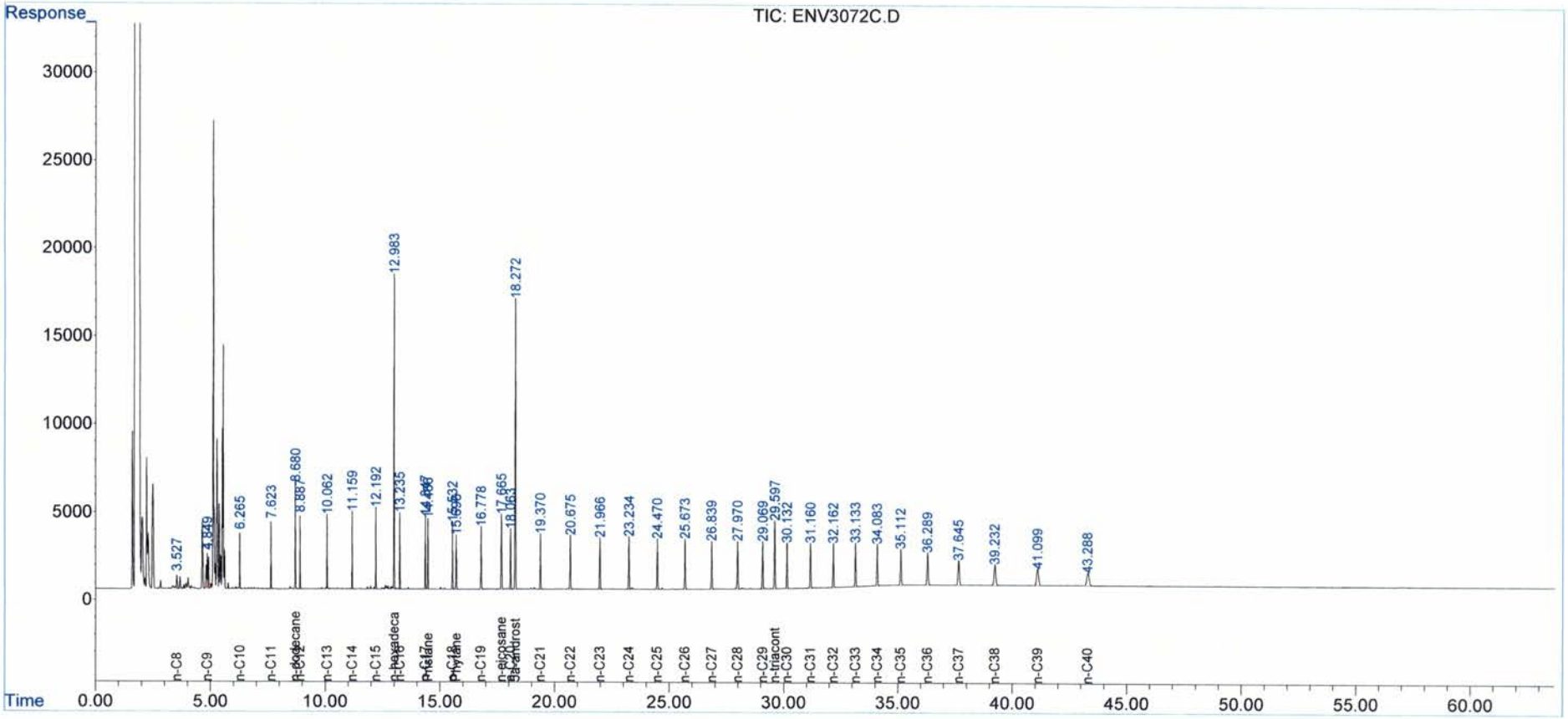
SemiQuant Compounds - Not Calibrated on this Instrument

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

Data Path : C:\msdchem\1\DATA\FID10070\
Data File : ENV3072C.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 02:05:40
Operator : Meghan Dailey
Sample : Blank Spike Duplicate
Misc :
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 09 13:36:16 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



72

			Concentration
Data File Name	**ARC1695.D**		ARC1695.D
Sample Name	**SED-DA-EB-05-080313**		SED-DA-EB-05-080313
Misc Info	**0**		09-Aug-2013, 03:15:58
Data File Path	**C:\msdchem\2\data\FID10070**		ALIFRONT.M
Operator	**Meghan Dailey**		
Date Acquired	**09-Aug-2013, 03:15:58**		0.934579
Instrument Name	**HP5890**		
Acq. Method File	**ALIFRONT.M**	Vial #	9
Vial Number	**9**	IS Area 1	256782
Sample Multiplier	**0.934579**	IS Area 2	319303

#	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	22.90	8786280	1391.65	1391.654
47)	TRH1	8.68	107151	16.97	16.972
48)	TRH2	20.31	1615340	255.85	255.853
49)	TRH3	22.90	970219	153.67	153.673
50)	TRH4	29.59	104212	16.51	16.506
51)	TRH5	34.61	2835.24	0.45	0.449
52)	TRH6	39.27	34209.5	5.42	5.418
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	8.68	75801.6	13.46	72.0
23)	n-eicosane-d42	17.67	97271.8	18.54	98.6
34)	n-triacontane-d62	29.59	93754.9	18.39	98.3
1)	n-hexadecane-d34	12.98	256782	46.73	256782.000
16)	5a-androstane	18.27	319303	46.80	319303.000

Data Path : C:\msdchem\2\data\FID10070\
Data File : ARC1695.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 03:15:58
Operator : Meghan Dailey
Sample : SED-DA-EB-05-080313
Misc :
ALS Vial : 9 Sample Multiplier: 0.934579

Integration File: autoint1.e
Quant Time: Sep 02 13:56:11 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
	Internal Standards				
1) I	n-hexadecane-d34	12.982	256782	50.000	ug/mlm
16) I	5a-androstane	18.270	319303	50.072	ug/mlm
	System Monitoring Compounds				
6) S	n-dodecane-d26	8.680	75802	13.464	ug/mlm
23) S	n-eicosane-d42	17.666	97272	18.542	ug/mlm
34) S	n-triacontane-d62	29.594	93755	18.393	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\FID10070\
Data File : ARC1695.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 03:15:58
Operator : Meghan Dailey
Sample : SED-DA-EB-05-080313
Misc :
ALS Vial : 9 Sample Multiplier: 0.934579

Integration File: autoint1.e
Quant Time: Sep 02 13:56:11 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	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	22.897	8786281	1391.657	ug/mlm
47)	TRH1	8.680	107151	16.972	ug/mlm
48)	TRH2	20.312f	1615339	255.853	ug/mlm
49)	TRH3	22.897	970219	153.673	ug/mlm
50)	TRH4	29.594	104212	16.506	ug/mlm
51)	TRH5	34.607	2835	0.449	ug/mlm
52)	TRH6	39.267f	34209	5.418	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

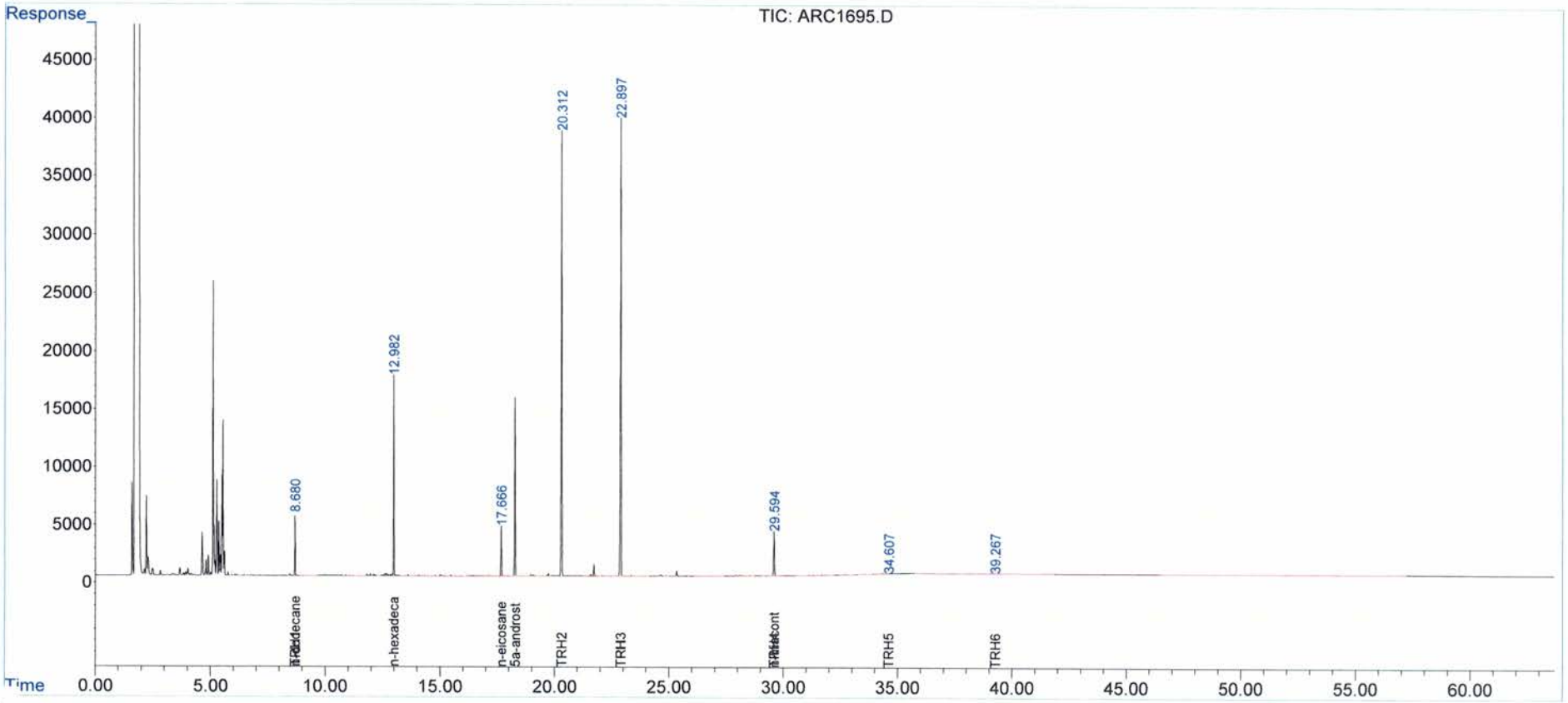
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10070\
Data File : ARC1695.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 03:15:58
Operator : Meghan Dailey
Sample : SED-DA-EB-05-080313
Misc :
ALS Vial : 9 Sample Multiplier: 0.934579

Integration File: autoint1.e
Quant Time: Sep 02 13:56:11 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC1697.D**		ARC1697.D
Sample Name	**SO-DA-EB-01-080213**		SO-DA-EB-01-080213
Misc Info	**0**		09-Aug-2013, 04:26:13
Data File Path	**C:\msdchem\2\data\FID10070**		ALIFRONT.M
Operator	**Meghan Dailey**		
Date Acquired	**09-Aug-2013, 04:26:13**		0.980392
Instrument Name	**HP5890**		
Acq. Method File	**ALIFRONT.M**	Vial #	10
Vial Number	**10**	IS Area 1	258763
Sample Multiplier	**0.980392**	IS Area 2	321145

#	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	12.98	6396140	1056.66	1056.657
47)	TRH1	8.68	96055.1	15.87	15.868
48)	TRH2	12.98	704369	116.36	116.363
49)	TRH3	23.36	7954.84	1.31	1.314
50)	TRH4	29.60	103319	17.07	17.069
51)	TRH5	35.09	9913.82	1.64	1.638
52)	TRH6	48.95	43239	7.14	7.143
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	8.68	61896.8	11.44	58.4
23)	n-eicosane-d42	17.66	88516	17.60	89.2
34)	n-triacontane-d62	29.60	85537.6	17.50	89.2
1)	n-hexadecane-d34	12.98	258763	49.02	258763.000
16)	5a-androstane	18.27	321145	49.09	321145.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10070\
Data File : ARC1697.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 04:26:13
Operator : Meghan Dailey
Sample : SO-DA-EB-01-080213
Misc :
ALS Vial : 10 Sample Multiplier: 0.980392

Integration File: autoint1.e
Quant Time: Sep 02 13:57:09 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	12.981	258763	50.000	ug/mlm
16) I	5a-androstane	18.270	321145	50.072	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.679	61897	11.445	ug/mlm
23) S	n-eicosane-d42	17.663	88516	17.599	ug/mlm
34) S	n-triacontane-d62	29.595	85538	17.503	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/ml
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\FID10070\
Data File : ARC1697.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 04:26:13
Operator : Meghan Dailey
Sample : SO-DA-EB-01-080213
Misc :
ALS Vial : 10 Sample Multiplier: 0.980392

Integration File: autoint1.e
Quant Time: Sep 02 13:57:09 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	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	12.981f	6396143	1056.652	ug/mlm
47)	TRH1	8.679	96055	15.868	ug/mlm
48)	TRH2	12.981f	704369	116.363	ug/mlm
49)	TRH3	23.356	7955	1.314	ug/mlm
50)	TRH4	29.595	103319	17.069	ug/mlm
51)	TRH5	35.093	9914	1.638	ug/mlm
52)	TRH6	48.953	43239	7.143	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

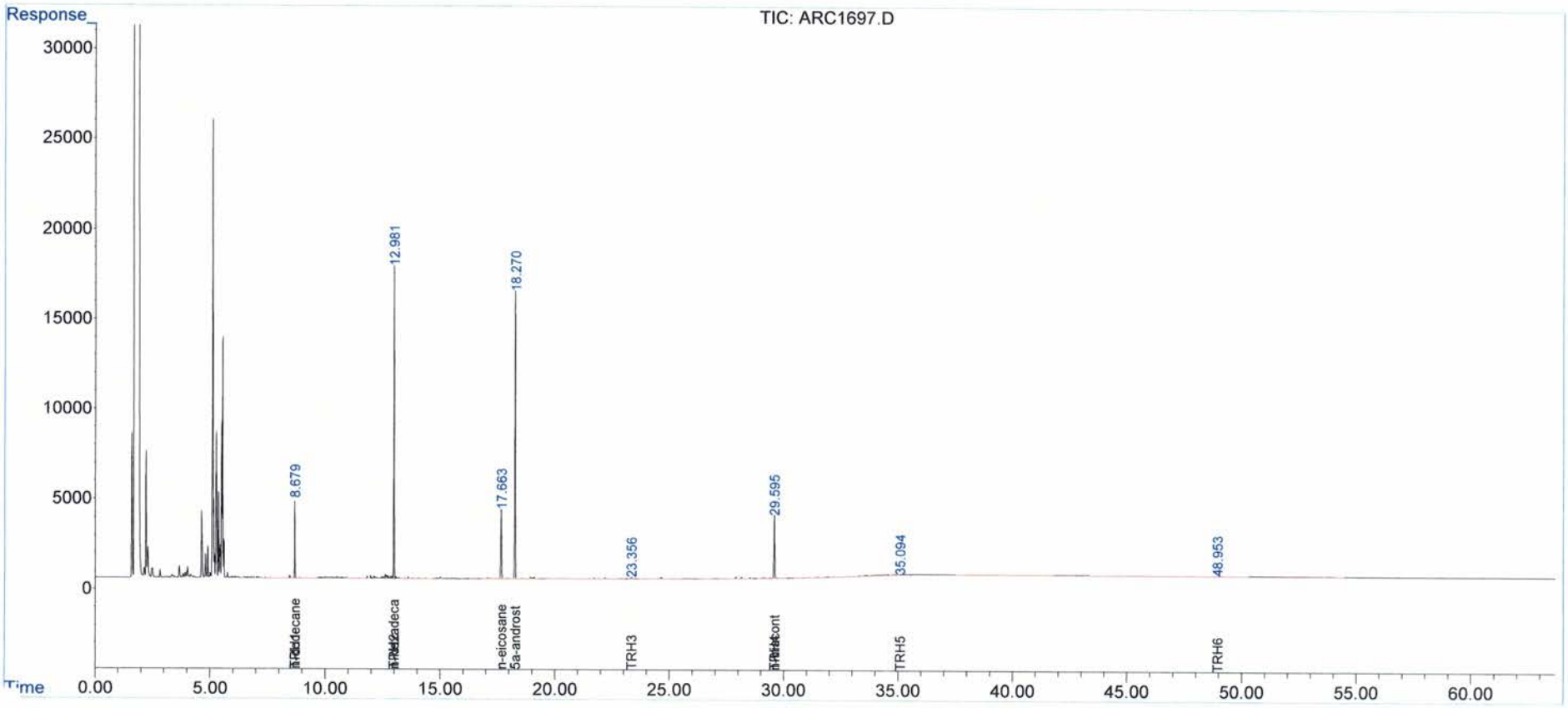
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10070\
Data File : ARC1697.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 04:26:13
Operator : Meghan Dailey
Sample : SO-DA-EB-01-080213
Misc :
ALS Vial : 10 Sample Multiplier: 0.980392

Integration File: autoint1.e
Quant Time: Sep 02 13:57:09 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC1699.D**		ARC1699.D
Sample Name	**SED-DA-EB-06-080613**		SED-DA-EB-06-080613
Misc Info	**0**		09-Aug-2013, 09:24:36
Data File Path	**C:\msdchem\2\data\FID10070**		ALIFRONT.M
Operator	**Meghan Dailey**		
Date Acquired	**09-Aug-2013, 09:24:36**		0.943396
Instrument Name	**HP5890**		
Acq. Method File	**ALIFRONT.M**	Vial #	11
Vial Number	**11**	IS Area 1	262498
Sample Multiplier	**0.943396**	IS Area 2	325308

#	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	12.98	5934660	931.34	931.344
47)	TRH1	8.68	102887	16.15	16.146
48)	TRH2	12.98	735324	115.40	115.396
49)	TRH3	23.36	14261.8	2.24	2.238
50)	TRH4	29.59	138816	21.78	21.785
51)	TRH5	34.73	7048.73	1.11	1.106
52)	TRH6	39.10	44156	6.93	6.930
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	8.68	71668.7	12.57	66.6
23)	n-eicosane-d42	17.66	98591.7	18.62	98.1
34)	n-triacontane-d62	29.59	95023.1	18.47	97.8
1)	n-hexadecane-d34	12.98	262498	47.17	262498.000
16)	5a-androstane	18.27	325308	47.24	325308.000

Data Path : C:\msdchem\2\data\FID10070\
Data File : ARC1699.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 09:24:36
Operator : Meghan Dailey
Sample : SED-DA-EB-06-080613
Misc :
ALS Vial : 11 Sample Multiplier: 0.943396

Integration File: autoint1.e
Quant Time: Sep 02 13:59:46 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
	Internal Standards				
1) I	n-hexadecane-d34	12.980	262498	50.000	ug/mlm
16) I	5a-androstane	18.268	325308	50.072	ug/mlm
	System Monitoring Compounds				
6) S	n-dodecane-d26	8.679	71669	12.570	ug/mlm
23) S	n-eicosane-d42	17.662	98592	18.621	ug/mlm
34) S	n-triacontane-d62	29.592	95023	18.470	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\FID10070\
Data File : ARC1699.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 09:24:36
Operator : Meghan Dailey
Sample : SED-DA-EB-06-080613
Misc :
ALS Vial : 11 Sample Multiplier: 0.943396

Integration File: autoint1.e
Quant Time: Sep 02 13:59:46 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	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	12.980f	5934663	931.344	ug/mlm
47)	TRH1	8.679	102887	16.146	ug/mlm
48)	TRH2	12.980f	735324	115.397	ug/mlm
49)	TRH3	23.355	14262	2.238	ug/mlm
50)	TRH4	29.592	138816	21.785	ug/mlm
51)	TRH5	34.727	7049	1.106	ug/mlm
52)	TRH6	39.096f	44156	6.930	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

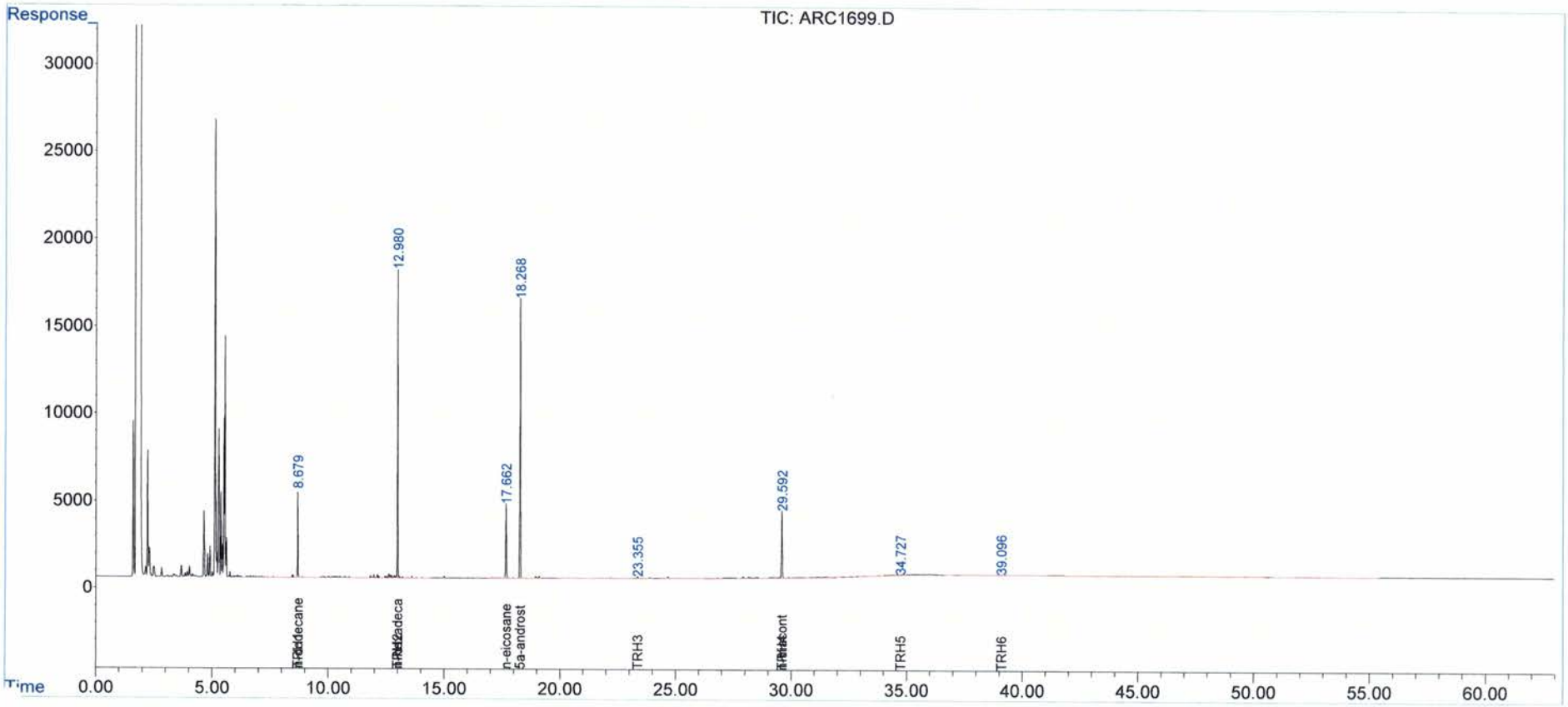
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10070\
Data File : ARC1699.D
Signal(s) : FID1A.CH
Acq On : 09-Aug-2013, 09:24:36
Operator : Meghan Dailey
Sample : SED-DA-EB-06-080613
Misc :
ALS Vial : 11 Sample Multiplier: 0.943396

Integration File: autoint1.e
Quant Time: Sep 02 13:59:46 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3072\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Polycyclic Aromatic Hydrocarbon Raw Data

B&B LABORATORIES PAHs QA FORM

Extraction Page: ETNV-3072 Analyst: Y Miao

Client: Arcadis Mayflower Date: 8/21/13

Job: #: J13034 Project Quality Manager: W Hanna

SDG #: Various Date: 08/23/13

Initial Calibration:	ICV
No further	No further

Surrogate Recoveries:
No further

Procedural Blank:
No further

Blank Spike:
No further

Blank Spike Duplicate:
No further

Laboratory Duplicate:
NA

Matrix Spike:
NA

Matirx Spike Duplicate:
NA

SRM/LCS (Solution, Tissue, Sediment, Petroleum):
Solution - no further

CCC (from a second source):
No further

SRM-2279 Reference Oil
No further

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

```
   Sequence Name: C:\msdchem\1\data\MS70053\MS70054.s
         Comment: Arcadis Mayflower AR-Water-PAH (08/10/13)
        Operator: YM
       Data Path: C:\MSDCHEM\1\DATA\MS70054\
Instrument Control  Pre-Seq Cmd:
Data Analysis       Pre-Seq Cmd:

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

    Method Sections To Run      Sequence Barcode Options
    (X) Full Method             ( ) On Mismatch, Inject Anyway
    ( ) Reprocessing Only       ( ) On Mismatch, Don't Inject
                                (X) Barcode Disabled
   ------------------------------------------------------------------------
   Line                  Sample Name/Misc Info
 1)  Sample        1  MS70054A PAH-2012 Solvent rinse
 2)  Sample        2  MS70054B PAH-2012 AR-WKC1-020-030
 3)  Sample        3  MS70054C PAH-2012 AR-WKC2-100-030
 4)  Sample        4  MS70054D PAH-2012 AR-WKC3-250-030
 5)  Sample        5  MS70054E PAH-2012 AR-WKC4-500-030
 6)  Sample        6  MS70054F PAH-2012 AR-WKC5-1000-030
 7)  Sample        7  MS70054G PAH-2012 AR-WKC6-5000-030
 8)  Sample        8  MS70054H PAH-2012 AR-WKISSU-250-002
 9)  Sample        9  MS70054I PAH-2012 AR-WKICV-250-004
10)  Sample       10  MS70054J PAH-2012 AR-WKCC-250-038
11)  Sample       11  MS70054K PAH-2012 AR-SRM2779-WK4.0-002
12)  Sample       12  ENV3072A PAH-2012
13)  Sample       13  ENV3072B PAH-2012
14)  Sample       14  ENV3072C PAH-2012
15)  Sample       15  ARC1695  PAH-2012
16)  Sample       16  ARC1697  PAH-2012
17)  Sample       17  ARC1699  PAH-2012
18)  Sample       18  MS70054L PAH-2012 AR-WKCC-250-038
```

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70054\
Data File : MS70054J.D
Acq On : 11 Aug 2013 12:51 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 12 08:33:59 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 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	85	0.00
2	S	Naphthalene-d8	1.786	1.710	4.3	89	0.00
3	T	cis/trans Decalin	0.321	0.308	4.0	88	0.00
4	un	C1-Decalins	0.321	0.000	100.0#	0#	-11.98#
5	un	C2-Decalins	0.321	0.000	100.0#	0#	-13.46#
6	un	C3-Decalins	0.321	0.000	100.0#	0#	-15.83#
7	un	C4-Decalins	0.321	0.000	100.0#	0#	-18.25#
8	T	Naphthalene	1.926	1.870	2.9	89	0.00
9	T	2-Methylnaphthalene	1.191	1.101	7.6	86	0.00
10	T	1-Methylnaphthalene	1.112	1.058	4.9	88	0.00
11	T	2,6-Dimethylnaphthalene	1.106	1.004	9.2	85	0.00
12	T	1,6,7-Trimethylnaphthalene	1.010	0.914	9.5	85	0.00
13	un	C2-Naphthalenes	1.926	0.000	100.0#	0#	-18.59#
14	un	C3-Naphthalenes	1.926	0.000	100.0#	0#	-20.37#
15	un	C4-Naphthalenes	1.926	0.000	100.0#	0#	-22.08#
16	T	Benzothiophene	1.522	1.474	3.2	89	0.00
17	un	C1-Benzothiophenes	1.522	0.000	100.0#	0#	-15.49#
18	un	C2-Benzothiophenes	1.522	0.000	100.0#	0#	-18.25#
19	un	C3-Benzothiophenes	1.522	0.000	100.0#	0#	-20.31#
20	un	C4-Benzothiophenes	1.522	0.000	100.0#	0#	-22.01#
21	S	Acenaphthene-d10	0.989	0.917	7.3	87	0.00
22	T	Biphenyl	1.641	1.556	5.2	88	0.00
23	T	Acenaphthylene	1.811	1.473	18.7	78	0.00
24	T	Acenaphthene	1.061	0.995	6.2	88	0.00
25	T	Dibenzofuran	1.761	1.648	6.4	87	0.00
26	T	Fluorene	1.400	1.288	8.0	87	0.00
27	T	1-Methylfluorene	0.872	0.722	17.2	80	0.00
28	un	C1-Fluorenes	1.400	0.000	100.0#	0#	-23.51#
29	un	C2-Fluorenes	1.400	0.000	100.0#	0#	-24.89#
30	un	C3-Fluorenes	1.400	0.000	100.0#	0#	-27.28#
31	I	Pyrene-d10	1.000	1.000	0.0	79	0.00
32	S	Phenanthrene-d10	0.841	0.824	2.0	87	0.00
33	T	Carbazole	0.747	0.576	22.9	70	0.00
34	T	Dibenzothiophene	0.880	0.879	0.1	86	0.00
35	T	4-Methyldibenzothiophene	0.786	0.760	3.3	85	0.00
36	un	2/3-Methyldibenzothiophene	0.786	0.000	100.0#	0#	-26.16#
37	un	1-Methyldibenzothiophene	0.786	0.000	100.0#	0#	-26.52#
38	un	C2-Dibenzothiophenes	0.880	0.000	100.0#	0#	-28.04#
39	un	C3-Dibenzothiophenes	0.880	0.000	100.0#	0#	-28.80#
40	un	C4-Dibenzothiophenes	0.880	0.000	100.0#	0#	-30.88#
41	T	Phenanthrene	1.125	1.103	2.0	86	0.00
42	T	Anthracene	1.026	0.916	10.7	79	0.00
43	un	3-Methylphenanthrene	0.792	0.000	100.0#	0#	-26.73#
44	un	2-Methylphenanthrene	0.792	0.000	100.0#	0#	-26.73#
45	un	2-Methylanthracene	0.792	0.000	100.0#	0#	-26.73#
46	un	4/9-Methylphenanthrene	0.792	0.000	100.0#	0#	-26.93#

Data Path : C:\GCMS7\MS70054\
Data File : MS70054J.D
Acq On : 11 Aug 2013 12:51 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 12 08:33:59 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 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	0.792	0.775	2.1	85	0.00
48	T	3,6-Dimethylphenanthrene	0.621	0.588	5.3	84	0.00
49	T	Retene	0.268	0.230	14.2	79	0.00
50	un	C2-Phenanthrenes/Anthracene	1.125	0.000	100.0#	0#	-28.56#
51	un	C3-Phenanthrenes/Anthracene	1.125	0.000	100.0#	0#	-29.43#
52	un	C4-Phenanthrenes/Anthracene	1.125	0.000	100.0#	0#	-31.99#
53	T	Naphthobenzothiophene	1.278	1.145	10.4	80	0.00
54	un	C1-Naphthobenzothiophenes	1.278	0.000	100.0#	0#	-34.24#
55	un	C2-Naphthobenzothiophenes	1.278	0.000	100.0#	0#	-35.71#
56	un	C3-Naphthobenzothiophenes	1.278	0.000	100.0#	0#	-36.91#
57	un	C4-Naphthobenzothiophenes	1.278	0.000	100.0#	0#	-38.00#
58	T	Fluoranthene	1.109	1.087	2.0	86	0.00
59	T	Pyrene	1.238	1.148	7.3	83	0.00
60	T	2-Methylfluoranthene	0.664	0.578	13.0	79	0.00
61	T	Benzo(b)fluorene	0.650	0.554	14.8	78	0.00
62	un	C1-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-30.67#
63	un	C2-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-32.18#
64	un	C3-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-33.81#
65	un	C4-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-35.09#
66	S	Chrysene-d12	1.172	1.138	2.9	84	0.00
67	T	Benz(a)anthracene	1.203	0.968	19.5	74	0.00
68	T	Chrysene/Triphenylene	1.278	1.302	-1.9	87	0.00
69	un	C1-Chrysenes	1.278	0.000	100.0#	0#	-35.59#
70	un	C2-Chrysenes	1.278	0.000	100.0#	0#	-36.91#
71	un	C3-Chrysenes	1.278	0.000	100.0#	0#	-38.08#
72	un	C4-Chrysenes	1.278	0.000	100.0#	0#	-39.74#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	71	0.00
74	un	C29-Hopane	0.462	0.000	100.0#	0#	-40.35#
75	un	18a-Oleanane	0.462	0.000	100.0#	0#	-42.05#
76	T	C30-Hopane	0.462	0.417	9.7	71	0.00
77	T	Benzo(b)fluoranthene	1.515	1.516	-0.1	76	0.00
78	T	Benzo(k,j)fluoranthene	1.403	1.484	-5.8	82	-0.04
79	un	Benzo(a)fluoranthene	1.403	0.000	100.0#	0#	-37.30#
80	T	Benzo(e)pyrene	1.498	1.604	-7.1	81	0.00
81	T	Benzo(a)pyrene	1.417	1.329	6.2	74	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.436	1.262	12.1	71	0.00
83	T	Dibenzo(a,h)anthracene	1.160	1.058	8.8	73	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.160	0.000	100.0#	0#	-48.61#
85	un	C2-Dibenzo(a,h)anthracenes	1.160	0.000	100.0#	0#	-50.38#
86	un	C3-Dibenzo(a,h)anthracenes	1.160	0.000	100.0#	0#	-50.86#
87	T	Benzo(g,h,i)perylene	1.225	1.119	8.7	72	-0.04
88	S	Perylene-d12	1.215	1.141	6.1	76	-0.04
89	T	Perylene	1.439	1.367	5.0	75	0.00
90	S	5(b)H-Cholane	0.207	0.196	5.3	74	0.00
91	un	C20-TAS	1.549	0.000	100.0#	0#	-33.34#
92	un	C21-TAS	1.549	0.000	100.0#	0#	-34.24#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70054\
Data File : MS70054J.D
Acq On : 11 Aug 2013 12:51 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 12 08:33:59 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 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	1.549	0.000	100.0#	0#	-38.70#
94 T	C26(20R)/C27(20S)-TAS	1.549	1.216	21.5	62	0.00
95 un	C28(20S)-TAS	1.549	0.000	100.0#	0#	-39.94#
96 un	C27(20R)-TAS	1.549	0.000	100.0#	0#	-40.68#
97 un	C28(20R)-TAS	1.549	0.000	100.0#	0#	-41.82#

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054J.D
Acq On : 11 Aug 2013 12:51 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 12 08:33:59 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.455	176	320672m	251.05		0.00
31) Pyrene-d10	29.635	212	599675m	250.63		0.00
73) Benzo(a)pyrene-d12	38.386	264	424918m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.822	136	546367m	239.48		0.00
21) Acenaphthene-d10	19.672	164	293158m	232.11		0.00
32) Phenanthrene-d10	24.752	188	493124m	245.14		0.00
66) Chrysene-d12	33.809	240	680653m	242.68		0.00
88) Perylene-d12	38.658	264	484066m	234.78		-0.04
90) 5(b)H-Cholane	34.235	217	83075m	236.31		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.176	138	97257m	237.00		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.878	128	597284m	242.80		
9) 2-Methylnaphthalene	16.134	142	351851m	231.38		
10) 1-Methylnaphthalene	16.468	142	337436m	237.62		
11) 2,6-Dimethylnaphthalene	18.223	156	320763m	226.96		
12) 1,6,7-Trimethylnaphtha...	21.065	170	291778m	226.27		
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	14.045	134	467843m	240.68		
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	17.694	154	492396m	234.86		
23) Acenaphthylene	19.171	152	466469m	201.63		
24) Acenaphthene	19.756	154	318261m	234.76		
25) Dibenzofuran	20.368	168	523660m	232.80		
26) Fluorene	21.538	166	412067m	230.50		
27) 1-Methylfluorene	23.506	180	232165m	208.48		
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	25.583	167	341294m	190.84		
34) Dibenzothiophene	24.406	184	518166m	246.13		
35) 4-Methyldibenzothiophene	25.895	198	458320m	243.74		
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	24.821	178	654148m	243.03		
42) Anthracene	24.995	178	549621m	223.83		

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054J.D
Acq On : 11 Aug 2013 12:51 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 12 08:33:59 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 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	26.934	192	458643m	241.98		
48) 3,6-Dimethylphenanthrene	28.007	206	352000m	236.96		
49) Retene	30.708	234	123103m	191.91		
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	32.955	234	689312m	225.37		
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	28.907	202	650879m	245.38		
59) Pyrene	29.704	202	687006m	231.98		
60) 2-Methylfluoranthene	30.466	216	348088m	219.10		
61) Benzo(b)fluorene	31.054	216	334474m	215.19		
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	33.770	228	577689m	200.69		
68) Chrysene/Triphenylene	33.886	228	774287m	253.24		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.783	191	176943m	225.60		
77) Benzo(b)fluoranthene	37.300	252	644470m	250.67		
78) Benzo(k,j)fluoranthene	37.378	252	627073m	263.32		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.270	252	678022m	266.56		
81) Benzo(a)pyrene	38.464	252	563013m	234.09		
82) Indeno(1,2,3-c,d)pyrene	43.152	276	526482m	216.06		
83) Dibenzo(a,h)anthracene	43.225	278	444767m	225.96		
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	44.479	276	470497m	226.26		
89) Perylene	38.774	252	580655m	237.64		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.395	231	516029m	196.31		
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054J.D
Acq On : 11 Aug 2013 12:51 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 12 08:33:59 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration

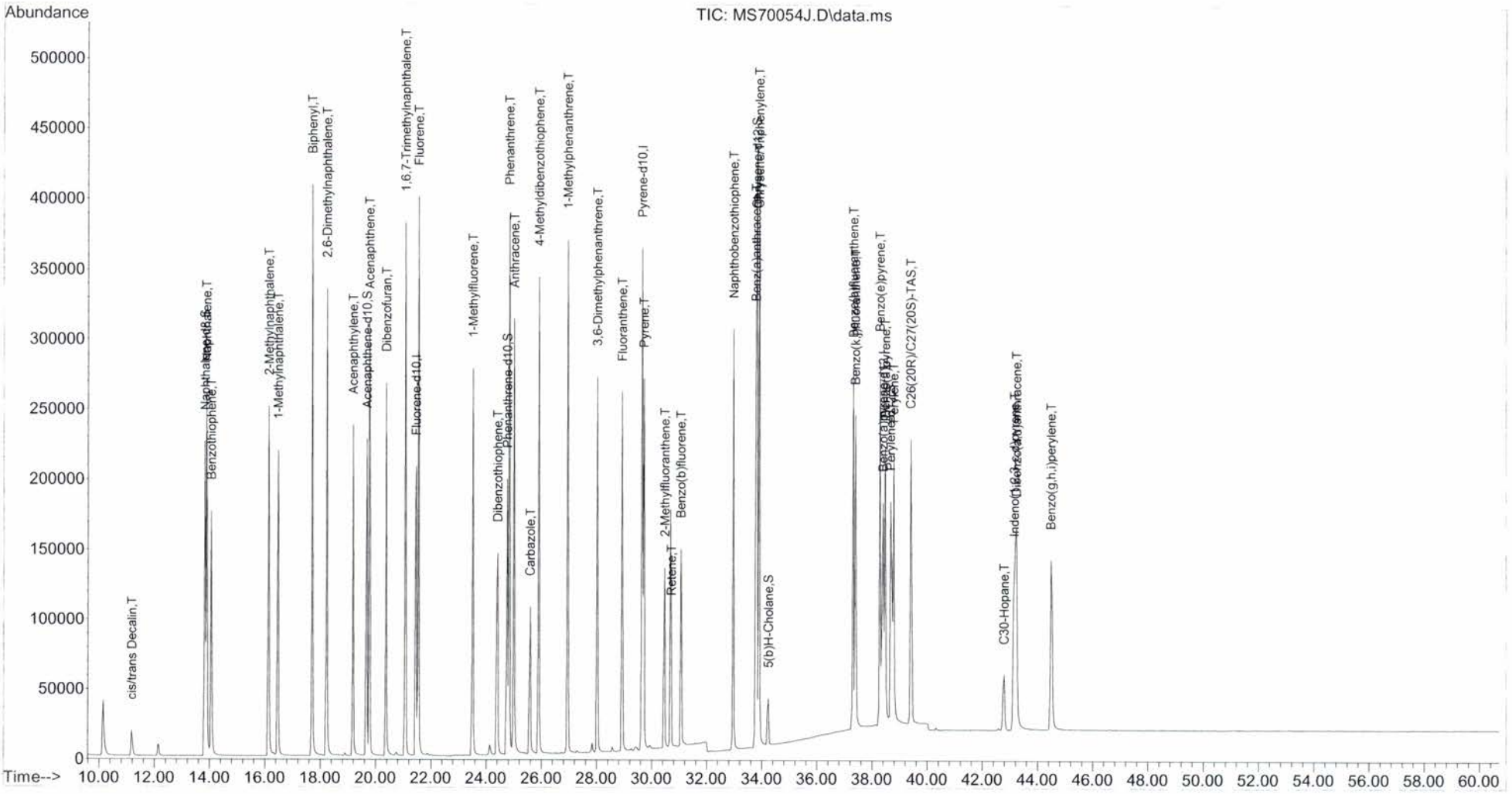
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054J.D
Acq On : 11 Aug 2013 12:51 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 12 08:33:59 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70054\
Data File : MS70054L.D
Acq On : 11 Aug 2013 9:59 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Aug 12 08:40:23 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 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	86	0.00
2	S	Naphthalene-d8	1.786	1.739	2.6	91	0.00
3	T	cis/trans Decalin	0.321	0.315	1.9	91	0.00
4	un	C1-Decalins	0.321	0.000	100.0#	0#	-11.98#
5	un	C2-Decalins	0.321	0.000	100.0#	0#	-13.46#
6	un	C3-Decalins	0.321	0.000	100.0#	0#	-15.83#
7	un	C4-Decalins	0.321	0.000	100.0#	0#	-18.25#
8	T	Naphthalene	1.926	1.930	-0.2	92	0.00
9	T	2-Methylnaphthalene	1.191	1.143	4.0	90	0.00
10	T	1-Methylnaphthalene	1.112	1.086	2.3	91	0.00
11	T	2,6-Dimethylnaphthalene	1.106	1.031	6.8	88	0.00
12	T	1,6,7-Trimethylnaphthalene	1.010	0.972	3.8	91	0.00
13	un	C2-Naphthalenes	1.926	0.000	100.0#	0#	-18.59#
14	un	C3-Naphthalenes	1.926	0.000	100.0#	0#	-20.37#
15	un	C4-Naphthalenes	1.926	0.000	100.0#	0#	-22.08#
16	T	Benzothiophene	1.522	1.510	0.8	92	0.00
17	un	C1-Benzothiophenes	1.522	0.000	100.0#	0#	-15.49#
18	un	C2-Benzothiophenes	1.522	0.000	100.0#	0#	-18.25#
19	un	C3-Benzothiophenes	1.522	0.000	100.0#	0#	-20.31#
20	un	C4-Benzothiophenes	1.522	0.000	100.0#	0#	-22.01#
21	S	Acenaphthene-d10	0.989	0.943	4.7	90	0.00
22	T	Biphenyl	1.641	1.581	3.7	90	0.00
23	T	Acenaphthylene	1.811	1.574	13.1	84	0.00
24	T	Acenaphthene	1.061	1.044	1.6	93	0.00
25	T	Dibenzofuran	1.761	1.665	5.5	89	0.00
26	T	Fluorene	1.400	1.309	6.5	89	0.00
27	T	1-Methylfluorene	0.872	0.744	14.7	83	0.00
28	un	C1-Fluorenes	1.400	0.000	100.0#	0#	-23.51#
29	un	C2-Fluorenes	1.400	0.000	100.0#	0#	-24.89#
30	un	C3-Fluorenes	1.400	0.000	100.0#	0#	-27.28#
31	I	Pyrene-d10	1.000	1.000	0.0	76	0.00
32	S	Phenanthrene-d10	0.841	0.871	-3.6	89	0.00
33	T	Carbazole	0.747	0.669	10.4	79	0.00
34	T	Dibenzothiophene	0.880	0.960	-9.1	92	0.00
35	T	4-Methyldibenzothiophene	0.786	0.802	-2.0	87	0.00
36	un	2/3-Methyldibenzothiophene	0.786	0.000	100.0#	0#	-26.16#
37	un	1-Methyldibenzothiophene	0.786	0.000	100.0#	0#	-26.52#
38	un	C2-Dibenzothiophenes	0.880	0.000	100.0#	0#	-28.04#
39	un	C3-Dibenzothiophenes	0.880	0.000	100.0#	0#	-28.80#
40	un	C4-Dibenzothiophenes	0.880	0.000	100.0#	0#	-30.88#
41	T	Phenanthrene	1.125	1.133	-0.7	85	0.00
42	T	Anthracene	1.026	0.982	4.3	83	0.00
43	un	3-Methylphenanthrene	0.792	0.000	100.0#	0#	-26.73#
44	un	2-Methylphenanthrene	0.792	0.000	100.0#	0#	-26.73#
45	un	2-Methylanthracene	0.792	0.000	100.0#	0#	-26.73#
46	un	4/9-Methylphenanthrene	0.792	0.000	100.0#	0#	-26.93#

Data Path : C:\GCMS7\MS70054\
Data File : MS70054L.D
Acq On : 11 Aug 2013 9:59 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Aug 12 08:40:23 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 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	0.792	0.847	-6.9	90	0.00
48	T	3,6-Dimethylphenanthrene	0.621	0.680	-9.5	94	0.00
49	T	Retene	0.268	0.261	2.6	87	-0.03
50	un	C2-Phenanthrenes/Anthracene	1.125	0.000	100.0#	0#	-28.56#
51	un	C3-Phenanthrenes/Anthracene	1.125	0.000	100.0#	0#	-29.43#
52	un	C4-Phenanthrenes/Anthracene	1.125	0.000	100.0#	0#	-31.99#
53	T	Naphthobenzothiophene	1.278	1.217	4.8	83	0.00
54	un	C1-Naphthobenzothiophenes	1.278	0.000	100.0#	0#	-34.24#
55	un	C2-Naphthobenzothiophenes	1.278	0.000	100.0#	0#	-35.71#
56	un	C3-Naphthobenzothiophenes	1.278	0.000	100.0#	0#	-36.91#
57	un	C4-Naphthobenzothiophenes	1.278	0.000	100.0#	0#	-38.00#
58	T	Fluoranthene	1.109	1.222	-10.2	94	0.00
59	T	Pyrene	1.238	1.208	2.4	85	0.00
60	T	2-Methylfluoranthene	0.664	0.639	3.8	85	0.00
61	T	Benzo(b)fluorene	0.650	0.646	0.6	89	0.00
62	un	C1-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-30.67#
63	un	C2-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-32.18#
64	un	C3-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-33.81#
65	un	C4-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-35.09#
66	S	Chrysene-d12	1.172	1.212	-3.4	86	0.00
67	T	Benz(a)anthracene	1.203	1.039	13.6	77	0.00
68	T	Chrysene/Triphenylene	1.278	1.364	-6.7	89	0.00
69	un	C1-Chrysenes	1.278	0.000	100.0#	0#	-35.59#
70	un	C2-Chrysenes	1.278	0.000	100.0#	0#	-36.91#
71	un	C3-Chrysenes	1.278	0.000	100.0#	0#	-38.08#
72	un	C4-Chrysenes	1.278	0.000	100.0#	0#	-39.74#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	76	0.00
74	un	C29-Hopane	0.462	0.000	100.0#	0#	-40.35#
75	un	18a-Oleanane	0.462	0.000	100.0#	0#	-42.05#
76	T	C30-Hopane	0.462	0.414	10.4	75	0.00
77	T	Benzo(b)fluoranthene	1.515	1.500	1.0	81	0.00
78	T	Benzo(k,j)fluoranthene	1.403	1.530	-9.1	90	-0.04
79	un	Benzo(a)fluoranthene	1.403	0.000	100.0#	0#	-37.30#
80	T	Benzo(e)pyrene	1.498	1.597	-6.6	86	0.00
81	T	Benzo(a)pyrene	1.417	1.323	6.6	79	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.436	1.255	12.6	75	0.00
83	T	Dibenzo(a,h)anthracene	1.160	1.053	9.2	78	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.160	0.000	100.0#	0#	-48.61#
85	un	C2-Dibenzo(a,h)anthracenes	1.160	0.000	100.0#	0#	-50.38#
86	un	C3-Dibenzo(a,h)anthracenes	1.160	0.000	100.0#	0#	-50.86#
87	T	Benzo(g,h,i)perylene	1.225	1.113	9.1	77	-0.04
88	S	Perylene-d12	1.215	1.172	3.5	83	-0.04
89	T	Perylene	1.439	1.350	6.2	79	0.00
90	S	5(b)H-Cholane	0.207	0.202	2.4	82	-0.04
91	un	C20-TAS	1.549	0.000	100.0#	0#	-33.34#
92	un	C21-TAS	1.549	0.000	100.0#	0#	-34.24#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70054\
Data File : MS70054L.D
Acq On : 11 Aug 2013 9:59 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Aug 12 08:40:23 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 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	1.549	0.000	100.0#	0#	-38.70#
94 T	C26(20R)/C27(20S)-TAS	1.549	1.336	13.8	73	0.00
95 un	C28(20S)-TAS	1.549	0.000	100.0#	0#	-39.94#
96 un	C27(20R)-TAS	1.549	0.000	100.0#	0#	-40.68#
97 un	C28(20R)-TAS	1.549	0.000	100.0#	0#	-41.82#

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054L.D
Acq On : 11 Aug 2013 9:59 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Aug 12 08:40:23 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.455	176	323090m	251.05		0.00
31) Pyrene-d10	29.635	212	583030m	250.63		0.00
73) Benzo(a)pyrene-d12	38.386	264	454002m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.822	136	559842m	243.55		0.00
21) Acenaphthene-d10	19.672	164	303576m	238.56		0.00
32) Phenanthrene-d10	24.752	188	506750m	259.11		0.00
66) Chrysene-d12	33.809	240	704860m	258.48		0.00
88) Perylene-d12	38.658	264	531326m	241.19		-0.04
90) 5(b)H-Cholane	34.197	217	91704m	244.14		-0.04
Target Compounds						Qvalue
3) cis/trans Decalin	11.176	138	100244m	242.45		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.878	128	620959m	250.53		
9) 2-Methylnaphthalene	16.134	142	368198m	240.31		
10) 1-Methylnaphthalene	16.468	142	348928m	243.88		
11) 2,6-Dimethylnaphthalene	18.223	156	331751m	232.98		
12) 1,6,7-Trimethylnaphtha...	21.065	170	312754m	240.73		
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	14.045	134	482833m	246.53		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.694	154	504225m	238.70		
23) Acenaphthylene	19.171	152	502404m	215.54		
24) Acenaphthene	19.756	154	336528m	246.38		
25) Dibenzofuran	20.368	168	533155m	235.24		
26) Fluorene	21.538	166	421942m	234.26		
27) 1-Methylfluorene	23.506	180	241280m	215.04		
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	25.583	167	385580m	221.76		
34) Dibenzothiophene	24.406	184	550585m	269.00		
35) 4-Methyldibenzothiophene	25.895	198	470494m	257.36		
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	24.821	178	653155m	249.59		
42) Anthracene	24.995	178	572795m	239.92		

Data Path : C:\GCMS7\MS70054\
Data File : MS70054L.D
Acq On : 11 Aug 2013 9:59 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Aug 12 08:40:23 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 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	26.934	192	487213m	264.39		
48) 3,6-Dimethylphenanthrene	28.007	206	396196m	274.33		
49) Retene	30.674	234	135517m	217.29		
50) C2-Phenanthrenes/Anthr...	0.000		0		N.D.	d
51) C3-Phenanthrenes/Anthr...	0.000		0		N.D.	d
52) C4-Phenanthrenes/Anthr...	0.000		0		N.D.	
53) Naphthobenzothiophene	32.955	234	712068m	239.46		
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	28.908	202	711326m	275.83		
59) Pyrene	29.704	202	702801m	244.09		
60) 2-Methylfluoranthene	30.466	216	374091m	242.19		
61) Benzo(b)fluorene	31.055	216	379112m	250.87		
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	33.770	228	602880m	215.42		
68) Chrysene/Triphenylene	33.886	228	788730m	265.33		
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	42.783	191	187606m	223.88		
77) Benzo(b)fluoranthene	37.300	252	681531m	248.10		
78) Benzo(k,j)fluoranthene	37.378	252	690792m	271.49		
79) Benzo(a)fluoranthene	0.000		0		N.D.	d
80) Benzo(e)pyrene	38.270	252	721229m	265.38		
81) Benzo(a)pyrene	38.464	252	598583m	232.94		
82) Indeno(1,2,3-c,d)pyrene	43.152	276	559511m	214.91		
83) Dibenzo(a,h)anthracene	43.225	278	473097m	224.96		
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	44.479	276	500248m	225.16		
89) Perylene	38.774	252	612754m	234.71		
91) C20-TAS	0.000		0		N.D.	d
92) C21-TAS	0.000		0		N.D.	d
93) C26(20S)-TAS	0.000		0		N.D.	d
94) C26(20R)/C27(20S)-TAS	39.395	231	605556m	215.61		
95) C28(20S)-TAS	0.000		0		N.D.	
96) C27(20R)-TAS	0.000		0		N.D.	d
97) C28(20R)-TAS	0.000		0		N.D.	d

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054L.D
Acq On : 11 Aug 2013 9:59 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Aug 12 08:40:23 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration

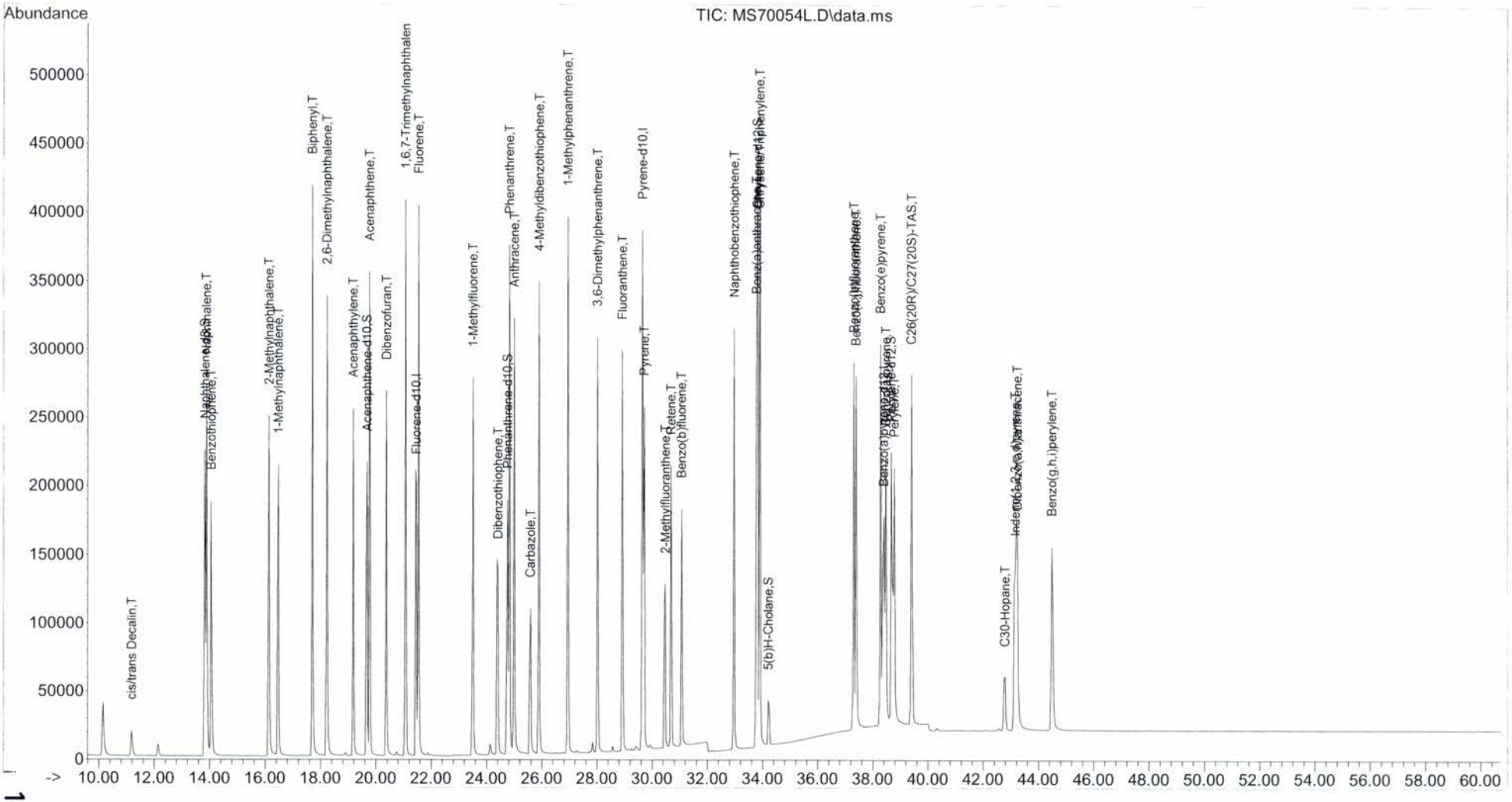
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054L.D
Acq On : 11 Aug 2013 9:59 am
Operator : YM
Sample : AR-WKCC-250-038
Misc :
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Aug 12 08:40:23 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration



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

Data File Name MS70054H.D
Data File Path C:\GCMS7\MS70054\
Operator YM
Date Acquired 8/10/2013 22:34
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

MS70054H.D
AR-WKISSU-250-002
8/10/2013
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	13.82	536040	235.66	94.22
21)	Acenaphthene-d10	19.67	284498	225.93	90.31
32)	Phenanthrene-d10	24.75	482611	234.21	93.61
66)	Chrysene-d12	33.81	620506	215.97	86.38
88)	Perylene-d12	38.66	475219	230.97	92.38
90)	5(b)H-Cholane	34.24	86297	245.98	98.39
	Internal Standards				
1)	Fluorene-d10	21.45	319713	251.05	
31)	Pyrene-d10	29.63	614279	250.63	
73)	Benzo(a)pyrene-d12	38.39	424037	250.33	

Data Path : C:\msdchem\2\data\MS70054\
Data File : MS70054H.D
Acq On : 10 Aug 2013 10:34 pm
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 12 08:21:09 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.455	176	319713m	251.05		0.00
31) Pyrene-d10	29.635	212	614279m	250.63		0.00
73) Benzo(a)pyrene-d12	38.386	264	424037m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.822	136	536040m	235.66		0.00
21) Acenaphthene-d10	19.672	164	284498m	225.93		0.00
32) Phenanthrene-d10	24.752	188	482611m	234.21		0.00
66) Chrysene-d12	33.809	240	620506m	215.97		0.00
88) Perylene-d12	38.658	264	475219m	230.97		-0.04
90) 5(b)H-Cholane	34.235	217	86297m	245.98		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\MS70054\
Data File : MS70054H.D
Acq On : 10 Aug 2013 10:34 pm
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 12 08:21:09 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 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\MS70054\
Data File : MS70054H.D
Acq On : 10 Aug 2013 10:34 pm
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 12 08:21:09 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration

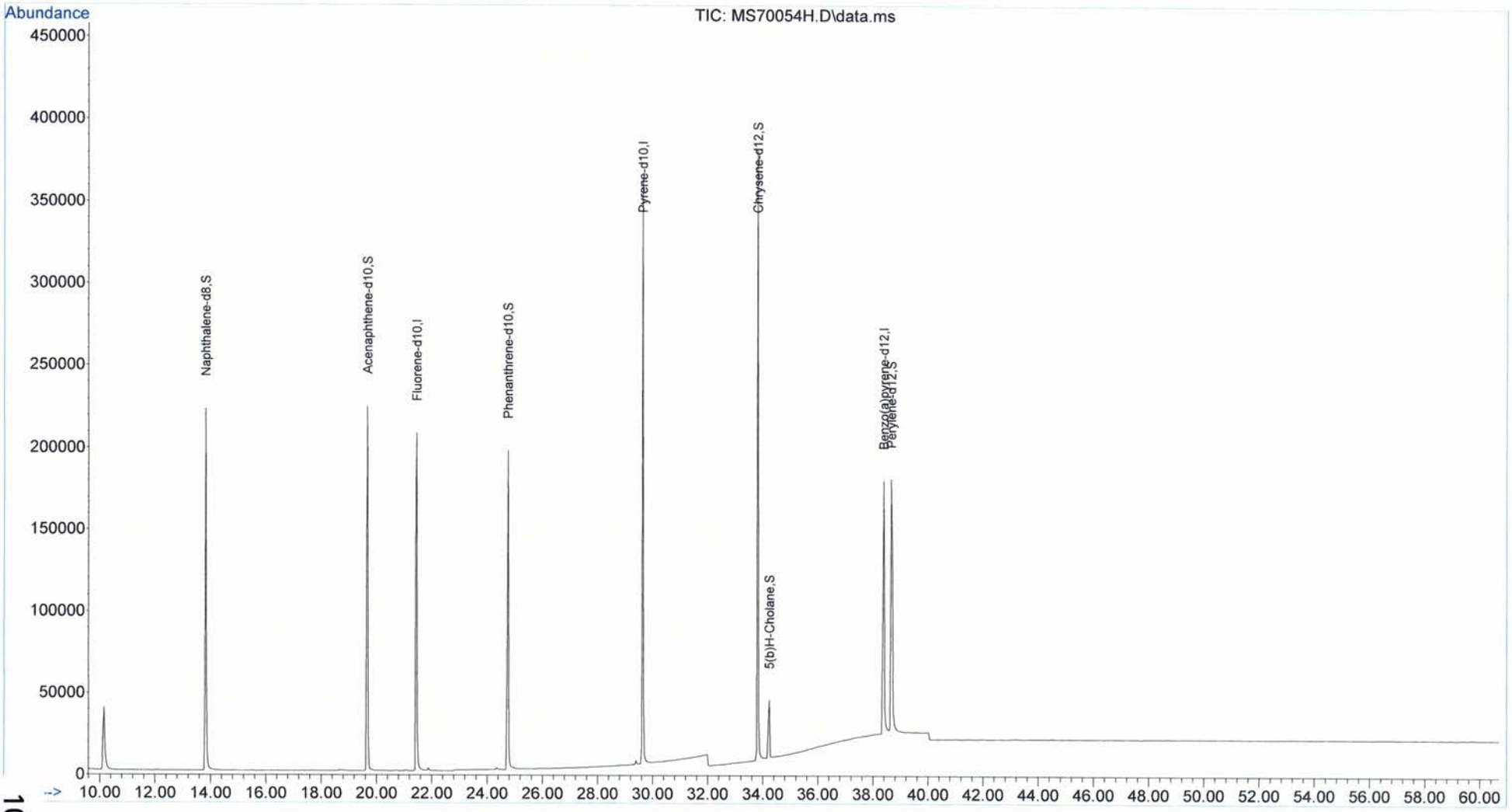
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70054\
Data File : MS70054H.D
Acq On : 10 Aug 2013 10:34 pm
Operator : YM
Sample : AR-WKISSU-250-002
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 12 08:21:09 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration



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

Data File Name MS70054K.D
Data File Path C:\msdchem\2\data\MS70054\
Operator YM
Date Acquired 8/11/2013 1:59
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

MS70054K.D
AR-SRM2779-WK4.0-002
8/11/2013
PAH-2012.M
4.088140305

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.18	1507010	579.7086	642.8377
4)	C1-Decalins	12.35	2193310	843.7113	935.5897
5)	C2-Decalins	13.74	1867570	718.4073	796.6405
6)	C3-Decalins	16.69	1633790	628.4740	696.9136
7)	C4-Decalins	17.72	896981	345.0444	382.6191
8)	Naphthalene	13.88	9663120	620.0937	687.6206
9)+10)	C1-Naphthalenes	16.30	19915850	1278.0233	1417.1975
13)	C2-Naphthalenes	18.50	24261800	1556.9084	1726.4526
14)	C3-Naphthalenes	20.51	16164900	1037.3225	1150.2849
15)	C4-Naphthalenes	22.82	8319460	533.8711	592.0086
16)	Benzothiophene	14.07	83764	6.8024	7.5432
17)	C1-Benzothiophenes	15.63	360862	29.3055	32.4968
18)	C2-Benzothiophenes	18.64	301098	24.4520	27.1147
19)	C3-Benzothiophenes	20.31	405968	32.9683	36.5585
20)	C4-Benzothiophenes	22.10	265410	21.5538	23.9009
22)	Biphenyl	17.69	1801670	135.6575	150.4304
23)	Acenaphthylene	19.17	109279	7.4567	8.2687
24)	Acenaphthene	19.78	128439	14.9560	16.5847
25)	Dibenzofuran	20.37	367647	25.8005	28.6101
26)	Fluorene	21.54	1201130	106.0658	117.6162
28)	C1-Fluorenes	23.51	2684020	237.0114	262.8215
29)	C2-Fluorenes	25.24	3676180	324.6244	359.9753
30)	C3-Fluorenes	26.83	2600840	229.6668	254.6770
33)	Carbazole	25.58	45862	3.7809	4.1926
42)	Anthracene	24.99	59875	3.5949	3.9864
41)	Phenanthrene	24.82	3871560	212.0619	235.1551
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.72	7837280	429.2814	476.0293
50)	C2-Phenanthrenes/Anthracenes	28.39	8831040	483.7138	536.3893
51)	C3-Phenanthrenes/Anthracenes	29.95	5826510	319.1427	353.8967
52)	C4-Phenanthrenes/Anthracenes	31.78	3674210	201.2521	223.1681
34)	Dibenzothiophene	24.41	582177	40.7711	45.2110
35)+36)+37)	C1-Dibenzothiophenes	26.21	1717885	120.3072	133.4084
38)	C2-Dibenzothiophenes	27.97	2122720	148.6585	164.8472
39)	C3-Dibenzothiophenes	28.80	1608170	112.6236	124.8881
40)	C4-Dibenzothiophenes	30.22	814543	57.0440	63.2560
58)	Fluoranthene	28.94	80590	4.4795	4.9673
59)	Pyrene	29.70	237810	11.8393	13.1286
62)	C1-Fluoranthenes/Pyrenes	30.85	1047050	58.1986	64.5363
63)	C2-Fluoranthenes/Pyrenes	32.61	2174180	120.8483	134.0085
64)	C3-Fluoranthenes/Pyrenes	34.00	2111660	117.3729	130.1546
65)	C4-Fluoranthenes/Pyrenes	35.13	1820540	101.1920	112.2116
53)	Naphthobenzothiophene	32.96	332660	16.0354	17.7817
54)	C1-Naphthobenzothiophenes	34.12	954759	46.0229	51.0347
55)	C2-Naphthobenzothiophenes	35.79	1036890	49.9819	55.4248
56)	C3-Naphthobenzothiophenes	37.18	822094	39.6280	43.9435
57)	C4-Naphthobenzothiophenes	38.15	344406	16.6016	18.4095
67)	Benz(a)anthracene	33.77	116263	5.9549	6.6034
68)	Chrysene/Triphenylene	33.85	725346	34.9765	38.7854
69)	C1-Chrysenes	35.13	1581260	76.2493	84.5527
70)	C2-Chrysenes	36.29	2044880	98.6055	109.3434
71)	C3-Chrysenes	38.00	1362520	65.7015	72.8563
72)	C4-Chrysenes	39.40	836296	40.3266	44.7181
77)	Benzo(b)fluoranthene	37.30	92129	3.8732	4.2950
78)	Benzo(k,j)fluoranthene	37.34	3344	0.1518	0.1683
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.27	186536	7.9266	8.7898
81)	Benzo(a)pyrene	38.46	33971	1.5267	1.6930
89)	Perylene	38.77	10211	0.4517	0.5009
82)	Indeno(1,2,3-c,d)pyrene	43.19	12171	0.5399	0.5987
83)	Dibenzo(a,h)anthracene	43.23	8662	0.4757	0.5275
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.52	26471	1.3760	1.5258

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.13	12302700	1277.1161	1416.1915
10)	1-Methylnaphthalene	16.47	7613150	846.3237	938.4866
11)	2,6-Dimethylnaphthalene	18.22	6783280	757.6721	840.1811
12)	1,6,7-Trimethylnaphthalene	21.06	1728750	211.6353	234.6820
27)	1-Methylfluorene	23.51	1235630	175.1584	194.2328
35)	4-Methyldibenzothiophene	25.89	974775	76.4304	84.7535
36)	2/3-Methyldibenzothiophene	26.21	446585	35.0159	38.8291
37)	1-Methyldibenzothiophene	26.52	296525	23.2500	25.7818
43)	3-Methylphenanthrene	26.48	1986470	154.5206	171.3476
44)	2-Methylphenanthrene	26.59	1900330	147.8200	163.9173
45)	2-Methylanthracene	26.73	120320	9.3593	10.3785
46)	4/9-Methylphenanthrene	26.86	2109820	164.1155	181.9873
47)	1-Methylphenanthrene	26.93	1720340	133.8193	148.3919
48)	3,6-Dimethylphenanthrene	28.01	376639	37.3820	41.4529
49)	Retene	30.71	86042	19.7760	21.9295
60)	2-Methylfluoranthene	30.47	53778	4.9907	5.5342
61)	Benzo(b)fluorene	31.09	150620	14.2869	15.8428
74)	C29-Hopane	40.76	133428	18.3881	20.3905
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	42.05	263382	36.2974	40.2502
91)	C20-TAS	33.34	72294	2.9727	3.2964
92)	C21-TAS	34.43	175276	7.2072	7.9921
93)	C26(20S)-TAS	38.54	69879	2.8734	3.1863
94)	C26(20R)/C27(20S)-TAS	39.47	247817	10.1900	11.2997
95)	C28(20S)-TAS	40.24	174450	7.1732	7.9544
96)	C27(20R)-TAS	40.68	147071	6.0474	6.7060
97)	C28(20R)-TAS	41.82	137300	5.6457	6.2605
	Surrogate Standards				
2)	Naphthalene-d8	13.82	809470	56.01	91.55
21)	Acenaphthene-d10	19.67	455206	56.89	92.98
32)	Phenanthrene-d10	24.75	753011	55.19	90.18
66)	Chrysene-d12	33.81	1147500	60.32	98.62
88)	Perylene-d12	38.70	956652	50.15	82.00
90)	5(b)H-Cholane	34.24	229552	70.58	115.41
	Internal Standards				
1)	Fluorene-d10	21.45	496892	61.41	
31)	Pyrene-d10	29.63	994927	61.31	
73)	Benzo(a)pyrene-d12	38.39	961614	61.23	

Data Path : C:\msdchem\2\data\MS70054\
Data File : MS70054K.D
Acq On : 11 Aug 2013 1:59 am
Operator : YM
Sample : AR-SRM2779-WK4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Aug 12 21:23:47 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.455	176	496892m	251.05		0.00
31) Pyrene-d10	29.635	212	994927m	250.63		0.00
73) Benzo(a)pyrene-d12	38.386	264	961614m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.822	136	809470m	56.01		0.00
21) Acenaphthene-d10	19.672	164	455206m	56.89		0.00
32) Phenanthrene-d10	24.752	188	753011m	55.19		0.00
66) Chrysene-d12	33.809	240	1147495m	60.32		0.00
88) Perylene-d12	38.697	264	956652m	50.15		0.00
90) 5(b)H-Cholane	34.235	217	229552m	70.58		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.176	138	1507011m	579.71		
4) C1-Decalins	12.346	152	2193314m	843.71		
5) C2-Decalins	13.738	166	1867573m	718.41		
6) C3-Decalins	16.691	180	1633785m	628.47		
7) C4-Decalins	17.722	194	896981m	345.05		
8) Naphthalene	13.878	128	9663122m	620.09		
9) 2-Methylnaphthalene	16.134	142	12302660m	1277.12		
10) 1-Methylnaphthalene	16.468	142	7613153m	846.32		
11) 2,6-Dimethylnaphthalene	18.223	156	6783282m	757.67		
12) 1,6,7-Trimethylnaphtha...	21.065	170	1728750m	211.64		
13) C2-Naphthalenes	18.502	156	24261767m	1556.91		
14) C3-Naphthalenes	20.508	170	16164924m	1037.32		
15) C4-Naphthalenes	22.820	184	8319464m	533.87		
16) Benzothiophene	14.073	134	83764m	6.80		
17) C1-Benzothiophenes	15.633	148	360862m	29.31		
18) C2-Benzothiophenes	18.641	162	301098m	24.45		
19) C3-Benzothiophenes	20.313	176	405968m	32.97		
20) C4-Benzothiophenes	22.096	190	265410m	21.55		
22) Biphenyl	17.694	154	1801671m	135.66		
23) Acenaphthylene	19.171	152	109279m	7.46		
24) Acenaphthene	19.783	154	128439m	14.96		
25) Dibenzofuran	20.368	168	367647m	25.80		
26) Fluorene	21.538	166	1201133m	106.07		
27) 1-Methylfluorene	23.506	180	1235632m	175.16		
28) C1-Fluorenes	23.506	180	2684015m	237.01		
29) C2-Fluorenes	25.237	194	3676179m	324.62		
30) C3-Fluorenes	26.830	208	2600840m	229.67		
33) Carbazole	25.583	167	45862m	3.78		
34) Dibenzothiophene	24.406	184	582177m	40.77		
35) 4-Methyldibenzothiophene	25.895	198	974775m	76.43		
36) 2/3-Methyldibenzothiop...	26.207	198	446585m	35.02		
37) 1-Methyldibenzothiophene	26.518	198	296525m	23.25		
38) C2-Dibenzothiophenes	27.973	212	2122724m	148.66		
39) C3-Dibenzothiophenes	28.804	226	1608172m	112.62		
40) C4-Dibenzothiophenes	30.223	240	814543m	57.04		
41) Phenanthrene	24.821	178	3871555m	212.06		
42) Anthracene	24.995	178	59875m	3.59		
43) 3-Methylphenanthrene	26.484	192	1986470m	154.52		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70054\
Data File : MS70054K.D
Acq On : 11 Aug 2013 1:59 am
Operator : YM
Sample : AR-SRM2779-WK4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Aug 12 21:23:47 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2-Methylphenanthrene	26.587	192	1900327m	147.82		
45) 2-Methylanthracene	26.726	192	120320m	9.36		
46) 4/9-Methylphenanthrene	26.865	192	2109816m	164.12		
47) 1-Methylphenanthrene	26.934	192	1720338m	133.82		
48) 3,6-Dimethylphenanthrene	28.007	206	376639m	37.38		
49) Retene	30.708	234	86042m	19.78		
50) C2-Phenanthrenes/Anthr...	28.388	206	8831041m	483.71		
51) C3-Phenanthrenes/Anthr...	29.946	220	5826512m	319.14		
52) C4-Phenanthrenes/Anthr...	31.782	234	3674206m	201.25		
53) Naphthobenzothiophene	32.955	234	332660m	16.04		
54) C1-Naphthobenzothiophenes	34.119	248	954759m	46.02		
55) C2-Naphthobenzothiophenes	35.787	262	1036891m	49.98		
56) C3-Naphthobenzothiophenes	37.184	276	822094m	39.63		
57) C4-Naphthobenzothiophenes	38.154	290	344406m	16.60		
58) Fluoranthene	28.942	202	80590m	4.48		
59) Pyrene	29.704	202	237810m	11.84		
60) 2-Methylfluoranthene	30.466	216	53778m	4.99		
61) Benzo(b)fluorene	31.089	216	150620m	14.29		
62) C1-Fluoranthenes/Pyrenes	30.847	216	1047048m	58.20		
63) C2-Fluoranthenes/Pyrenes	32.606	230	2174179m	120.85		
64) C3-Fluoranthenes/Pyrenes	34.003	244	2111655m	117.37		
65) C4-Fluoranthenes/Pyrenes	35.128	258	1820543m	101.19		
67) Benz(a)anthracene	33.770	228	116263m	5.95		
68) Chrysene/Triphenylene	33.847	228	725346m	34.98		
69) C1-Chrysenes	35.128	242	1581258m	76.25		
70) C2-Chrysenes	36.291	256	2044881m	98.61		
71) C3-Chrysenes	37.998	270	1362519m	65.70		
72) C4-Chrysenes	39.395	284	836296m	40.33		
74) C29-Hopane	40.755	191	133428m	18.39		
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.046	191	263382m	36.30		
77) Benzo(b)fluoranthene	37.300	252	92129m	3.87		
78) Benzo(k,j)fluoranthene	37.339	252	3344m	0.15		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.270	252	186536m	7.93		
81) Benzo(a)pyrene	38.464	252	33971m	1.53		
82) Indeno(1,2,3-c,d)pyrene	43.189	276	12171m	0.54		
83) Dibenzo(a,h)anthracene	43.225	278	8662m	0.48		
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	44.516	276	26471m	1.38		
89) Perylene	38.774	252	10211m	0.45		
91) C20-TAS	33.343	231	72294m	2.97		
92) C21-TAS	34.429	231	175276m	7.21		
93) C26(20S)-TAS	38.542	231	69879m	2.87		
94) C26(20R)/C27(20S)-TAS	39.473	231	247817m	10.19		
95) C28(20S)-TAS	40.239	231	174450m	7.17		
96) C27(20R)-TAS	40.681	231	147071m	6.05		
97) C28(20R)-TAS	41.824	231	137300m	5.65		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70054\
Data File : MS70054K.D
Acq On : 11 Aug 2013 1:59 am
Operator : YM
Sample : AR-SRM2779-WK4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Aug 12 21:23:47 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration

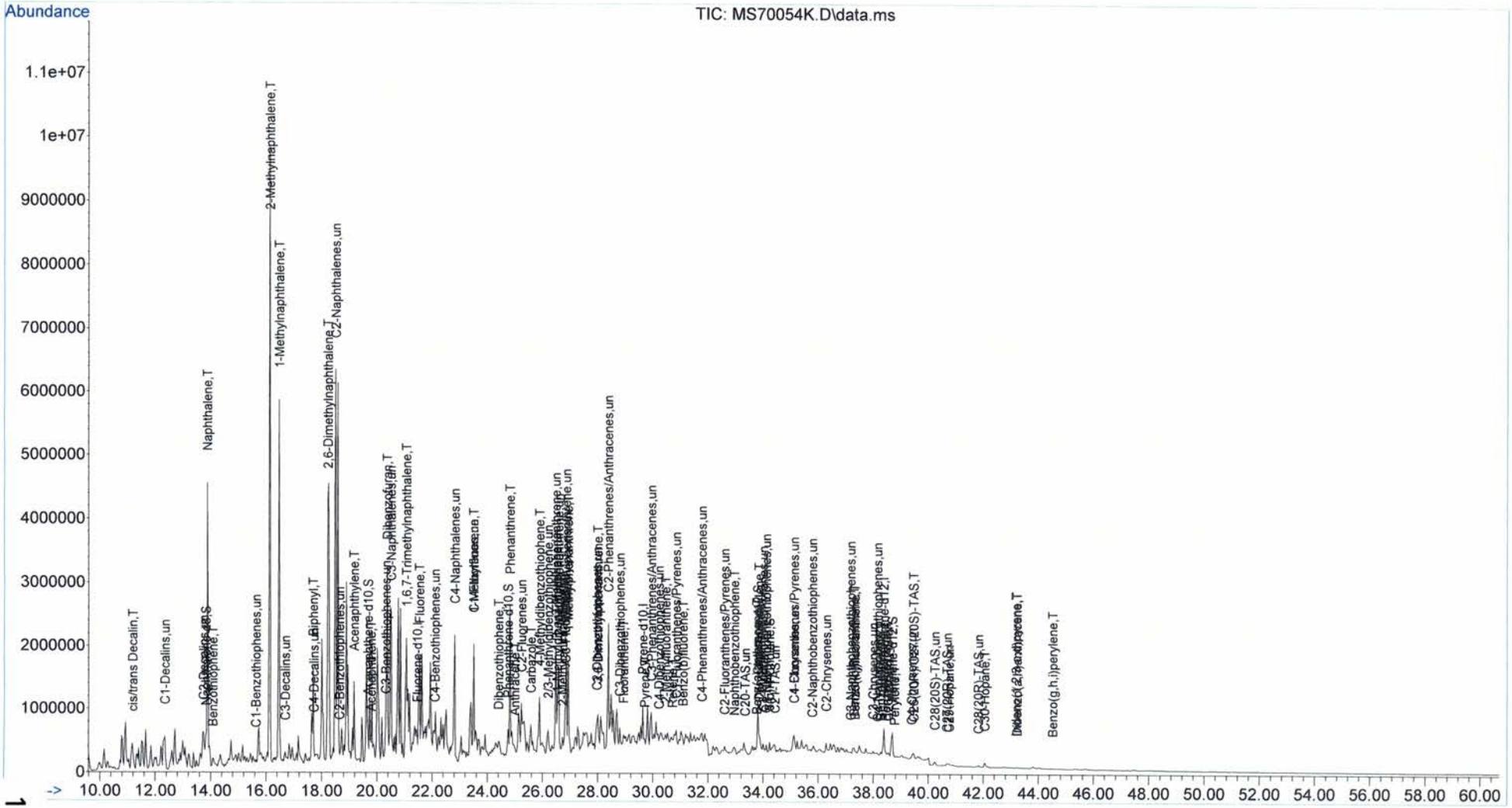
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70054\
Data File : MS70054K.D
Acq On : 11 Aug 2013 1:59 am
Operator : YM
Sample : AR-SRM2779-WK4.0-002
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Aug 12 21:23:47 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration



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

Data File Name ENV3072A.D
Data File Path C:\msdchem\2\data\MS70054\
Operator YM
Date Acquired 8/11/2013 3:08
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

ENV3072A.D
Procedural Blank
8/11/2013
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	13.88	6094	2.5864	3.3163
9)+10)	C1-Naphthalenes	16.30	2910	1.2351	1.5836
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	17.69	1566	0.7799	0.9999
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	24.82	2167	0.7320	0.9385
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	16.13	2024	1.3896	1.7818
10)	1-Methylnaphthalene	16.47	886	0.6514	0.8352
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	13.82	431647	197.54	78.98
21)	Acenaphthene-d10	19.67	251054	207.53	82.96
32)	Phenanthrene-d10	24.75	431725	195.13	77.99
66)	Chrysene-d12	33.81	638317	206.92	82.75
88)	Perylene-d12	38.66	552196	217.07	86.82
90)	5(b)H-Cholane	34.24	100950	232.73	93.09
	Internal Standards				
1)	Fluorene-d10	21.45	307136	251.05	
31)	Pyrene-d10	29.63	659559	250.63	
73)	Benzo(a)pyrene-d12	38.39	524279	250.33	

Data Path : C:\msdchem\2\data\MS70054\
Data File : ENV3072A.D
Acq On : 11 Aug 2013 3:08 am
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 12 21:59:02 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.455	176	307136m	251.05		0.00
31) Pyrene-d10	29.635	212	659559m	250.63		0.00
73) Benzo(a)pyrene-d12	38.386	264	524279m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.822	136	431647m	197.54		0.00
21) Acenaphthene-d10	19.672	164	251054m	207.53		0.00
32) Phenanthrene-d10	24.752	188	431725m	195.13		0.00
66) Chrysene-d12	33.809	240	638317m	206.92		0.00
88) Perylene-d12	38.658	264	552196m	217.07		-0.04
90) 5(b)H-Cholane	34.235	217	100950m	232.73		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	13.878	128	6094m	2.59		
9) 2-Methylnaphthalene	16.134	142	2024m	1.39		
10) 1-Methylnaphthalene	16.468	142	886m	0.65		
11) 2,6-Dimethylnaphthalene	0.000		0	N.D.	d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	d	
13) C2-Naphthalenes	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	17.694	154	1566m	0.78		
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	24.821	178	2167m	0.73		
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : C:\msdchem\2\data\MS70054\
Data File : ENV3072A.D
Acq On : 11 Aug 2013 3:08 am
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 12 21:59:02 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 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\MS70054\
Data File : ENV3072A.D
Acq On : 11 Aug 2013 3:08 am
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 12 21:59:02 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration

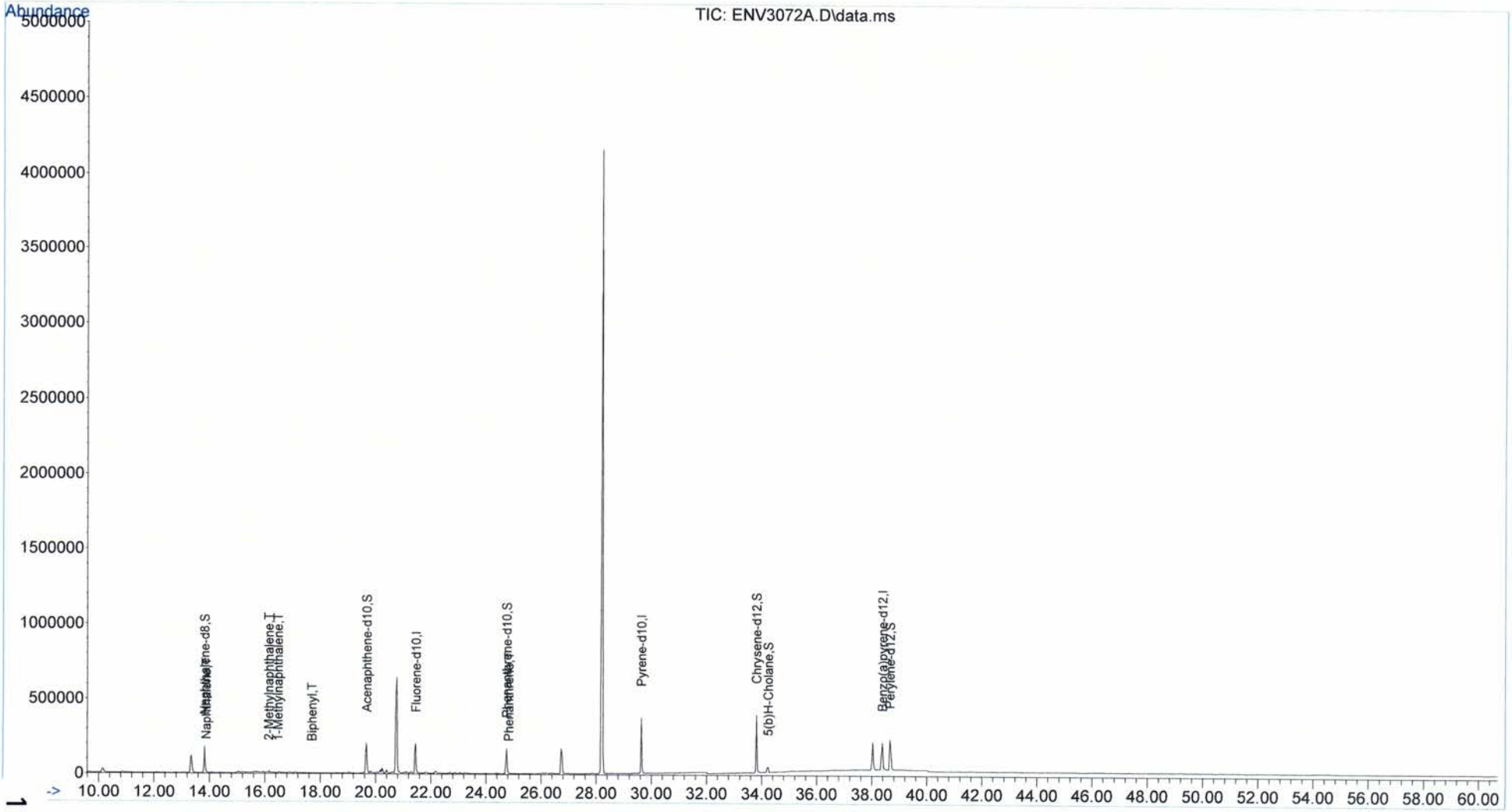
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70054\
Data File : ENV3072A.D
Acq On : 11 Aug 2013 3:08 am
Operator : YM
Sample : Procedural Blank
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 12 21:59:02 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration



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

Data File Name ENV3072B.D
Data File Path C:\msdchem\2\data\MS70054\
Operator YM
Date Acquired 8/11/2013 4:16
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

ENV3072B.D
Blank Spike
8/11/2013
PAH-2012.M
1

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.18	26627	64.5857	80.4885
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	13.88	188777	76.3855	95.1938
9)+10)	C1-Naphthalenes	16.30	216608	87.6469	109.2280
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	14.05	145020	74.2601	92.5450
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	17.69	155295	73.7305	91.8850
23)	Acenaphthylene	19.17	161392	69.4402	86.5383
24)	Acenaphthene	19.76	103420	75.9355	94.6330
25)	Dibenzofuran	20.37	171865	76.0515	94.7775
26)	Fluorene	21.54	137665	76.6531	95.5272
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	25.58	139226	69.3308	86.4020
42)	Anthracene	24.99	190622	69.1322	86.1545
41)	Phenanthrene	24.82	219976	72.7806	90.7012
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	5.39	173228	57.3137	71.4259
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	24.41	217185	91.8734	114.4952
35)+36)+37)	C1-Dibenzothiophenes	8.63	152762	64.6212	80.5328
38)	C2-Dibenzothiophenes	0.00	0	0.0000	0.0000
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.91	243423	81.7279	101.8516
59)	Pyrene	29.70	244173	73.4275	91.5074
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	32.96	260820	75.9423	94.6414
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	33.77	241877	74.8323	93.2581
68)	Chrysene/Triphenylene	33.89	261248	76.0937	94.8301
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	37.30	256783	79.2233	98.7303
78)	Benzo(k,j)fluoranthene	37.38	240585	80.1342	99.8655
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.27	274522	85.6070	106.6858
81)	Benzo(a)pyrene	38.46	230177	75.9130	94.6049
89)	Perylene	38.77	275334	89.3827	111.3912
82)	Indeno(1,2,3-c,d)pyrene	43.15	225596	73.4366	91.5188
83)	Dibenzo(a,h)anthracene	43.23	196488	79.1812	98.6778
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	44.48	195432	74.5486	92.9046

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.13	111830	73.2000	91.2239
10)	1-Methylnaphthalene	16.47	104778	73.4453	91.5296
11)	2,6-Dimethylnaphthalene	18.22	98486	69.3645	86.4440
12)	1,6,7-Trimethylnaphthalene	21.07	100354	77.4662	96.5406
27)	1-Methylfluorene	23.51	85159	76.1191	94.8618
35)	4-Methyldibenzothiophene	25.90	152762	72.3502	90.1649
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	26.93	173228	81.3928	101.4340
48)	3,6-Dimethylphenanthrene	28.04	128438	77.0008	95.9606
49)	Retene	30.71	51054	70.8794	88.3319
60)	2-Methylfluoranthene	30.47	141013	79.0464	98.5098
61)	Benzo(b)fluorene	31.05	161642	92.6135	115.4175
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	42.78	81296	82.2183	102.4628
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	39.40	313048	94.4635	117.7231
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	13.82	447400	195.20	78.04
21)	Acenaphthene-d10	19.67	265945	209.59	83.78
32)	Phenanthrene-d10	24.75	453480	200.76	80.24
66)	Chrysene-d12	33.81	650743	206.62	82.64
88)	Perylene-d12	38.66	560187	215.51	86.19
90)	5(b)H-Cholane	34.24	97416	219.80	87.92
	Internal Standards				
1)	Fluorene-d10	21.45	322156	251.05	
31)	Pyrene-d10	29.63	673370	250.63	
73)	Benzo(a)pyrene-d12	38.39	535695	250.33	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70054\
Data File : ENV3072B.D
Acq On : 11 Aug 2013 4:16 am
Operator : YM
Sample : Blank Spike
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 12 22:34:32 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.455	176	322156m	251.05	0.00
31) Pyrene-d10	29.635	212	673370m	250.63	0.00
73) Benzo(a)pyrene-d12	38.386	264	535695m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.822	136	447400m	195.20	0.00
21) Acenaphthene-d10	19.672	164	265945m	209.59	0.00
32) Phenanthrene-d10	24.752	188	453480m	200.76	0.00
66) Chrysene-d12	33.809	240	650743m	206.62	0.00
88) Perylene-d12	38.658	264	560187m	215.51	-0.04
90) 5(b)H-Cholane	34.235	217	97416m	219.80	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.176	138	26627m	64.59	
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	13.878	128	188777m	76.39	
9) 2-Methylnaphthalene	16.134	142	111830m	73.20	
10) 1-Methylnaphthalene	16.469	142	104778m	73.45	
11) 2,6-Dimethylnaphthalene	18.224	156	98486m	69.36	
12) 1,6,7-Trimethylnaphtha...	21.065	170	100354m	77.47	
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	14.045	134	145020m	74.26	
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	17.694	154	155295m	73.73	
23) Acenaphthylene	19.171	152	161392m	69.44	
24) Acenaphthene	19.756	154	103420m	75.94	
25) Dibenzofuran	20.369	168	171865m	76.05	
26) Fluorene	21.539	166	137665m	76.65	
27) 1-Methylfluorene	23.506	180	85159m	76.12	
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	25.583	167	139226m	69.33	
34) Dibenzothiophene	24.406	184	217185m	91.87	
35) 4-Methyldibenzothiophene	25.895	198	152762m	72.35	
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	24.822	178	219976m	72.78	
42) Anthracene	24.995	178	190622m	69.13	
43) 3-Methylphenanthrene	0.000		0	N.D. d	

Data Path : C:\msdchem\2\data\MS70054\
Data File : ENV3072B.D
Acq On : 11 Aug 2013 4:16 am
Operator : YM
Sample : Blank Spike
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 12 22:34:32 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 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	26.934	192	173228m	81.39		
48) 3,6-Dimethylphenanthrene	28.042	206	128438m	77.00		
49) Retene	30.708	234	51054m	70.88		
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	32.955	234	260820m	75.94		
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	28.908	202	243423m	81.73		
59) Pyrene	29.704	202	244173m	73.43		
60) 2-Methylfluoranthene	30.466	216	141013m	79.05		
61) Benzo(b)fluorene	31.055	216	161642m	92.61		
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	33.770	228	241877m	74.83		
68) Chrysene/Triphenylene	33.886	228	261248m	76.09		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.783	191	81296m	82.22		
77) Benzo(b)fluoranthene	37.300	252	256783m	79.22		
78) Benzo(k,j)fluoranthene	37.378	252	240585m	80.13		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.270	252	274522m	85.61		
81) Benzo(a)pyrene	38.464	252	230177m	75.91		
82) Indeno(1,2,3-c,d)pyrene	43.152	276	225596m	73.44		
83) Dibenzo(a,h)anthracene	43.225	278	196488m	79.18		
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	44.479	276	195432m	74.55		
89) Perylene	38.774	252	275334m	89.38		
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	39.395	231	313048m	94.46		
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\MS70054\
Data File : ENV3072B.D
Acq On : 11 Aug 2013 4:16 am
Operator : YM
Sample : Blank Spike
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 12 22:34:32 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration

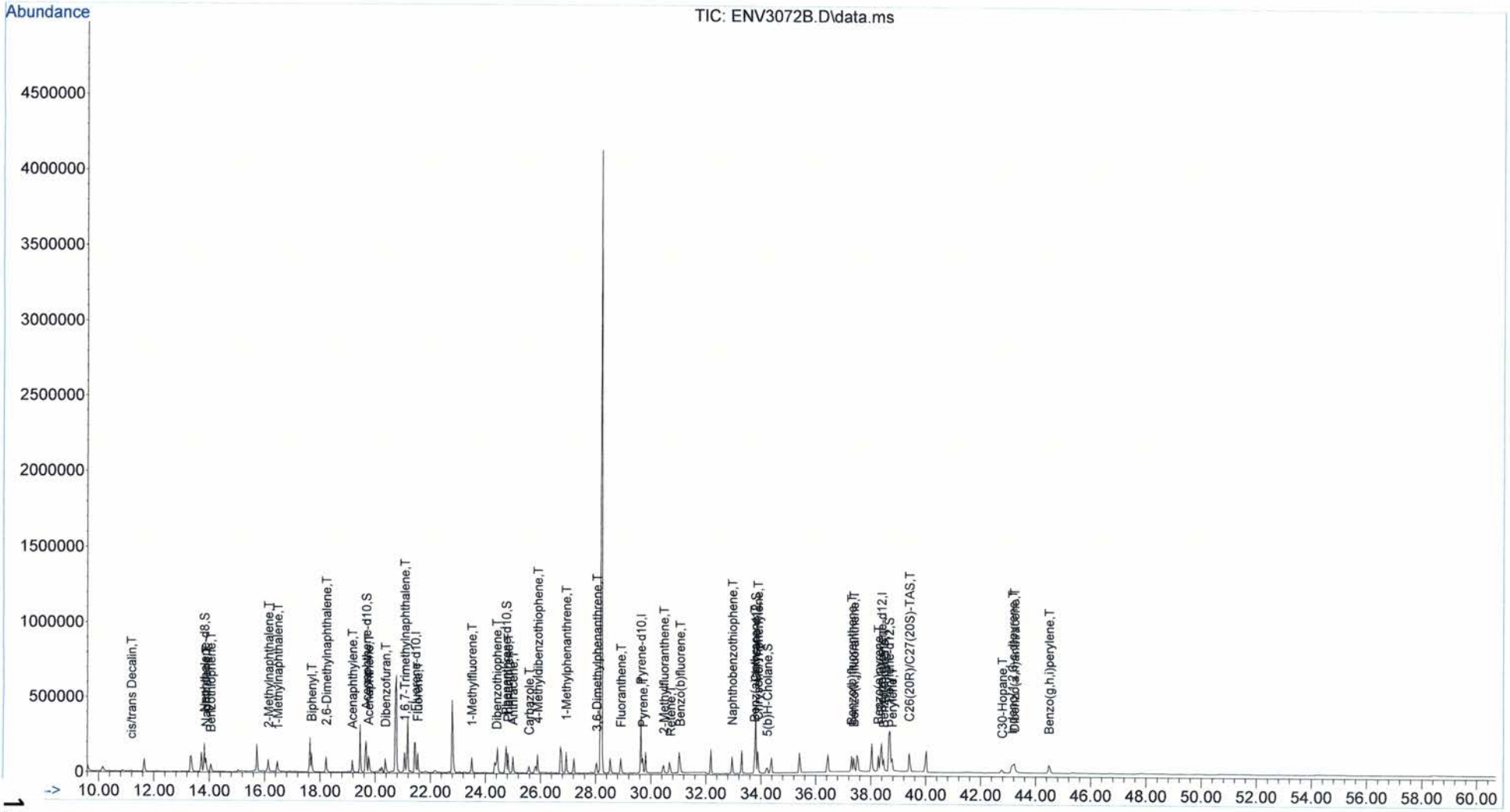
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70054\
Data File : ENV3072B.D
Acq On : 11 Aug 2013 4:16 am
Operator : YM
Sample : Blank Spike
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 12 22:34:32 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration



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

Data File Name ENV3072C.D
Data File Path C:\msdchem\2\data\MS70054\
Operator YM
Date Acquired 8/11/2013 5:25
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

ENV3072C.D
Blank Spike Dupl.
8/11/2013
PAH-2012.M
1

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.18	30744	76.1462	93.7201
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	13.32	232619	96.1128	118.2948
9)+10)	C1-Naphthalenes	16.30	218885	90.4382	111.3106
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	14.05	148272	77.5284	95.4213
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	17.69	150393	72.9107	89.7378
23)	Acenaphthylene	19.17	162828	71.5372	88.0474
24)	Acenaphthene	19.76	105157	78.8410	97.0368
25)	Dibenzofuran	20.37	170804	77.1778	94.9898
26)	Fluorene	21.54	138343	78.6569	96.8102
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	25.58	141840	71.6974	88.2445
42)	Anthracene	24.99	189888	69.9043	86.0376
41)	Phenanthrene	24.82	220742	74.1351	91.2448
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	5.39	171151	57.4802	70.7461
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	24.41	215731	92.6341	114.0132
35)+36)+37)	C1-Dibenzothiophenes	8.63	156567	67.2293	82.7452
38)	C2-Dibenzothiophenes	0.00	0	0.0000	0.0000
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.91	241927	82.4502	101.4790
59)	Pyrene	29.70	242374	73.9853	91.0605
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	32.96	253502	74.9244	92.2163
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	33.77	234276	73.5734	90.5535
68)	Chrysene/Triphenylene	33.89	261569	77.3358	95.1842
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	37.30	255184	80.7569	99.3949
78)	Benzo(k,j)fluoranthene	37.38	236670	80.8597	99.5214
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.27	266897	85.3720	105.0751
81)	Benzo(a)pyrene	38.46	223580	75.6358	93.0919
89)	Perylene	38.77	268938	89.5542	110.2225
82)	Indeno(1,2,3-c,d)pyrene	43.15	222723	74.3680	91.5315
83)	Dibenzo(a,h)anthracene	43.23	187187	77.3752	95.2327
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	44.48	189512	74.1516	91.2651

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.13	113050	75.5609	92.9997
10)	1-Methylnaphthalene	16.47	105835	75.7525	93.2355
11)	2,6-Dimethylnaphthalene	18.22	100088	71.9811	88.5937
12)	1,6,7-Trimethylnaphthalene	21.06	101364	79.8979	98.3376
27)	1-Methylfluorene	23.51	84259	76.9048	94.6537
35)	4-Methyldibenzothiophene	25.90	156567	75.2702	92.6419
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	26.93	171151	81.6293	100.4686
48)	3,6-Dimethylphenanthrene	28.04	127160	77.3839	95.2434
49)	Retene	30.71	48898	68.9096	84.8133
60)	2-Methylfluoranthene	30.47	136639	77.7492	95.6930
61)	Benzo(b)fluorene	31.05	158449	92.1527	113.4207
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	42.78	86559	89.7949	110.5188
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	39.40	295389	91.4297	112.5309
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	13.82	451818	201.29	80.48
21)	Acenaphthene-d10	19.67	268717	216.25	86.44
32)	Phenanthrene-d10	24.75	452348	203.28	81.25
66)	Chrysene-d12	33.81	639015	205.96	82.37
88)	Perylene-d12	38.66	548515	216.46	86.57
90)	5(b)H-Cholane	34.24	93545	216.50	86.60
	Internal Standards				
1)	Fluorene-d10	21.45	315495	251.05	
31)	Pyrene-d10	29.63	663369	250.63	
73)	Benzo(a)pyrene-d12	38.39	522249	250.33	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70054\
Data File : ENV3072C.D
Acq On : 11 Aug 2013 5:25 am
Operator : YM
Sample : Blank Spike Dupl.
Misc :
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Aug 12 22:12:16 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.455	176	315495m	251.05		0.00
31) Pyrene-d10	29.635	212	663369m	250.63		0.00
73) Benzo(a)pyrene-d12	38.386	264	522249m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.822	136	451818m	201.29		0.00
21) Acenaphthene-d10	19.672	164	268717m	216.25		0.00
32) Phenanthrene-d10	24.752	188	452348m	203.28		0.00
66) Chrysene-d12	33.809	240	639015m	205.95		0.00
88) Perylene-d12	38.658	264	548515m	216.46		-0.04
90) 5(b)H-Cholane	34.235	217	93545m	216.50		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.176	138	30744m	76.15		
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	13.321	128	232619m	96.11		
9) 2-Methylnaphthalene	16.134	142	113050m	75.56		
10) 1-Methylnaphthalene	16.469	142	105835m	75.75		
11) 2,6-Dimethylnaphthalene	18.224	156	100088m	71.98		
12) 1,6,7-Trimethylnaphtha...	21.065	170	101364m	79.90		
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	14.045	134	148272m	77.53		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.694	154	150393m	72.91		
23) Acenaphthylene	19.171	152	162828m	71.54		
24) Acenaphthene	19.756	154	105157m	78.84		
25) Dibenzofuran	20.369	168	170804m	77.18		
26) Fluorene	21.538	166	138343m	78.66		
27) 1-Methylfluorene	23.506	180	84259m	76.90		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.583	167	141840m	71.70		
34) Dibenzothiophene	24.406	184	215731m	92.63		
35) 4-Methyldibenzothiophene	25.895	198	156567m	75.27		
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	d	
37) 1-Methyldibenzothiophene	0.000		0	N.D.	d	
38) C2-Dibenzothiophenes	0.000		0	N.D.	d	
39) C3-Dibenzothiophenes	0.000		0	N.D.	d	
40) C4-Dibenzothiophenes	0.000		0	N.D.	d	
41) Phenanthrene	24.822	178	220742m	74.14		
42) Anthracene	24.995	178	189888m	69.90		
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70054\
Data File : ENV3072C.D
Acq On : 11 Aug 2013 5:25 am
Operator : YM
Sample : Blank Spike Dupl.
Misc :
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Aug 12 22:12:16 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 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	26.934	192	171151m	81.63		
48) 3,6-Dimethylphenanthrene	28.042	206	127160m	77.38		
49) Retene	30.708	234	48898m	68.91		
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	32.955	234	253502m	74.92		
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	28.908	202	241927m	82.45		
59) Pyrene	29.704	202	242374m	73.99		
60) 2-Methylfluoranthene	30.466	216	136639m	77.75		
61) Benzo(b)fluorene	31.055	216	158449m	92.15		
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	33.770	228	234276m	73.57		
68) Chrysene/Triphenylene	33.886	228	261569m	77.34		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.783	191	86559m	89.79		
77) Benzo(b)fluoranthene	37.300	252	255184m	80.76		
78) Benzo(k,j)fluoranthene	37.378	252	236670m	80.86		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.270	252	266897m	85.37		
81) Benzo(a)pyrene	38.464	252	223580m	75.64		
82) Indeno(1,2,3-c,d)pyrene	43.152	276	222723m	74.37		
83) Dibenzo(a,h)anthracene	43.225	278	187187m	77.38		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.479	276	189512m	74.15		
89) Perylene	38.774	252	268938m	89.55		
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	39.395	231	295389m	91.43		
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\MS70054\
Data File : ENV3072C.D
Acq On : 11 Aug 2013 5:25 am
Operator : YM
Sample : Blank Spike Dupl.
Misc :
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Aug 12 22:12:16 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration

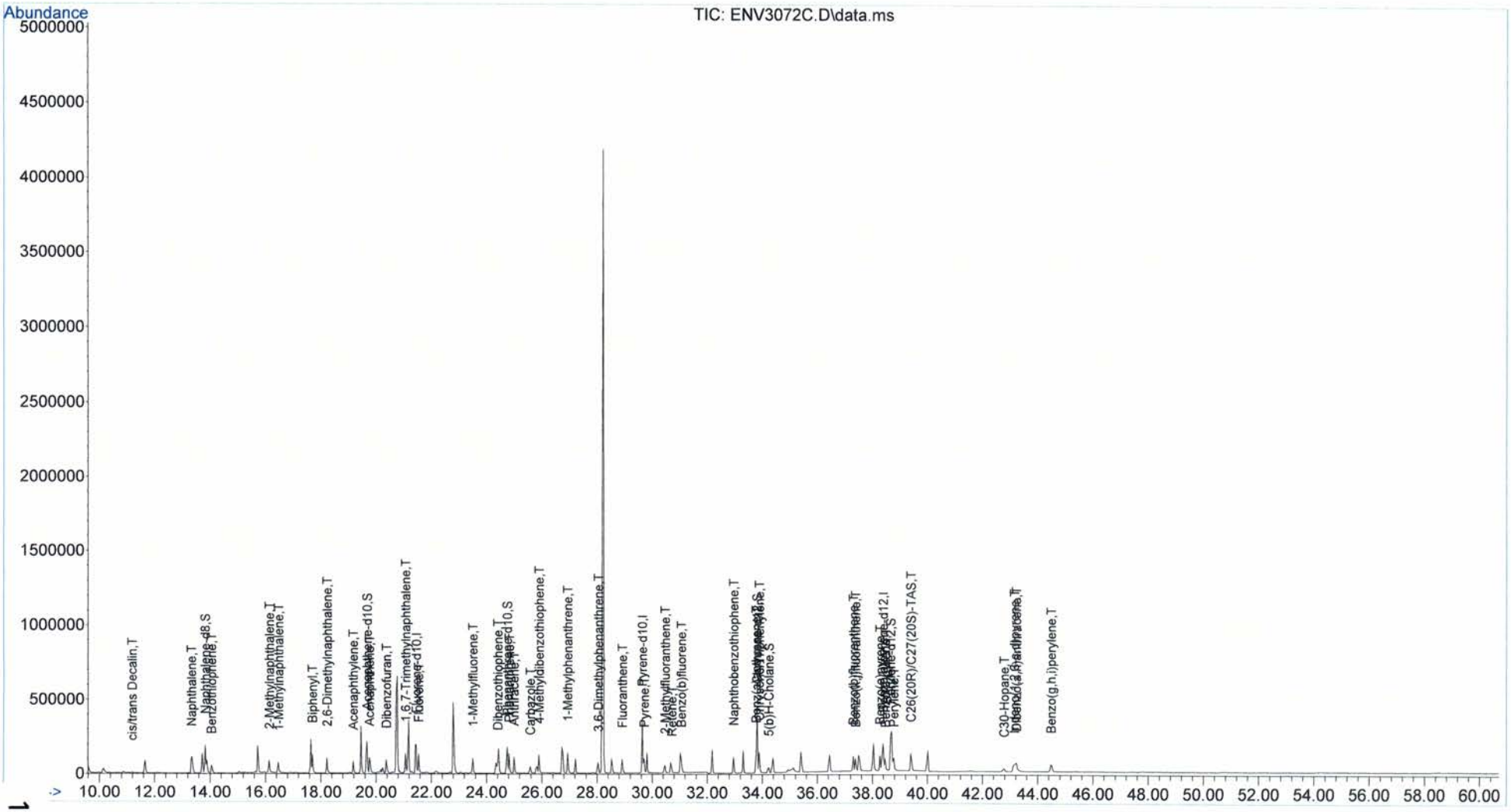
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70054\
Data File : ENV3072C.D
Acq On : 11 Aug 2013 5:25 am
Operator : YM
Sample : Blank Spike Dupl.
Misc :
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Aug 12 22:12:16 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration



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

Data File Name ARC1695.D
Data File Path C:\GCMS7\MS70054\
Operator YM
Date Acquired 8/11/2013 6:33
Acq. Method File PAH-2012.M
Sample Name SED-DA-EB-05-080313
Misc Info 0
Instrument Name GCMSD
Vial Number 15
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

ARC1695.D
SED-DA-EB-05-080313
8/11/2013
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	13.88	191091	77.4710	103.3125
9)+10)	C1-Naphthalenes	16.30	5372	2.1779	2.9043
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	17.69	2522	1.1997	1.5999
23)	Acenaphthylene	0.00	0	0.0000	0.0000
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	20.37	2581	1.1443	1.5260
26)	Fluorene	21.54	1334	0.7442	0.9925
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	24.82	9529	2.9423	3.9237
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	16.13	3152	2.0672	2.7567
10)	1-Methylnaphthalene	16.47	2220	1.5591	2.0792
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	13.82	432203	188.94	80.82
21)	Acenaphthene-d10	19.67	250873	198.10	84.73
32)	Phenanthrene-d10	24.75	424391	175.34	74.99
66)	Chrysene-d12	33.81	611697	181.26	77.57
88)	Perylene-d12	38.66	505504	196.62	84.14
90)	5(b)H-Cholane	34.24	97340	222.04	95.03
	Internal Standards				
1)	Fluorene-d10	21.46	300501	234.63	
31)	Pyrene-d10	29.63	674338	234.23	
73)	Benzo(a)pyrene-d12	38.39	495196	233.95	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70054\
Data File : ARC1695.D
Acq On : 11 Aug 2013 6:33 am
Operator : YM
Sample : SED-DA-EB-05-080313
Misc :
ALS Vial : 15 Sample Multiplier: 0.93458

Quant Time: Aug 12 22:18:54 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.455	176	300501m	251.05		0.00
31) Pyrene-d10	29.635	212	674338m	250.63		0.00
73) Benzo(a)pyrene-d12	38.387	264	495196m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.822	136	432203m	188.94		0.00
21) Acenaphthene-d10	19.672	164	250873m	198.10		0.00
32) Phenanthrene-d10	24.752	188	424391m	175.34		0.00
66) Chrysene-d12	33.809	240	611697m	181.26		0.00
88) Perylene-d12	38.658	264	505504m	196.62		-0.04
90) 5(b)H-Cholane	34.236	217	97340m	222.04		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	13.878	128	191091m	77.47		
9) 2-Methylnaphthalene	16.134	142	3152m	2.07		
10) 1-Methylnaphthalene	16.469	142	2220m	1.56		
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	17.694	154	2522m	1.20		
23) Acenaphthylene	0.000		0	N.D.	d	
24) Acenaphthene	0.000		0	N.D.	d	
25) Dibenzofuran	20.369	168	2581m	1.14		
26) Fluorene	21.539	166	1334m	0.74		
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.		
41) Phenanthrene	24.822	178	9529m	2.94		
42) Anthracene	0.000		0	N.D.	d	
43) 3-Methylphenanthrene	0.000		0	N.D.	d	

Data Path : C:\msdchem\2\data\MS70054\
Data File : ARC1695.D
Acq On : 11 Aug 2013 6:33 am
Operator : YM
Sample : SED-DA-EB-05-080313
Misc :
ALS Vial : 15 Sample Multiplier: 0.93458

Quant Time: Aug 12 22:18:54 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 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.		
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\MS70054\
Data File : ARC1695.D
Acq On : 11 Aug 2013 6:33 am
Operator : YM
Sample : SED-DA-EB-05-080313
Misc :
ALS Vial : 15 Sample Multiplier: 0.93458

Quant Time: Aug 12 22:18:54 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration

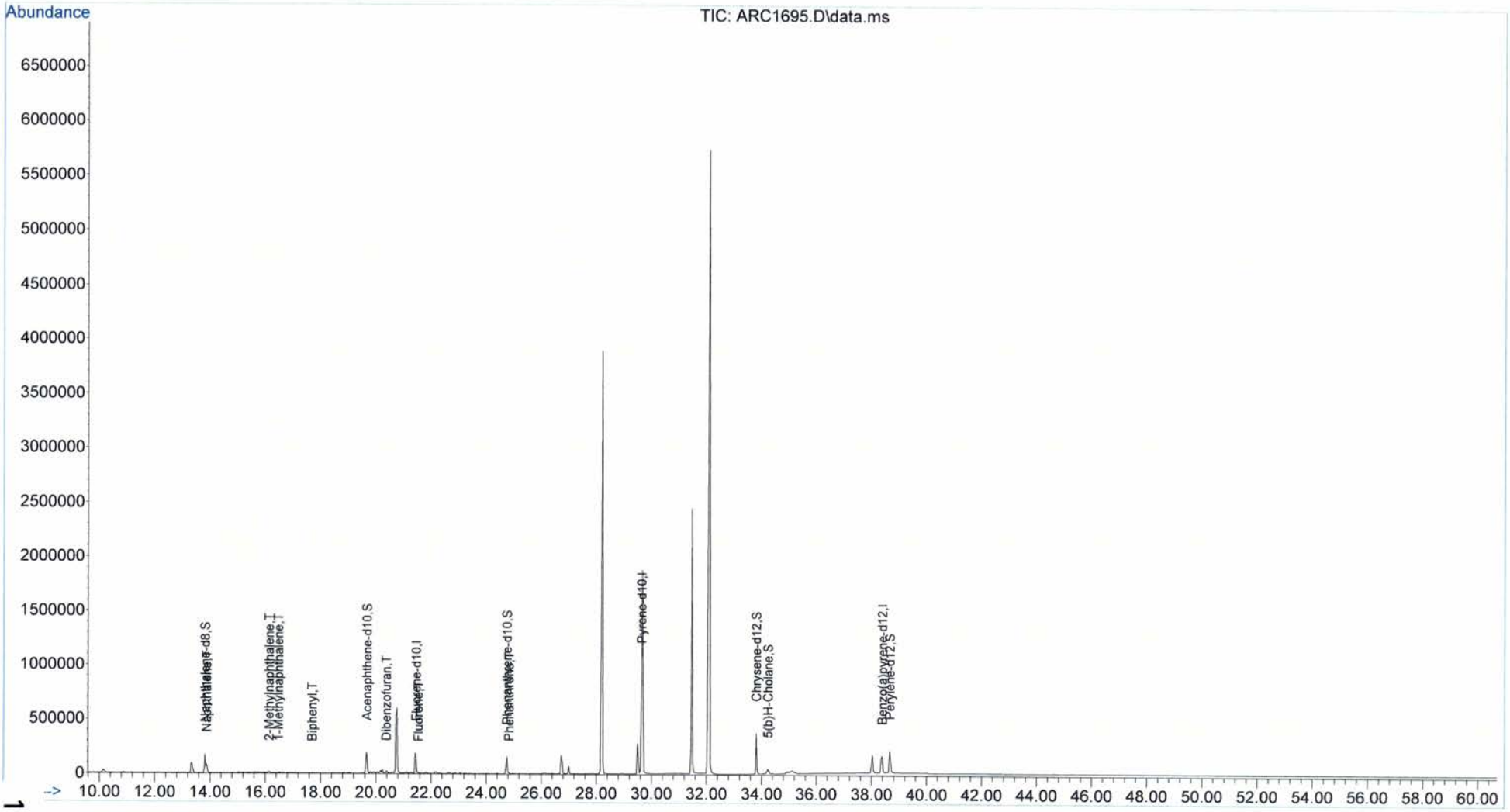
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70054\
Data File : ARC1695.D
Acq On : 11 Aug 2013 6:33 am
Operator : YM
Sample : SED-DA-EB-05-080313
Misc :
ALS Vial : 15 Sample Multiplier: 0.93458

Quant Time: Aug 12 22:18:54 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration



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

Data File Name ARC1697.D
Data File Path C:\msdchem\2\data\MS70054\
Operator YM
Date Acquired 8/11/2013 7:42
Acq. Method File PAH-2012.M
Sample Name SO-DA-EB-01-080213
Misc Info 0
Instrument Name GCMSD
Vial Number 16
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

ARC1697.D
SO-DA-EB-01-080213
8/11/2013
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	13.88	224093	94.9259	130.5599
9)+10)	C1-Naphthalenes	16.30	4754	2.0138	2.7697
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	17.69	2007	0.9975	1.3720
23)	Acenaphthylene	0.00	0	0.0000	0.0000
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	20.37	2208	1.0229	1.4068
26)	Fluorene	21.54	1213	0.7071	0.9725
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	25.58	1218	0.6391	0.8790
42)	Anthracene	0.00	0	0.0000	0.0000
41)	Phenanthrene	24.82	8747	3.0493	4.1940
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	0.00	0	0.0000	0.0000
35)+36)+37)	C1-Dibenzothiophenes	0.00	0	0.0000	0.0000
38)	C2-Dibenzothiophenes	0.00	0	0.0000	0.0000
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.91	3420	1.2099	1.6640
59)	Pyrene	29.70	2743	0.8691	1.1954
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	16.13	3057	2.0948	2.8812
10)	1-Methylnaphthalene	16.47	1697	1.2453	1.7128
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	13.82	399286	182.38	74.37
21)	Acenaphthene-d10	19.67	229612	189.44	77.24
32)	Phenanthrene-d10	24.75	382322	178.34	72.71
66)	Chrysene-d12	33.81	524093	175.34	71.53
88)	Perylene-d12	38.66	433948	191.43	78.09
90)	5(b)H-Cholane	34.20	79394	205.40	83.80
	Internal Standards				
1)	Fluorene-d10	21.45	301697	246.13	
31)	Pyrene-d10	29.63	626546	245.71	
73)	Benzo(a)pyrene-d12	38.39	458026	245.42	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70054\
Data File : ARC1697.D
Acq On : 11 Aug 2013 7:42 am
Operator : YM
Sample : SO-DA-EB-01-080213
Misc :
ALS Vial : 16 Sample Multiplier: 0.98039

Quant Time: Aug 12 22:24:27 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.455	176	301697m	251.05		0.00
31) Pyrene-d10	29.635	212	626546m	250.63		0.00
73) Benzo(a)pyrene-d12	38.386	264	458026m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.822	136	399286m	182.38		0.00
21) Acenaphthene-d10	19.672	164	229612m	189.44		0.00
32) Phenanthrene-d10	24.752	188	382322m	178.34		0.00
66) Chrysene-d12	33.809	240	524093m	175.34		0.00
88) Perylene-d12	38.658	264	433948m	191.43		-0.04
90) 5(b)H-Cholane	34.197	217	79394m	205.40		-0.04
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.878	128	224093m	94.93		
9) 2-Methylnaphthalene	16.134	142	3057m	2.09		
10) 1-Methylnaphthalene	16.468	142	1697m	1.25		
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	17.694	154	2007m	1.00		
23) Acenaphthylene	0.000		0	N.D.	d	
24) Acenaphthene	0.000		0	N.D.	d	
25) Dibenzofuran	20.368	168	2208m	1.02		
26) Fluorene	21.538	166	1213m	0.71		
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	25.583	167	1218m	0.64		
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	24.821	178	8747m	3.05		
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\MS70054\
Data File : ARC1697.D
Acq On : 11 Aug 2013 7:42 am
Operator : YM
Sample : SO-DA-EB-01-080213
Misc :
ALS Vial : 16 Sample Multiplier: 0.98039

Quant Time: Aug 12 22:24:27 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 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	28.908	202	3420m	1.21		
59) Pyrene	29.704	202	2743m	0.87		
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\MS70054\
Data File : ARC1697.D
Acq On : 11 Aug 2013 7:42 am
Operator : YM
Sample : SO-DA-EB-01-080213
Misc :
ALS Vial : 16 Sample Multiplier: 0.98039

Quant Time: Aug 12 22:24:27 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration

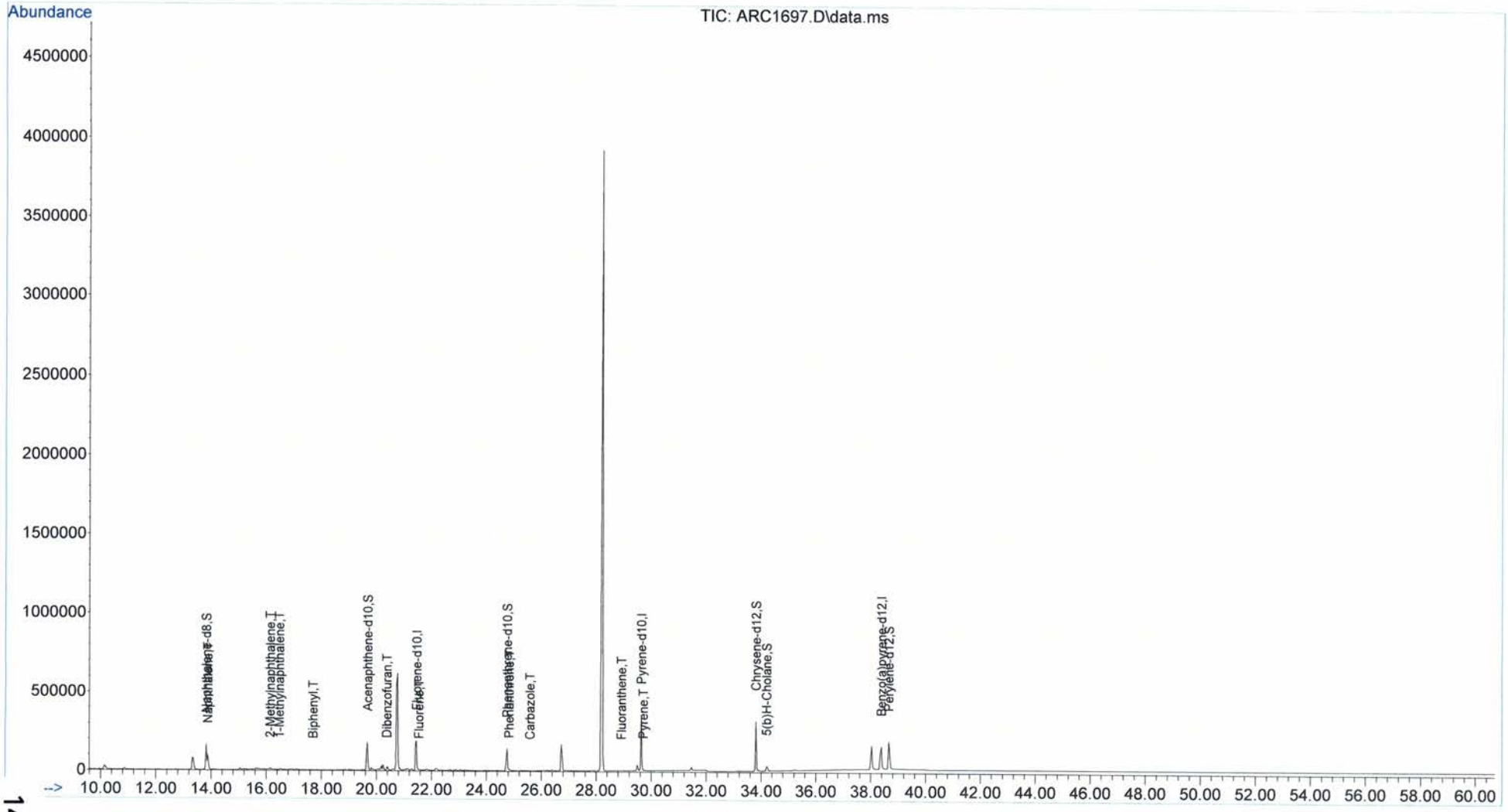
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70054\
Data File : ARC1697.D
Acq On : 11 Aug 2013 7:42 am
Operator : YM
Sample : SO-DA-EB-01-080213
Misc :
ALS Vial : 16 Sample Multiplier: 0.98039

Quant Time: Aug 12 22:24:27 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration



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

Data File Name ARC1699.D
Data File Path C:\msdchem\2\data\MS70054\
Operator YM
Date Acquired 8/11/2013 8:50
Acq. Method File PAH-2012.M
Sample Name SED-DA-EB-06-080613
Misc Info 0
Instrument Name GCMSD
Vial Number 17
Sample Multiplier 0.9434
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

ARC1699.D
SED-DA-EB-06-080613
8/11/2013
PAH-2012.M
1.05999576

#	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	13.88	442130	176.3205	227.9834
9)+10)	C1-Naphthalenes	16.30	5496	2.1918	2.8340
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	17.69	1593	0.7454	0.9638
23)	Acenaphthylene	0.00	0	0.0000	0.0000
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	20.37	1845	0.8047	1.0404
26)	Fluorene	21.54	1102	0.6048	0.7820
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	25.58	852	0.4196	0.5425
42)	Anthracene	0.00	0	0.0000	0.0000
41)	Phenanthrene	24.82	7771	2.5427	3.2878
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	0.00	0	0.0000	0.0000
35)+36)+37)	C1-Dibenzothiophenes	0.00	0	0.0000	0.0000
38)	C2-Dibenzothiophenes	0.00	0	0.0000	0.0000
39)	C3-Dibenzothiophenes	0.00	0	0.0000	0.0000
40)	C4-Dibenzothiophenes	0.00	0	0.0000	0.0000
58)	Fluoranthene	28.91	3264	1.0838	1.4013
59)	Pyrene	29.70	2389	0.7105	0.9187
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	16.13	3328	2.1470	2.7761
10)	1-Methylnaphthalene	16.47	2168	1.4978	1.9366
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	13.82	439925	189.17	80.17
21)	Acenaphthene-d10	19.67	251696	195.50	82.84
32)	Phenanthrene-d10	24.75	416933	182.55	77.34
66)	Chrysene-d12	33.81	550364	172.82	73.26
88)	Perylene-d12	38.66	460883	191.91	81.36
90)	5(b)H-Cholane	34.20	82500	201.47	85.42
	Internal Standards				
1)	Fluorene-d10	21.45	308369	236.84	
31)	Pyrene-d10	29.63	642341	236.44	
73)	Benzo(a)pyrene-d12	38.39	466931	236.16	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS70054\
Data File : ARC1699.D
Acq On : 11 Aug 2013 8:50 am
Operator : YM
Sample : SED-DA-EB-06-080613
Misc :
ALS Vial : 17 Sample Multiplier: 0.9434

Quant Time: Aug 12 22:28:26 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.455	176	308369m	251.05		0.00
31) Pyrene-d10	29.635	212	642341m	250.63		0.00
73) Benzo(a)pyrene-d12	38.386	264	466931m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.822	136	439925m	189.17		0.00
21) Acenaphthene-d10	19.672	164	251696m	195.50		0.00
32) Phenanthrene-d10	24.752	188	416933m	182.55		0.00
66) Chrysene-d12	33.809	240	550364m	172.82		0.00
88) Perylene-d12	38.658	264	460883m	191.91		-0.04
90) 5(b)H-Cholane	34.196	217	82500m	201.47		-0.04
Target Compounds						Qvalue
3) cis/trans Decalin	0.000		0	N.D.	d	
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.878	128	442130m	176.32		
9) 2-Methylnaphthalene	16.134	142	3328m	2.15		
10) 1-Methylnaphthalene	16.468	142	2168m	1.50		
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	17.694	154	1593m	0.75		
23) Acenaphthylene	0.000		0	N.D.	d	
24) Acenaphthene	0.000		0	N.D.	d	
25) Dibenzofuran	20.368	168	1845m	0.80		
26) Fluorene	21.538	166	1102m	0.60		
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	25.583	167	852m	0.42		
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	24.821	178	7771m	2.54		
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\MS70054\
Data File : ARC1699.D
Acq On : 11 Aug 2013 8:50 am
Operator : YM
Sample : SED-DA-EB-06-080613
Misc :
ALS Vial : 17 Sample Multiplier: 0.9434

Quant Time: Aug 12 22:28:26 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 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	28.907	202	3264m	1.08		
59) Pyrene	29.704	202	2389m	0.71		
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\MS70054\
Data File : ARC1699.D
Acq On : 11 Aug 2013 8:50 am
Operator : YM
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Misc :
ALS Vial : 17 Sample Multiplier: 0.9434

Quant Time: Aug 12 22:28:26 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 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\MS70054\
Data File : ARC1699.D
Acq On : 11 Aug 2013 8:50 am
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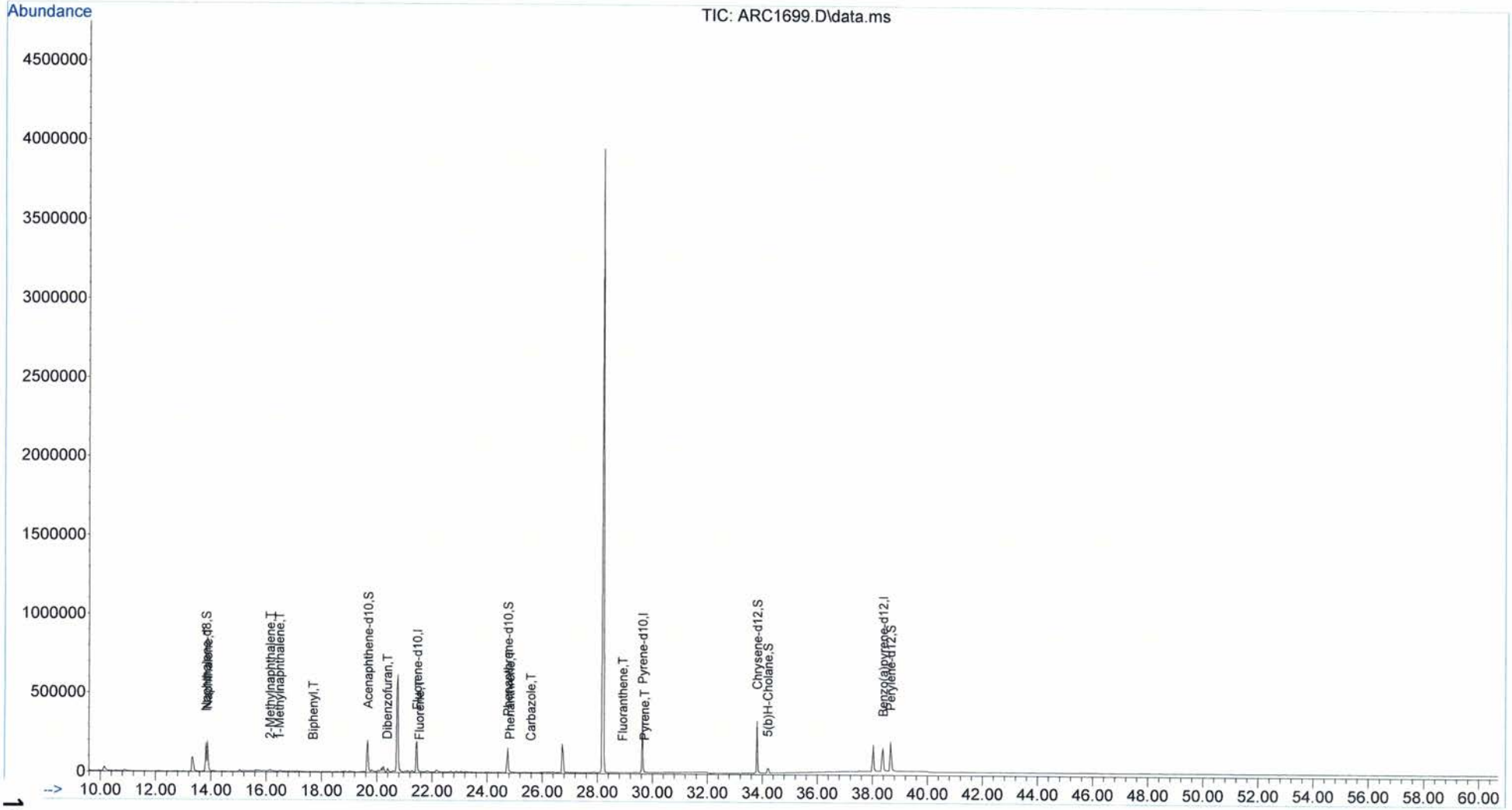


Aliphatic Hydrocarbons/
Total Petroleum Hydrocarbons/
Initial Calibration Data
and
Initial Calibration Verification Data

TPH/Aliphatic
ICAL
FID1C08FRONT080613.M

GC/FID-1 FRONT

Calibration Status Report HP5890

Method Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\
Method File : FID1C08FRONT080613.M
Title : C8 - C40 aliphatic
Last Update : Tue Aug 06 14:24:50 2013
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	1	1	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID10068C.D
2	2	10	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID10068D.D
3	3	25	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID10068E.D
4	4	40	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID10068F.D
5	5	50	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID10068G.D
6	6	100	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID10068H.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1	Aug 06 11:17 2013	Aug 06 11:17 2013	05-Aug-2013, 14:30:28
2	2	Aug 06 11:26 2013	Aug 06 11:26 2013	05-Aug-2013, 15:41:06
3	3	Aug 06 11:34 2013	Aug 06 11:34 2013	05-Aug-2013, 16:51:47
4	4	Aug 06 13:53 2013	Aug 06 13:52 2013	05-Aug-2013, 18:02:21
5	5	Aug 06 14:01 2013	Aug 06 14:01 2013	05-Aug-2013, 19:12:58
6	6	Aug 06 14:09 2013	Aug 06 14:08 2013	05-Aug-2013, 20:23:59

FID1C08FRONT080613.M Tue Aug 06 15:00:19 2013

Response Factor Report HP5890

Method Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\
Method File : FID1C08FRONT080613.M
Title : C8 - C40 aliphatic
Last Update : Tue Aug 06 14:24:50 2013
Response Via : Initial Calibration

Calibration Files
1 =FID10068C.D 2 =FID10068D.D 3 =FID10068E.D
4 =FID10068F.D 5 =FID10068G.D 6 =FID10068H.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	n-hexadecane-d34	----------ISTD----------							
2)		n-C8	0.972	0.987	0.967	1.006	0.985	0.854	0.962	5.67
3)		n-C9	1.016	1.042	1.033	1.063	1.045	0.906	1.018	5.56
4)		n-C10	1.091	1.112	1.106	1.128	1.114	0.968	1.087	5.46
5)		n-C11	1.121	1.121	1.120	1.137	1.125	0.978	1.100	5.48
6)	S	n-dodecane-d26	1.035	1.038	1.039	1.080	1.038	0.918	1.025	5.36
7)		n-C12	1.160	1.173	1.172	1.166	1.177	1.022	1.145	5.28
8)		i-13	1.154	1.170	1.167	1.183	1.172	1.016	1.144	5.54
9)		i-14	1.190	1.208	1.204	1.210	1.207	1.045	1.177	5.53
10)		n-C13	1.154	1.170	1.167	1.183	1.172	1.016	1.144	5.54
11)		i-15	1.232	1.224	1.214	1.220	1.215	1.051	1.193	5.86
12)		n-C14	1.190	1.208	1.204	1.210	1.207	1.045	1.177	5.53
13)		i-16	1.254	1.235	1.226	1.222	1.222	1.059	1.203	5.97
14)		n-C15	1.232	1.224	1.214	1.220	1.215	1.051	1.193	5.86
15)		n-C16	1.254	1.235	1.226	1.222	1.222	1.059	1.203	5.96
16)	I	5a-androstane	----------ISTD----------							
17)		i-18	0.976	0.986	0.978	0.990	0.984	0.854	0.961	5.50
18)		n-C17	0.986	0.998	0.992	0.993	0.999	0.868	0.973	5.30
19)		Pristane	0.982	0.993	0.986	0.991	0.992	0.864	0.968	5.28
20)		n-C18	0.976	0.986	0.978	0.990	0.984	0.854	0.961	5.50
21)		Phytane	1.000	1.006	0.996	1.004	1.001	0.870	0.979	5.47
22)		n-C19	0.976	0.988	0.977	0.986	0.983	0.852	0.960	5.53
23)	S	n-eicosane-d42	0.783	0.781	0.777	0.807	0.779	0.687	0.769	5.42
24)		n-C20	0.975	0.995	0.983	0.992	0.989	0.855	0.965	5.64
25)		n-C21	0.986	1.005	0.994	0.990	0.999	0.862	0.973	5.61
26)		n-C22	0.992	1.007	0.994	0.999	0.999	0.860	0.975	5.79
27)		n-C23	1.003	1.014	1.000	0.993	1.004	0.864	0.980	5.82
28)		n-C24	0.992	1.014	1.000	0.990	1.004	0.863	0.977	5.78
29)		n-C25	0.989	1.014	1.000	0.999	1.004	0.862	0.978	5.86
30)		n-C26	0.994	1.013	1.001	1.005	1.004	0.863	0.980	5.90
31)		n-C27	0.965	0.987	0.974	0.978	0.978	0.839	0.954	5.92
32)		n-C28	0.973	1.002	0.988	0.993	0.991	0.850	0.966	5.97
33)		n-C29	0.979	1.003	0.989	0.999	0.995	0.851	0.970	6.04
34)	S	n-triacontane...	0.751	0.767	0.758	0.787	0.759	0.661	0.747	5.87
35)		n-C30	0.971	0.993	0.978	0.985	0.986	0.841	0.959	6.06
36)		n-C31	0.937	0.977	0.962	0.977	0.970	0.826	0.941	6.21
37)		n-C32	0.916	0.969	0.950	0.953	0.960	0.815	0.927	6.24
38)		n-C33	0.888	0.941	0.923	0.944	0.934	0.791	0.904	6.50
39)		n-C34	0.919	0.954	0.935	0.954	0.945	0.801	0.918	6.41
40)		n-C35	0.898	0.933	0.915	0.938	0.927	0.784	0.899	6.46
41)		n-C36	0.955	1.009	0.991	0.995	1.004	0.850	0.967	6.27
42)		n-C37	0.870	0.913	0.899	0.924	0.914	0.772	0.882	6.47
43)		n-C38	0.934	0.917	0.901	0.921	0.911	0.770	0.892	6.84
44)		n-C39	0.843	0.884	0.865	0.888	0.879	0.743	0.851	6.50
45)		n-C40	0.762	0.825	0.811	0.825	0.824	0.696	0.791	6.62
46)		TPH	0.930	0.953	0.942	0.957	0.951	0.818	0.925	5.76
47)		TRH1	0.930	0.953	0.942	0.957	0.951	0.818	0.925	5.76
48)		TRH2	0.930	0.953	0.942	0.957	0.951	0.818	0.925	5.76
49)		TRH3	0.930	0.953	0.942	0.957	0.951	0.818	0.925	5.76
50)		TRH4	0.930	0.953	0.942	0.957	0.951	0.818	0.925	5.76
51)		TRH5	0.930	0.953	0.942	0.957	0.951	0.818	0.925	5.76
52)		TRH6	0.930	0.953	0.942	0.957	0.951	0.818	0.925	5.76

53)	GRO	0.930	0.953	0.942	0.957	0.951	0.818	0.925	5.76
54)	DRO	0.930	0.953	0.942	0.957	0.951	0.818	0.925	5.76
55)	RRO	0.930	0.953	0.942	0.957	0.951	0.818	0.925	5.76

(#) = Out of Range

FID1C08FRONT080613.M Tue Aug 06 14:24:58 2013

Area for TPH Calculations

Last Calibration Update Tue Aug 06 14:09:31 2013
Quant Method FID1C08FRONT080613.M

	Level 1 FID10068C.D	Level 2 FID10068D.D	Level 3 FID10068E.D	Level 4 FID10068F.D	Level 5 FID10068G.D	Level 6 FID10068H.D
n-C8	6773	53672	138275	221284	275625	561393
n-C9	7079	56575	147541	233892	292281	595270
n-C10	7597	60386	158055	248154	311520	635604
n-C11	7818	60953	160128	250219	315069	642891
n-C12	7935	62630	164544	256397	323412	659634
n-C13	8038	63666	166968	260269	328281	668309
n-C14	8242	65196	170895	266174	335423	682144
n-C15	8543	66151	172524	268460	338145	686824
n-C16	8651	66404	173420	268912	338264	688268
n-C17	8615	67506	176275	273400	344062	698293
Pristane	8615	67393	175705	272836	342664	697314
n-C18	8644	67605	176046	272398	343287	696211
Phytane	8821	68680	178678	276290	348158	706938
n-C19	8625	67581	175646	271334	342351	693619
n-C20	8639	68311	177015	273192	345151	697465
n-C21	8649	68186	177184	272615	345171	695848
n-C22	8790	69019	179046	274940	348803	701539
n-C23	8785	68751	178097	273215	346360	696744
n-C24	8678	68598	177787	272608	345966	695028
n-C25	8725	69172	179182	274900	348733	699642
n-C26	8809	69544	180289	276523	350688	704028
n-C27	8547	67625	175213	269248	340955	683559
n-C28	8611	68659	177678	273283	345557	692416
n-C29	8670	68799	178157	274993	347129	693966
n-C30	8558	67718	175220	271016	342111	682245
n-C31	8287	66907	173013	268811	338198	672549
n-C32	8001	65532	168762	262474	330190	655258
n-C33	7852	64477	166085	259945	325495	644526
n-C34	8120	65192	167828	262581	328875	650934
n-C35	7941	63908	164674	258200	323089	638848
n-C36	8278	67711	174677	273948	342964	678177
n-C37	7702	62567	161879	254417	318919	629541
n-C38	8274	62901	162389	253614	318017	627519
n-C39	7459	60573	155671	244568	306624	605097
n-C40	6728	56407	145576	227182	286532	565425
Average Area (use for TPH, TRPH, GRO, DRO, RRO)	8231	65284	169432	263208	331545	666373
Average of n-C38 & n-C40	7501	59654	153983	240398	302275	596472
n-C36/n-C20	0.96	0.99	0.99	1.00	0.99	0.97

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\
Data File : FID10068C.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 14:30:28
Operator : Meghan Dailey
Sample : AL-WKC1-1.25-019
Misc :
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 11:17:27 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Jul 11 13:26:21 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
	Internal Standards				
1) I	n-hexadecane-d34	13.157	278598	50.000	ug/mlm
16) I	5a-androstane	18.529	354380	50.072	ug/mlm
	System Monitoring Compounds				
6) S	n-dodecane-d26	8.842	7206	1.254	ug/mlm
23) S	n-eicosane-d42	17.893	6976	1.292	ug/mlm
34) S	n-triacontane-d62	29.847	6655	1.246	ug/mlm
	Target Compounds				
2)	n-C8	3.688	6773	1.245	ug/mlm
3)	n-C9	5.016	7079	1.223	ug/mlm
4)	n-C10	6.431	7597	1.235	ug/mlm
5)	n-C11	7.786	7818	1.262	ug/mlm
7)	n-C12	9.049	7935	1.236	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	10.222	8038	1.255	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	11.318	8242	1.255	ug/mlm
13)	i-16	0.000	0	N.D.	ug/ml
14)	n-C15	12.353	8543	1.286	ug/mlm
15)	n-C16	13.413	8651	1.295	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.542	8615	1.260	ug/mlm
19)	Pristane	14.662	8615	1.266	ug/mlm
20)	n-C18	15.742	8644	1.280	ug/mlm
21)	Phytane	15.908	8821	1.283	ug/mlm
22)	n-C19	16.999	8625	1.279	ug/mlm
24)	n-C20	18.294	8639	1.274	ug/mlm
25)	n-C21	19.607	8649	1.263	ug/mlm
26)	n-C22	20.918	8790	1.281	ug/mlm
27)	n-C23	22.212	8785	1.272	ug/mlm
28)	n-C24	23.479	8678	1.257	ug/mlm
29)	n-C25	24.720	8725	1.261	ug/mlm
30)	n-C26	25.923	8809	1.269	ug/mlm
31)	n-C27	27.090	8547	1.263	ug/mlm
32)	n-C28	28.221	8611	1.254	ug/mlm
33)	n-C29	29.321	8670	1.262	ug/mlm
35)	n-C30	30.383	8558	1.253	ug/mlm
36)	n-C31	31.413	8287	1.230	ug/mlm
37)	n-C32	32.411	8001	1.204	ug/mlm
38)	n-C33	33.382	7852	1.206	ug/mlm
39)	n-C34	34.349	8120	1.239	ug/mlm
40)	n-C35	35.423	7941	1.242	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\
Data File : FID10068C.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 14:30:28
Operator : Meghan Dailey
Sample : AL-WKC1-1.25-019
Misc :
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 11:17:27 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Jul 11 13:26:21 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
41)	n-C36	36.648	8278	1.207 ug/mlm
42)	n-C37	38.063	7702	1.239 ug/mlm
43)	n-C38	39.718	8274	1.332 ug/mlm
44)	n-C39	41.663	7459	1.269 ug/mlm
45)	n-C40	43.975	6728	1.232 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

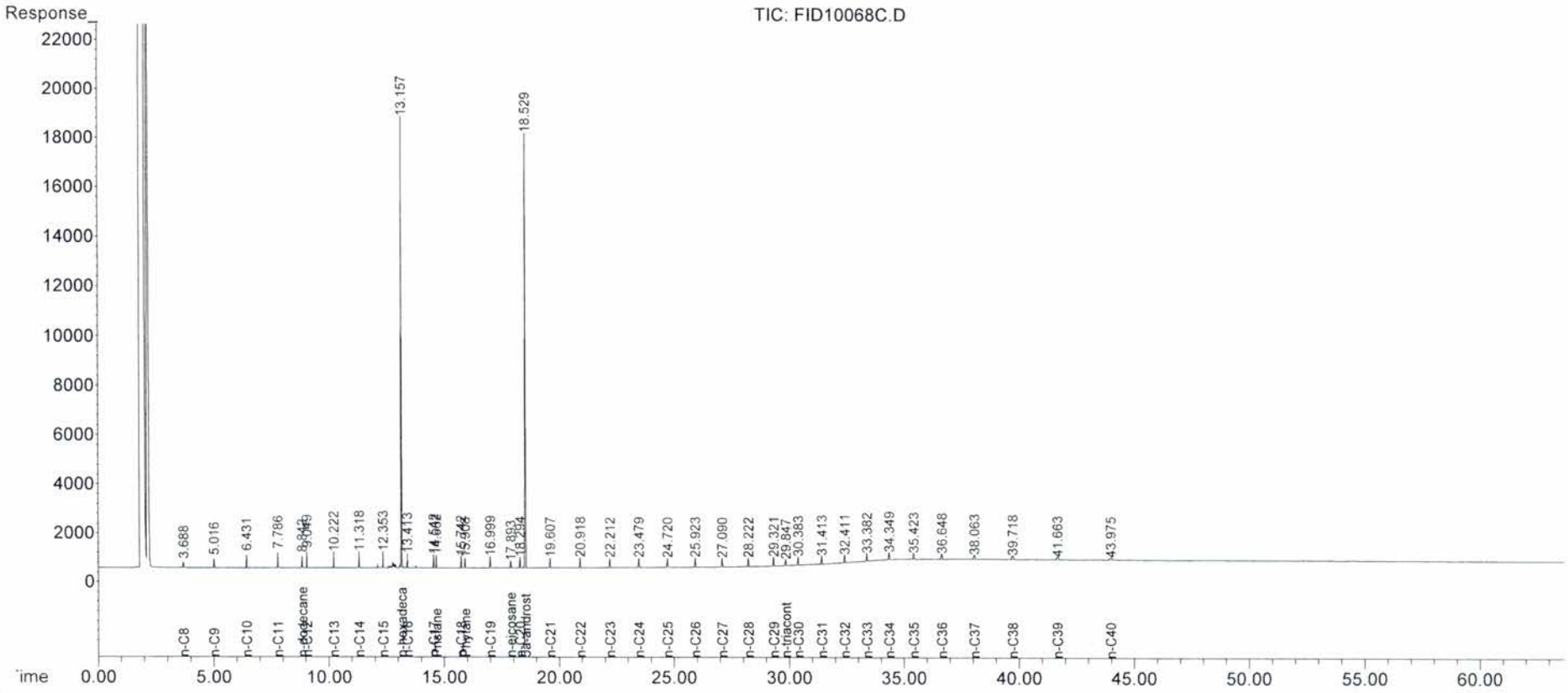
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\
Data File : FID10068C.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 14:30:28
Operator : Meghan Dailey
Sample : AL-WKC1-1.25-019
Misc :
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 11:17:27 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Jul 11 13:26:21 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\
Data File : FID10068D.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 15:41:06
Operator : Meghan Dailey
Sample : AL-WKC2-10-019
Misc :
ALS Vial : 4 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 11:26:00 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 11:17:39 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
	Internal Standards				
1) I	n-hexadecane-d34	13.157	271517	50.000	ug/mlm
16) I	5a-androstane	18.527	342949	50.072	ug/mlm
	System Monitoring Compounds				
6) S	n-dodecane-d26	8.841	56379	10.076	ug/mlm
23) S	n-eicosane-d42	17.892	53821	10.288	ug/mlm
34) S	n-triacontane-d62	29.847	52565	10.214	ug/mlm
	Target Compounds				
2)	n-C8	3.687	53672	10.129	ug/mlm
3)	n-C9	5.015	56575	10.083	ug/mlm
4)	n-C10	6.430	60386	10.109	ug/mlm
5)	n-C11	7.786	60953	10.107	ug/mlm
7)	n-C12	9.048	62630	10.011	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	10.221	63666	10.217	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	11.319	65196	10.191	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	12.354	66151	10.212	ug/mlm
15)	n-C16	13.414	66404	10.181	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.542	67506	10.186	ug/mlm
19)	Pristane	14.663	67393	10.213	ug/mlm
20)	n-C18	15.742	67605	10.322	ug/mlm
21)	Phytane	15.909	68680	10.290	ug/mlm
22)	n-C19	16.999	67581	10.334	ug/mlm
24)	n-C20	18.295	68311	10.388	ug/mlm
25)	n-C21	19.606	68186	10.270	ug/mlm
26)	n-C22	20.918	69019	10.359	ug/mlm
27)	n-C23	22.213	68751	10.259	ug/mlm
28)	n-C24	23.482	68598	10.249	ug/mlm
29)	n-C25	24.720	69172	10.319	ug/mlm
30)	n-C26	25.925	69544	10.347	ug/mlm
31)	n-C27	27.092	67625	10.321	ug/mlm
32)	n-C28	28.224	68659	10.349	ug/mlm
33)	n-C29	29.322	68799	10.322	ug/mlm
35)	n-C30	30.385	67718	10.262	ug/mlm
36)	n-C31	31.416	66907	10.315	ug/mlm
37)	n-C32	32.413	65532	10.245	ug/mlm
38)	n-C33	33.384	64477	10.352	ug/mlm
39)	n-C34	34.352	65192	10.316	ug/mlm
40)	n-C35	35.424	63908	10.353	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\
Data File : FID10068D.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 15:41:06
Operator : Meghan Dailey
Sample : AL-WKC2-10-019
Misc :
ALS Vial : 4 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 11:26:00 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 11:17:39 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.654	67711	10.256	ug/mlm
42)	n-C37	38.070	62566	10.459	ug/mlm
43)	n-C38	39.723	62901	10.435	ug/mlm
44)	n-C39	41.674	60573	10.646	ug/mlm
45)	n-C40	43.974	56407	10.728	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

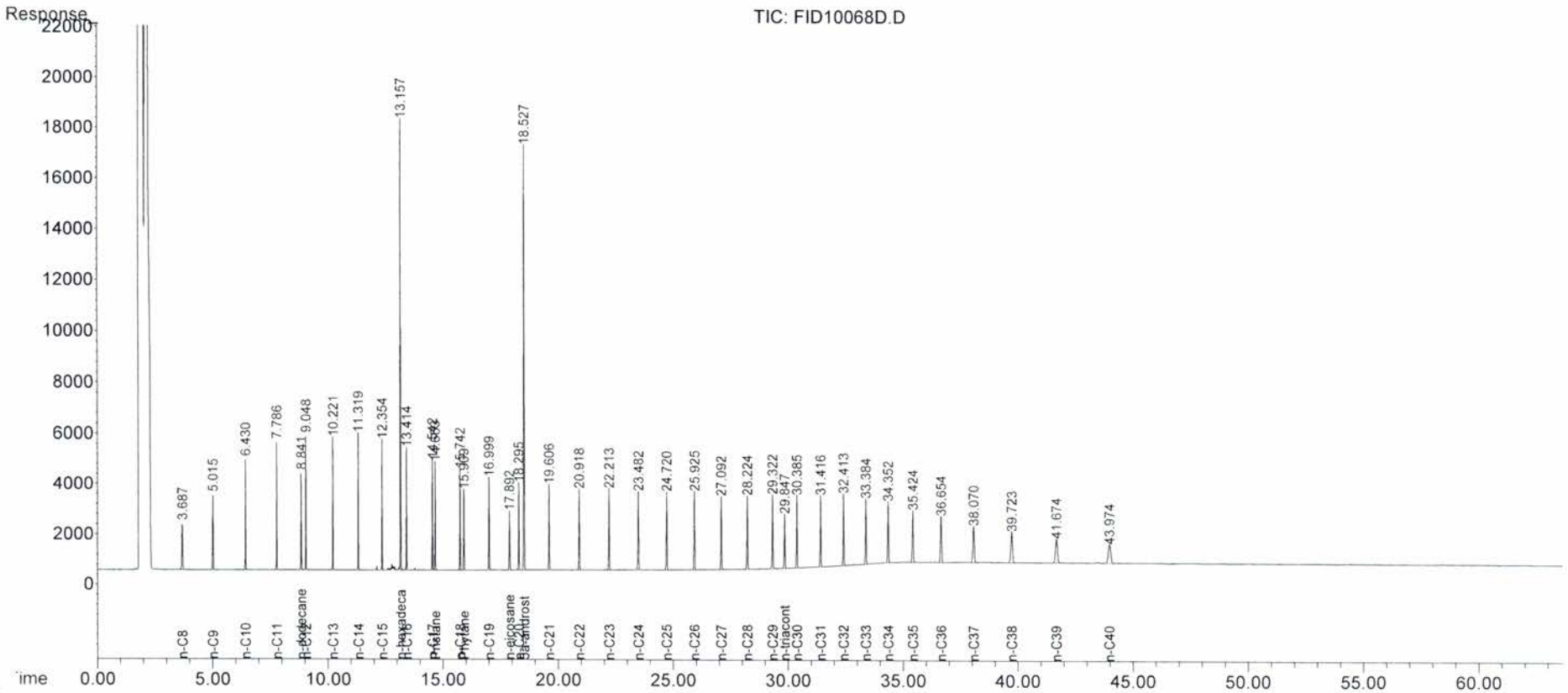
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\
Data File : FID10068D.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 15:41:06
Operator : Meghan Dailey
Sample : AL-WKC2-10-019
Misc :
ALS Vial : 4 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 11:26:00 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 11:17:39 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\FID10068\
Data File : FID10068E.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 16:51:47
Operator : Meghan Dailey
Sample : AL-WKC3-25-019
Misc :
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 11:34:06 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 11:26:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
	Internal Standards				
1) I	n-hexadecane-d34	13.157	285690	50.000	ug/mlm
16) I	5a-androstane	18.528	360225	50.072	ug/mlm
	System Monitoring Compounds				
6) S	n-dodecane-d26	8.842	148389	25.253	ug/mlm
23) S	n-eicosane-d42	17.894	140616	25.562	ug/mlm
34) S	n-triacontane-d62	29.849	136403	25.258	ug/mlm
	Target Compounds				
2)	n-C8	3.688	138275	24.866	ug/mlm
3)	n-C9	5.017	147541	25.089	ug/mlm
4)	n-C10	6.431	158055	25.227	ug/mlm
5)	n-C11	7.787	160128	25.311	ug/mlm
7)	n-C12	9.049	164544	25.053	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	10.223	166968	25.501	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	11.320	170895	25.405	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	12.355	172524	25.320	ug/mlm
15)	n-C16	13.416	173420	25.271	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.545	176275	25.302	ug/mlm
19)	Pristane	14.665	175705	25.315	ug/mlm
20)	n-C18	15.744	176046	25.551	ug/mlm
21)	Phytane	15.911	178678	25.447	ug/mlm
22)	n-C19	17.002	175646	25.528	ug/mlm
24)	n-C20	18.297	177015	25.581	ug/mlm
25)	n-C21	19.609	177184	25.379	ug/mlm
26)	n-C22	20.922	179046	25.555	ug/mlm
27)	n-C23	22.216	178097	25.275	ug/mlm
28)	n-C24	23.485	177787	25.272	ug/mlm
29)	n-C25	24.723	179182	25.430	ug/mlm
30)	n-C26	25.928	180289	25.526	ug/mlm
31)	n-C27	27.094	175213	25.461	ug/mlm
32)	n-C28	28.227	177678	25.497	ug/mlm
33)	n-C29	29.324	178157	25.453	ug/mlm
35)	n-C30	30.385	175220	25.304	ug/mlm
36)	n-C31	31.418	173013	25.438	ug/mlm
37)	n-C32	32.417	168762	25.161	ug/mlm
38)	n-C33	33.386	166085	25.455	ug/mlm
39)	n-C34	34.354	167828	25.357	ug/mlm
40)	n-C35	35.432	164674	25.480	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\
Data File : FID10068E.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 16:51:47
Operator : Meghan Dailey
Sample : AL-WKC3-25-019
Misc :
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 11:34:06 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 11:26:13 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.659	174677	25.265	ug/mlm
42)	n-C37	38.080	161879	25.831	ug/mlm
43)	n-C38	39.735	162389	25.721	ug/mlm
44)	n-C39	41.685	155671	26.059	ug/mlm
45)	n-C40	43.995	145576	26.352	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

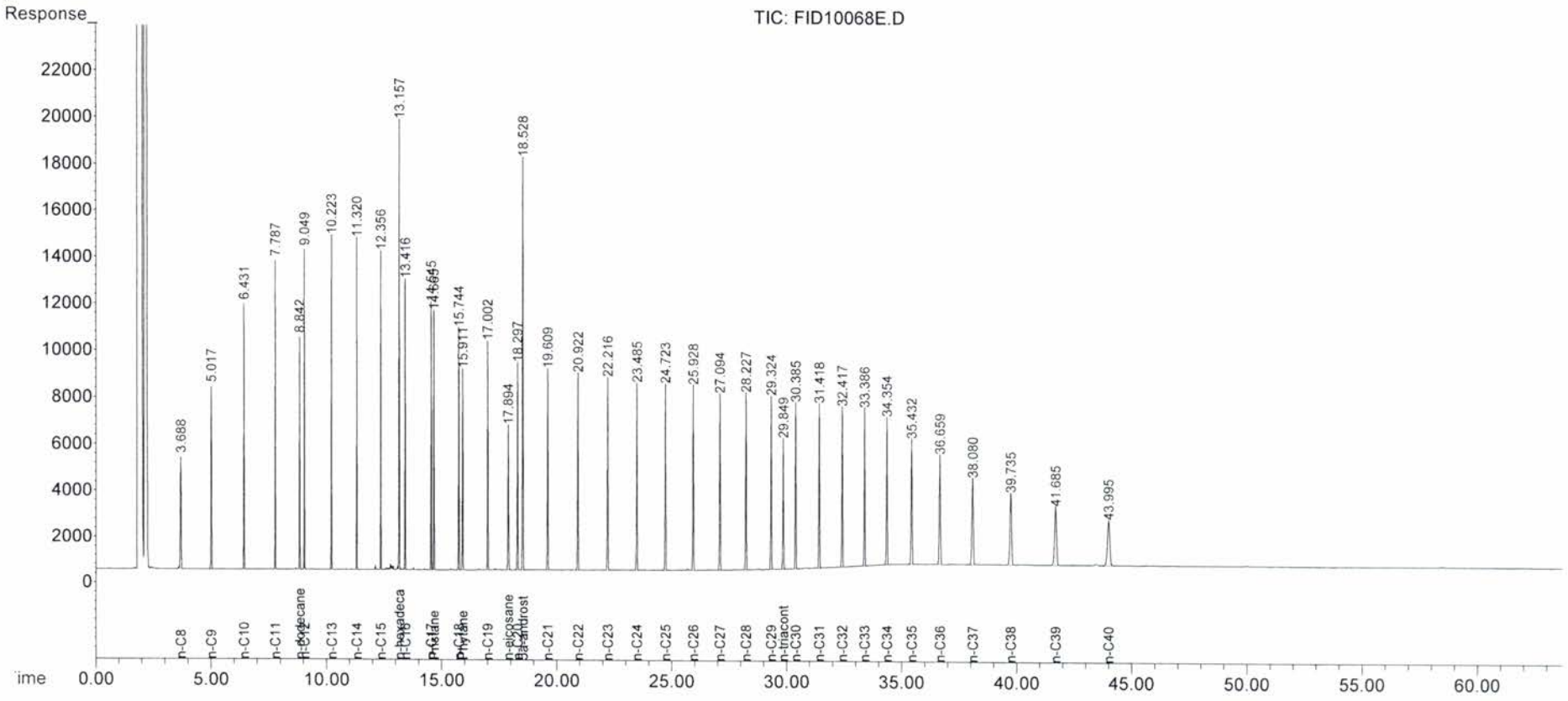
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\
Data File : FID10068E.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 16:51:47
Operator : Meghan Dailey
Sample : AL-WKC3-25-019
Misc :
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 11:34:06 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 11:26:13 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\FID10068\
Data File : FID10068F.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 18:02:21
Operator : Meghan Dailey
Sample : AL-WKC4-40-019
Misc :
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 13:52:54 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 11:34:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
Internal Standards				
1) I	n-hexadecane-d34	13.156	274766	50.000 ug/mlm
16) I	5a-androstane	18.526	344334	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.842	237327	42.069 ug/mlm
23) S	n-eicosane-d42	17.895	223359	42.371 ug/mlm
34) S	n-triacontane-d62	29.850	216680	42.061 ug/mlm
Target Compounds				
2)	n-C8	3.684	221284	41.661 ug/mlm
3)	n-C9	5.013	233892	41.570 ug/mlm
4)	n-C10	6.429	248154	41.336 ug/mlm
5)	n-C11	7.786	250219	41.231 ug/mlm
7)	n-C12	9.049	256397	40.658 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	10.223	260269	41.375 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	11.320	266174	41.151 ug/mlm
13)	i-16	0.000	0	N.D. ug/mld
14)	n-C15	12.356	268460	40.962 ug/mlm
15)	n-C16	13.416	268912	40.708 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	14.545	273400	40.977 ug/mlm
19)	Pristane	14.665	272836	41.064 ug/mlm
20)	n-C18	15.745	272398	41.298 ug/mlm
21)	Phytane	15.912	276290	41.101 ug/mlm
22)	n-C19	17.003	271334	41.193 ug/mlm
24)	n-C20	18.300	273192	41.242 ug/mlm
25)	n-C21	19.612	272615	40.790 ug/mlm
26)	n-C22	20.925	274940	41.003 ug/mlm
27)	n-C23	22.217	273215	40.522 ug/mlm
28)	n-C24	23.488	272608	40.528 ug/mlm
29)	n-C25	24.726	274900	40.817 ug/mlm
30)	n-C26	25.930	276523	40.963 ug/mlm
31)	n-C27	27.095	269248	40.966 ug/mlm
32)	n-C28	28.228	273283	41.044 ug/mlm
33)	n-C29	29.325	274993	41.163 ug/mlm
35)	n-C30	30.391	271016	41.029 ug/mlm
36)	n-C31	31.420	268811	41.459 ug/mlm
37)	n-C32	32.420	262474	41.083 ug/mlm
38)	n-C33	33.392	259945	41.833 ug/mlm
39)	n-C34	34.357	262581	41.666 ug/mlm
40)	n-C35	35.433	258200	41.984 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\
Data File : FID10068F.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 18:02:21
Operator : Meghan Dailey
Sample : AL-WKC4-40-019
Misc :
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 13:52:54 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 11:34:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.665	273948	41.629	ug/mlm
42)	n-C37	38.081	254417	42.640	ug/mlm
43)	n-C38	39.747	253614	42.170	ug/mlm
44)	n-C39	41.699	244568	42.964	ug/mlm
45)	n-C40	44.012	227182	43.136	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

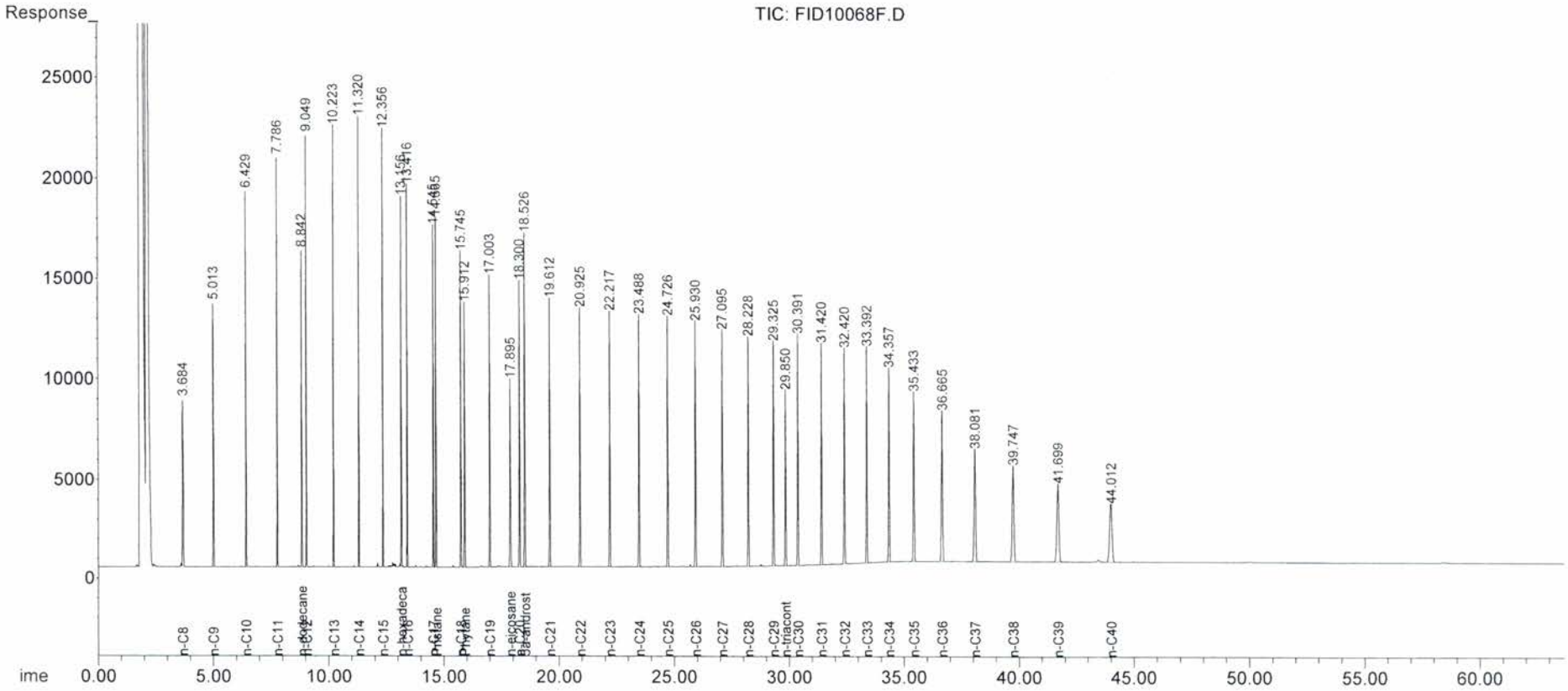
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\
Data File : FID10068F.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 18:02:21
Operator : Meghan Dailey
Sample : AL-WKC4-40-019
Misc :
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 13:52:54 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 11:34:16 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\FID10068\
Data File : FID10068G.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 19:12:58
Operator : Meghan Dailey
Sample : AL-WKC5-50-019
Misc :
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 14:01:04 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 13:53:35 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

		Compound	R.T.	Response	Conc	Units
Internal Standards						
1)	I	n-hexadecane-d34	13.156	279658	50.000	ug/mlm
16)	I	5a-androstane	18.526	349094	50.072	ug/mlm
System Monitoring Compounds						
6)	S	n-dodecane-d26	8.842	290270	50.540	ug/mlm
23)	S	n-eicosane-d42	17.897	273302	51.053	ug/mlm
34)	S	n-triacontane-d62	29.850	264867	50.753	ug/mlm
Target Compounds						
2)		n-C8	3.690	275625	50.900	ug/mlm
3)		n-C9	5.016	292281	51.047	ug/mlm
4)		n-C10	6.431	311520	51.001	ug/mlm
5)		n-C11	7.787	315069	51.011	ug/mlm
7)		n-C12	9.050	323412	50.389	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	10.224	328281	51.256	ug/mlm
11)		i-15	0.000	0	N.D.	ug/mld
12)		n-C14	11.321	335423	50.924	ug/mlm
13)		i-16	0.000	0	N.D.	ug/mld
14)		n-C15	12.357	338145	50.677	ug/mlm
15)		n-C16	13.418	338264	50.284	ug/mlm
17)		i-18	0.000	0	N.D.	ug/mld
18)		n-C17	14.547	344062	50.784	ug/mlm
19)		Pristane	14.667	342664	50.793	ug/mlm
20)		n-C18	15.747	343287	51.271	ug/mlm
21)		Phytane	15.913	348158	51.036	ug/mlm
22)		n-C19	17.004	342351	51.212	ug/mlm
24)		n-C20	18.301	345151	51.364	ug/mlm
25)		n-C21	19.615	345171	50.936	ug/mlm
26)		n-C22	20.924	348803	51.324	ug/mlm
27)		n-C23	22.220	346360	50.698	ug/mlm
28)		n-C24	23.490	345966	50.766	ug/mlm
29)		n-C25	24.729	348733	51.111	ug/mlm
30)		n-C26	25.933	350688	51.285	ug/mlm
31)		n-C27	27.098	340955	51.210	ug/mlm
32)		n-C28	28.232	345557	51.224	ug/mlm
33)		n-C29	29.330	347129	51.281	ug/mlm
35)		n-C30	30.393	342111	51.106	ug/mlm
36)		n-C31	31.423	338198	51.461	ug/mlm
37)		n-C32	32.423	330190	51.002	ug/mlm
38)		n-C33	33.392	325495	51.660	ug/mlm
39)		n-C34	34.359	328875	51.473	ug/mlm
40)		n-C35	35.434	323089	51.806	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\
Data File : FID10068G.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 19:12:58
Operator : Meghan Dailey
Sample : AL-WKC5-50-019
Misc :
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 14:01:04 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 13:53:35 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.665	342964	51.388	ug/mlm
42)	n-C37	38.084	318919	52.686	ug/mlm
43)	n-C38	39.744	318017	52.110	ug/mlm
44)	n-C39	41.701	306624	53.061	ug/mlm
45)	n-C40	44.016	286532	53.644	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

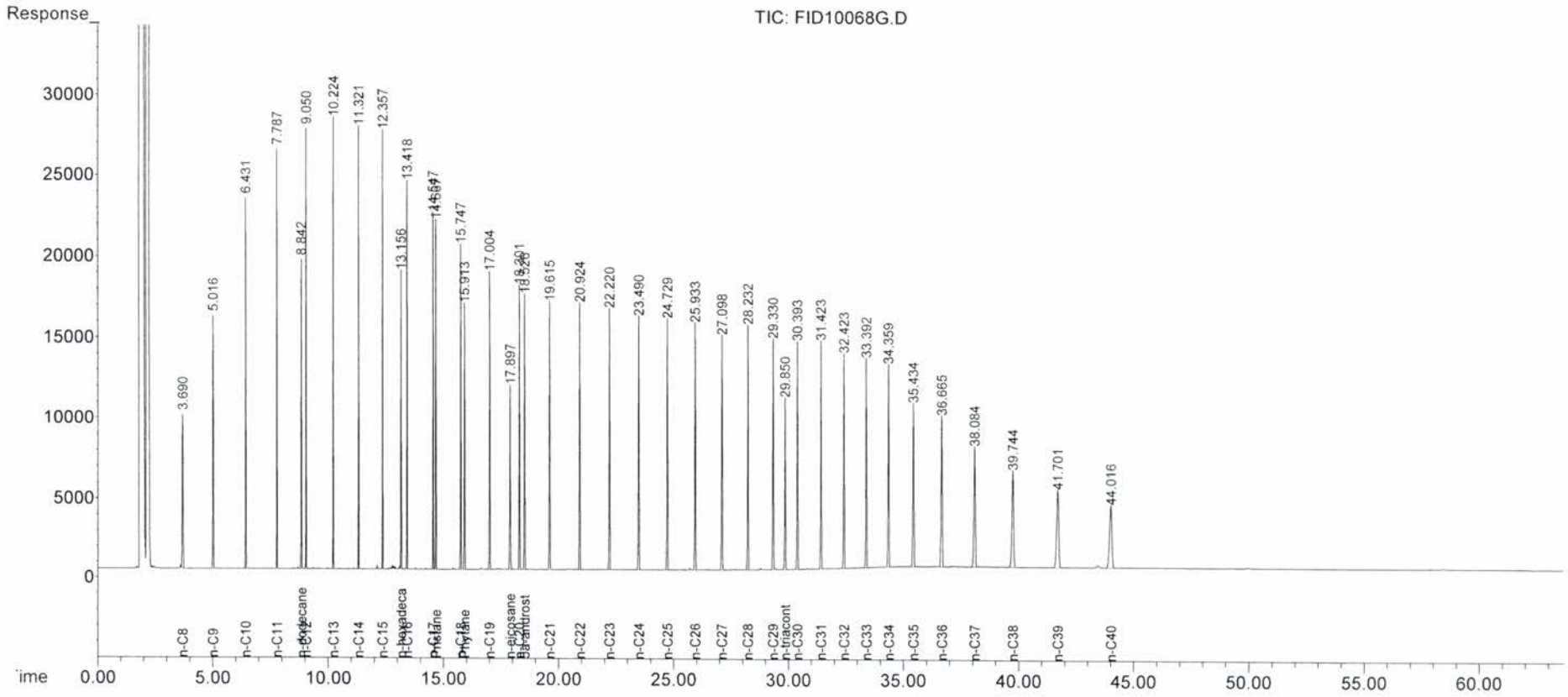
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\
Data File : FID10068G.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 19:12:58
Operator : Meghan Dailey
Sample : AL-WKC5-50-019
Misc :
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 14:01:04 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 13:53:35 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\FID10068\
Data File : FID10068H.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 20:23:59
Operator : Meghan Dailey
Sample : AL-WKC6-100-019
Misc :
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 14:08:57 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:01:41 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
	Internal Standards				
1)	I n-hexadecane-d34	13.157	328344	50.000	ug/mlm
16)	I 5a-androstane	18.530	407817	50.072	ug/mlm
	System Monitoring Compounds				
6)	S n-dodecane-d26	8.846	602876	89.496	ug/mlm
23)	S n-eicosane-d42	17.904	563052	89.931	ug/mlm
34)	S n-triacontane-d62	29.862	539161	88.357	ug/mlm
	Target Compounds				
2)	n-C8	3.690	561393	88.500	ug/mlm
3)	n-C9	5.019	595270	88.748	ug/mlm
4)	n-C10	6.435	635604	88.808	ug/mlm
5)	n-C11	7.791	642891	88.794	ug/mlm
7)	n-C12	9.055	659634	87.647	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	10.229	668309	88.953	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	11.325	682144	88.260	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	12.362	686824	87.706	ug/mlm
15)	n-C16	13.424	688268	87.181	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.553	698293	88.211	ug/mlm
19)	Pristane	14.674	697314	88.500	ug/mlm
20)	n-C18	15.755	696211	88.979	ug/mlm
21)	Phytane	15.922	706938	88.679	ug/mlm
22)	n-C19	17.014	693619	88.747	ug/mlm
24)	n-C20	18.312	697465	88.784	ug/mlm
25)	n-C21	19.625	695848	87.823	ug/mlm
26)	n-C22	20.936	701539	88.280	ug/mlm
27)	n-C23	22.230	696744	87.237	ug/mlm
28)	n-C24	23.500	695028	87.224	ug/mlm
29)	n-C25	24.740	699642	87.698	ug/mlm
30)	n-C26	25.943	704028	88.060	ug/mlm
31)	n-C27	27.111	683559	87.814	ug/mlm
32)	n-C28	28.243	692416	87.796	ug/mlm
33)	n-C29	29.343	693966	87.663	ug/mlm
35)	n-C30	30.405	682245	87.144	ug/mlm
36)	n-C31	31.435	672549	87.523	ug/mlm
37)	n-C32	32.433	655258	86.544	ug/mlm
38)	n-C33	33.403	644526	87.455	ug/mlm
39)	n-C34	34.373	650934	87.119	ug/mlm
40)	n-C35	35.449	638848	87.572	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\
Data File : FID10068H.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 20:23:59
Operator : Meghan Dailey
Sample : AL-WKC6-100-019
Misc :
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 14:08:57 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:01:41 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.685	678177	86.806	ug/mlm
42)	n-C37	38.103	629541	88.807	ug/mlm
43)	n-C38	39.771	627519	87.776	ug/mlm
44)	n-C39	41.728	605097	89.288	ug/mlm
45)	n-C40	44.043	565425	90.245	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

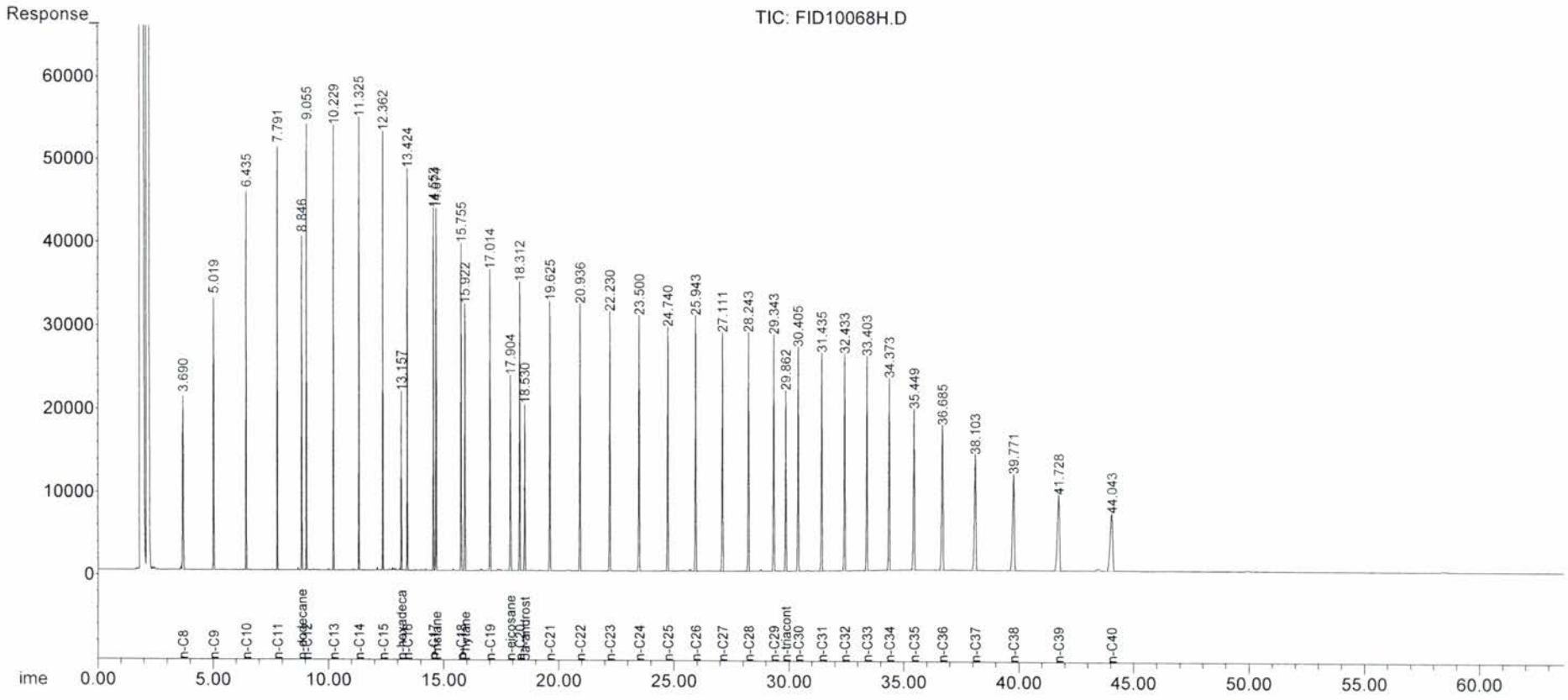
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\
Data File : FID10068H.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 20:23:59
Operator : Meghan Dailey
Sample : AL-WKC6-100-019
Misc :
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 14:08:57 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:01:41 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\FID10068\
Data File : FID10068I.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 21:34:35
Operator : Meghan Dailey
Sample : AL-WKICV-25-001
Misc :
ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 14:42:46 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

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	116	0.00
2		n-C8	0.962	0.924	4.0	111	0.00
3		n-C9	1.018	1.009	0.9	114	0.00
4		n-C10	1.087	1.055	2.9	111	0.00
5		n-C11	1.100	1.086	1.3	113	0.00
6	S	n-dodecane-d26	1.025	1.022	0.3	114	0.00
7		n-C12	1.145	1.134	1.0	113	0.00
10		n-C13	1.144	1.138	0.5	113	0.00
12		n-C14	1.177	1.161	1.4	112	0.00
14		n-C15	1.193	1.179	1.2	113	0.00
15		n-C16	1.203	1.198	0.4	114	0.00
16	I	5a-androstane	1.000	1.000	0.0	117	0.00
18		n-C17	0.973	0.950	2.4	112	0.00
19		Pristane	0.968	0.925	4.4	110	0.00
20		n-C18	0.961	0.946	1.6	113	0.00
21		Phytane	0.979	0.929	5.1	109	0.00
22		n-C19	0.960	0.946	1.5	113	0.00
23	S	n-eicosane-d42	0.769	0.763	0.8	115	0.00
24		n-C20	0.965	0.950	1.6	113	0.00
25		n-C21	0.973	0.966	0.7	114	0.00
26		n-C22	0.975	0.963	1.2	113	0.00
27		n-C23	0.980	0.958	2.2	112	0.00
28		n-C24	0.977	0.959	1.8	112	0.00
29		n-C25	0.978	0.910	7.0	107	0.00
30		n-C26	0.980	0.953	2.8	112	0.00
31		n-C27	0.954	0.950	0.4	114	0.00
32		n-C28	0.966	0.948	1.9	112	0.00
33		n-C29	0.970	0.948	2.3	112	0.00
34	S	n-triacontane-d62	0.747	0.749	-0.3	116	0.00
35		n-C30	0.959	0.946	1.4	113	0.00
36		n-C31	0.941	0.910	3.3	111	0.00
37		n-C32	0.927	0.934	-0.8	115	0.00
38		n-C33	0.904	0.917	-1.4	116	0.00
39		n-C34	0.918	0.911	0.8	114	0.00
40		n-C35	0.899	0.877	2.4	112	0.00
41		n-C36	0.967	0.938	3.0	111	0.00
42		n-C37	0.882	0.857	2.8	112	0.00
43		n-C38	0.892	0.838	6.1	109	0.01

44	n-C39	0.851	0.825	3.1	112	0.01
45	n-C40	0.791	0.837	-5.8	121	0.00

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.018	0.000	100.0#	0#	-9.24#
9	i-14	0.019	0.000	100.0#	0#	-9.94#
11	i-15	0.019	0.000	100.0#	0#	-11.10#
13	i-16	0.019	0.000	100.0#	0#	-12.00#
17	i-18	0.019	0.000	100.0#	0#	-13.99#
46	TPH	0.018	0.000	100.0#	0#	-30.06#
47	TRH1	0.018	0.000	100.0#	0#	-8.02#
48	TRH2	0.018	0.000	100.0#	0#	-16.48#
49	TRH3	0.018	0.000	100.0#	0#	-24.20#
50	TRH4	0.018	0.000	100.0#	0#	-29.39#
51	TRH5	0.018	0.000	100.0#	0#	-34.55#
52	TRH6	0.018	0.000	100.0#	0#	-46.41#
53	GRO	0.018	0.000	100.0#	0#	-5.45#
54	DRO	0.018	0.000	100.0#	0#	-14.81#
55	RRO	0.018	0.000	100.0#	0#	-34.16#

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

FID1C08FRONT080613.M Tue Aug 06 14:45:07 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\
Data File : FID10068I.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 21:34:35
Operator : Meghan Dailey
Sample : AL-WKICV-25-001
Misc :
ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 14:42:46 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
	Internal Standards				
1)	I n-hexadecane-d34	13.156	332361	50.000	ug/mlm
16)	I 5a-androstane	18.526	422128	50.072	ug/mlm
	System Monitoring Compounds				
6)	S n-dodecane-d26	8.841	169857	24.940	ug/mlm
23)	S n-eicosane-d42	17.890	161975	24.990	ug/mlm
34)	S n-triacontane-d62	29.845	158109	25.105	ug/mlm
	Target Compounds				
2)	n-C8	3.683	153744	24.047	ug/mlm
3)	n-C9	5.012	167680	24.788	ug/mlm
4)	n-C10	6.428	175332	24.276	ug/mlm
5)	n-C11	7.785	180659	24.698	ug/mlm
7)	n-C12	9.048	185218	24.336	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	10.222	189412	24.915	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	11.319	191858	24.519	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	12.354	194993	24.594	ug/mlm
15)	n-C16	13.414	197047	24.640	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	14.543	197716	24.115	ug/mlm
19)	Pristane	14.663	193149	23.669	ug/mlm
20)	n-C18	15.742	199451	24.610	ug/mlm
21)	Phytane	15.909	195306	23.654	ug/mlm
22)	n-C19	17.000	199305	24.619	ug/mlm
24)	n-C20	18.295	200581	24.661	ug/mlm
25)	n-C21	19.608	201796	24.608	ug/mlm
26)	n-C22	20.920	203120	24.705	ug/mlm
27)	n-C23	22.213	199917	24.205	ug/mlm
28)	n-C24	23.482	199803	24.251	ug/mlm
29)	n-C25	24.719	191120	23.180	ug/mlm
30)	n-C26	25.925	201276	24.363	ug/mlm
31)	n-C27	27.090	200288	24.914	ug/mlm
32)	n-C28	28.224	199857	24.532	ug/mlm
33)	n-C29	29.322	199976	24.466	ug/mlm
35)	n-C30	30.384	198522	24.558	ug/mlm
36)	n-C31	31.414	191813	24.173	ug/mlm
37)	n-C32	32.412	194336	24.857	ug/mlm
38)	n-C33	33.383	193298	25.374	ug/mlm
39)	n-C34	34.348	191557	24.752	ug/mlm
40)	n-C35	35.423	184898	24.392	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\
Data File : FID10068I.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 21:34:35
Operator : Meghan Dailey
Sample : AL-WKICV-25-001
Misc :
ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 14:42:46 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.650	193825	23.770	ug/mlm
42)	n-C37	38.072	180696	24.299	ug/mlm
43)	n-C38	39.728	176808	23.500	ug/mlm
44)	n-C39	41.674	173989	24.264	ug/mlm
45)	n-C40	43.984	175999	26.407	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

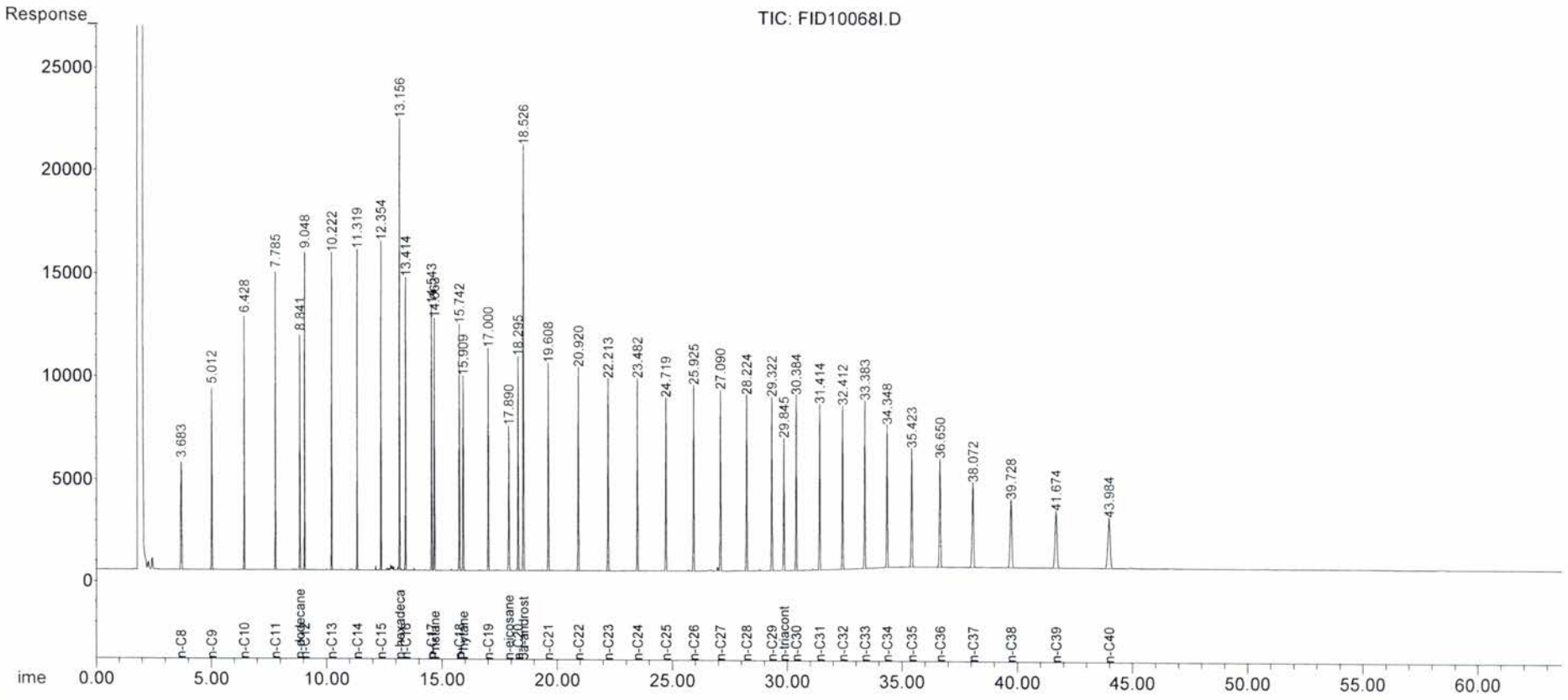
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\
Data File : FID10068I.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 21:34:35
Operator : Meghan Dailey
Sample : AL-WKICV-25-001
Misc :
ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 14:42:46 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\
Data File : FID10068J.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 22:45:07
Operator : Meghan Dailey
Sample : AL-WKCC-25-023
Misc :
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 14:59:38 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

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	98	0.00
2		n-C8	0.962	0.980	-1.9	100	0.00
3		n-C9	1.018	1.041	-2.3	99	0.00
4		n-C10	1.087	1.110	-2.1	99	0.00
5		n-C11	1.100	1.123	-2.1	99	0.00
6	S	n-dodecane-d26	1.025	1.034	-0.9	98	0.00
7		n-C12	1.145	1.177	-2.8	99	0.00
10		n-C13	1.144	1.173	-2.5	99	0.00
12		n-C14	1.177	1.208	-2.6	99	0.00
14		n-C15	1.193	1.221	-2.3	99	0.00
15		n-C16	1.203	1.228	-2.1	99	0.00
16	I	5a-androstane	1.000	1.000	0.0	97	0.00
18		n-C17	0.973	1.003	-3.1	98	0.00
19		Pristane	0.968	0.997	-3.0	98	0.00
20		n-C18	0.961	0.988	-2.8	98	0.00
21		Phytane	0.979	1.005	-2.7	98	0.00
22		n-C19	0.960	0.985	-2.6	98	0.00
23	S	n-eicosane-d42	0.769	0.779	-1.3	98	0.00
24		n-C20	0.965	0.991	-2.7	98	0.00
25		n-C21	0.973	0.998	-2.6	98	0.00
26		n-C22	0.975	0.998	-2.4	98	0.00
27		n-C23	0.980	1.004	-2.4	98	0.00
28		n-C24	0.977	1.003	-2.7	98	0.00
29		n-C25	0.978	1.003	-2.6	98	0.00
30		n-C26	0.980	1.003	-2.3	98	0.00
31		n-C27	0.954	0.977	-2.4	98	0.00
32		n-C28	0.966	0.992	-2.7	98	0.00
33		n-C29	0.970	0.995	-2.6	98	0.00
34	S	n-triacontane-d62	0.747	0.751	-0.5	96	0.00
35		n-C30	0.959	0.985	-2.7	98	0.00
36		n-C31	0.941	0.971	-3.2	98	0.00
37		n-C32	0.927	0.964	-4.0	99	0.00
38		n-C33	0.904	0.939	-3.9	99	0.00
39		n-C34	0.918	0.955	-4.0	99	0.00
40		n-C35	0.899	0.935	-4.0	99	0.00
41		n-C36	0.967	1.015	-5.0	100	0.00
42		n-C37	0.882	0.923	-4.6	100	0.00
43		n-C38	0.892	0.920	-3.1	99	0.00

44	n-C39	0.851	0.888	-4.3	100	0.01
45	n-C40	0.791	0.833	-5.3	100	0.00

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.018	0.000	100.0#	0#	-9.24#
9	i-14	0.019	0.000	100.0#	0#	-9.94#
11	i-15	0.019	0.000	100.0#	0#	-11.10#
13	i-16	0.019	0.000	100.0#	0#	-12.00#
17	i-18	0.019	0.000	100.0#	0#	-13.99#
46	TPH	0.018	0.000	100.0#	0#	-30.06#
47	TRH1	0.018	0.000	100.0#	0#	-8.02#
48	TRH2	0.018	0.000	100.0#	0#	-16.48#
49	TRH3	0.018	0.000	100.0#	0#	-24.20#
50	TRH4	0.018	0.000	100.0#	0#	-29.39#
51	TRH5	0.018	0.000	100.0#	0#	-34.55#
52	TRH6	0.018	0.000	100.0#	0#	-46.41#
53	GRO	0.018	0.000	100.0#	0#	-5.45#
54	DRO	0.018	0.000	100.0#	0#	-14.81#
55	RRO	0.018	0.000	100.0#	0#	-34.16#

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

FID1C08FRONT080613.M Tue Aug 06 14:59:45 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\
Data File : FID10068J.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 22:45:07
Operator : Meghan Dailey
Sample : AL-WKCC-25-023
Misc :
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 14:59:38 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
Internal Standards				
1) I	n-hexadecane-d34	13.155	280998	50.000 ug/mlm
16) I	5a-androstane	18.524	350749	50.072 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.841	145211	25.219 ug/mlm
23) S	n-eicosane-d42	17.890	137295	25.493 ug/mlm
34) S	n-triacontane-d62	29.845	131594	25.147 ug/mlm
Target Compounds				
2)	n-C8	3.687	137861	25.504 ug/mlm
3)	n-C9	5.015	146213	25.565 ug/mlm
4)	n-C10	6.430	156012	25.550 ug/mlm
5)	n-C11	7.785	157993	25.548 ug/mlm
7)	n-C12	9.048	162478	25.250 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	10.222	165098	25.687 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	11.318	168693	25.499 ug/mlm
13)	i-16	0.000	0	N.D. ug/mld
14)	n-C15	12.354	170658	25.459 ug/mlm
15)	n-C16	13.414	170822	25.265 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	14.542	173532	25.473 ug/mlm
19)	Pristane	14.662	173000	25.514 ug/mlm
20)	n-C18	15.741	173096	25.705 ug/mlm
21)	Phytane	15.908	175535	25.586 ug/mlm
22)	n-C19	16.999	172403	25.630 ug/mlm
24)	n-C20	18.294	173738	25.708 ug/mlm
25)	n-C21	19.606	173264	25.428 ug/mlm
26)	n-C22	20.917	175049	25.623 ug/mlm
27)	n-C23	22.212	174046	25.361 ug/mlm
28)	n-C24	23.480	173619	25.362 ug/mlm
29)	n-C25	24.719	174989	25.543 ug/mlm
30)	n-C26	25.921	175911	25.626 ug/mlm
31)	n-C27	27.089	171229	25.634 ug/mlm
32)	n-C28	28.222	173672	25.656 ug/mlm
33)	n-C29	29.321	174481	25.692 ug/mlm
35)	n-C30	30.384	171751	25.570 ug/mlm
36)	n-C31	31.412	170052	25.792 ug/mlm
37)	n-C32	32.410	166582	25.643 ug/mlm
38)	n-C33	33.382	164487	25.986 ug/mlm
39)	n-C34	34.347	166897	25.954 ug/mlm
40)	n-C35	35.421	163829	26.011 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\
Data File : FID10068J.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 22:45:07
Operator : Meghan Dailey
Sample : AL-WKCC-25-023
Misc :
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 14:59:38 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	36.646	174177	25.707	ug/mlm
42)	n-C37	38.069	161804	26.186	ug/mlm
43)	n-C38	39.722	161308	25.803	ug/mlm
44)	n-C39	41.676	155573	26.110	ug/mlm
45)	n-C40	43.980	145560	26.284	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

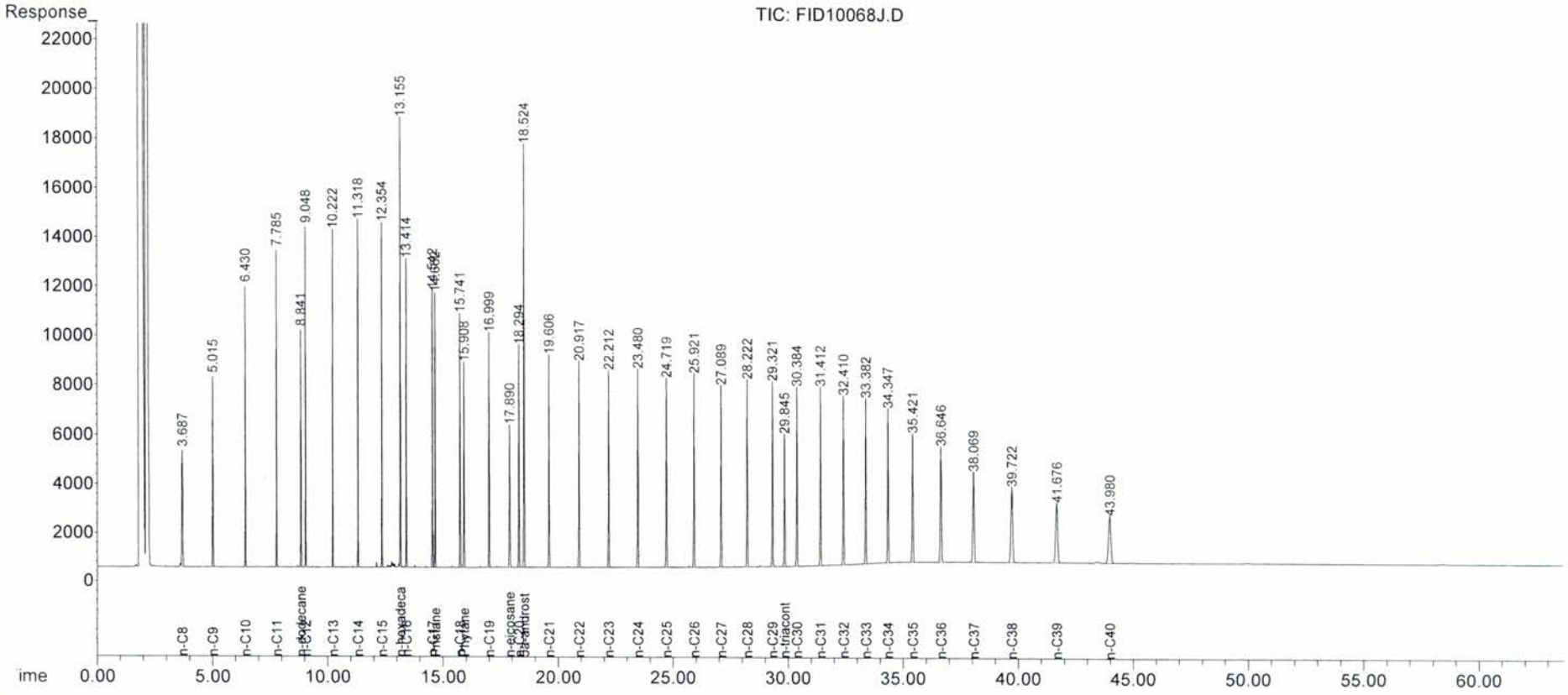
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\
Data File : FID10068J.D
Signal(s) : FID1A.CH
Acq On : 05-Aug-2013, 22:45:07
Operator : Meghan Dailey
Sample : AL-WKCC-25-023
Misc :
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Aug 06 14:59:38 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10068\FID1C08FRONT080613.M
Quant Title : C8 - C40 aliphatic
QLast Update : Tue Aug 06 14:24:50 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Aliphatic Mass Discrimination Ratio

Arcadis-Mayflower AR Client Project # B0086003.1302

Aliphatic Hyrdocarbon and Total Petroleum Hydrocarbon Data

Mass Discrimination

File Name	Sample Name	n-C20 (Area)	n-C36 (Area)	n-C36/n-C20 ratio	Q
FID10068C.D	AL-WKC1-1.25-019	8639	8278	0.96	
FID10068D.D	AL-WKC2-10-019	68311	67711	0.99	
FID10068E.D	AL-WKC3-25-019	177015	174677	0.99	
FID10068F.D	AL-WKC4-40-019	273192	273948	1.00	
FID10068G.D	AL-WKC5-50-019	345151	342964	0.99	
FID10068H.D	AL-WKC6-100-019	697465	678177	0.97	
FID10068I.D	AL-WKICV-25-001	200581	193825	0.97	
FID10068J.D	AL-WKCC-25-023	173738	174177	1.00	
FID10070B.D	AL-WKCC-25-023	219933	216854	0.99	
FID10070G.D	AL-WKCC-25-023	231235	234125	1.01	
FID10070H.D	AL-WKCC-25-023	202177	206310	1.02	

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

Aliphatic Internal Standard Area Data

B&B Laboratories
Project J13034
Report 13-3092

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

Client Project # B0086003.1302

File Name	Sample Name	Internal Standard 1 n-hexadecane-d34			Internal Standard 2 5α-androstane		
		Response (Area)	50% (Area)	200% (Area)	Response (Area)	50% (Area)	200% (Area)
FID10068I.D	**AL-WKICV-25-001**	**332361**	**166181**	**664722**	**422128**	**211064**	**844256**
FID10068J.D	**AL-WKCC-25-023**	**280998**	**140499**	**561996**	**350749**	**175375**	**701498**
FID10070B.D	**AL-WKCC-25-023**	**353770**	**176885**	**707540**	**443234**	**221617**	**886468**
FID10070C.D	AL-WKSRM2779-20-01	313579			416206		
FID10070F.D	AL-WKPem-001	319320			395444		
ENV3072A.D	Procedural Blank	279643			349979		
ENV3072B.D	Blank Spike	276706			342012		
ENV3072C.D	Blank Spike Duplicate	266273			332341		
ARC1695.D	SED-DA-EB-05-080313	256782			319303		
ARC1697.D	SO-DA-EB-01-080213	258763			321145		
FID10070G.D	**AL-WKCC-25-023**	**374544**	**187272**	**749088**	**468538**	**234269**	**937076**
ARC1699.D	SED-DA-EB-06-080613	262498			325308		
FID10070H.D	**AL-WKCC-25-023**	**331178**	**165589**	**662356**	**409657**	**204829**	**819314**

Polycyclic Aromatic Hydrocarbon
Initial Calibration Data
and
Initial Calibration Verification Data

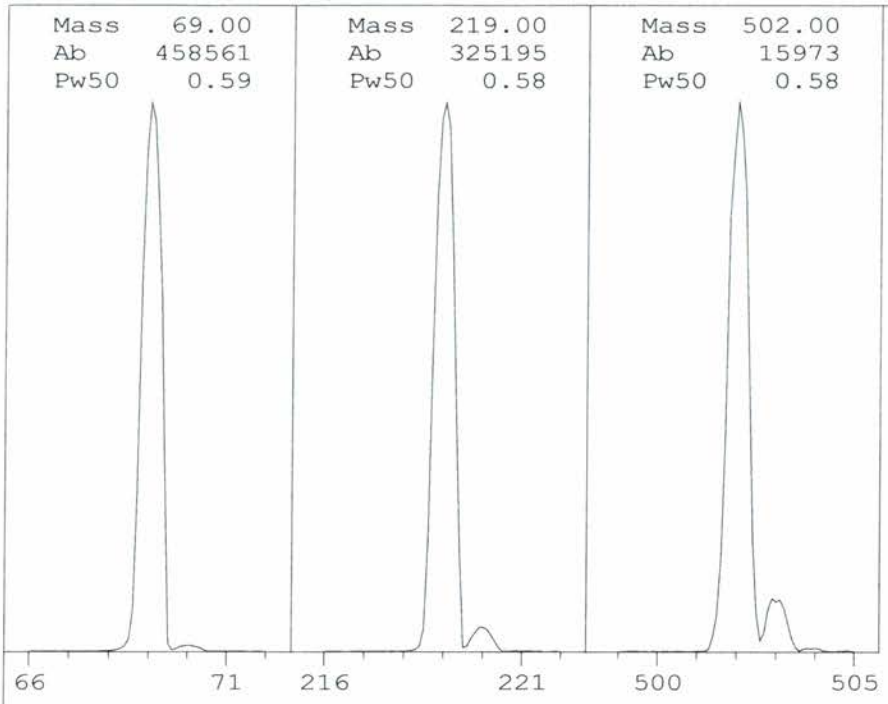
PAH ICAL
AR 70054.M

GC/MS 7
(PAH-2012)

Autotune

Sat Aug 10 10:58:12 2013
C:\MSDCHEM\1\5973N\atune.u

Instrument: GCMSD
US21854533

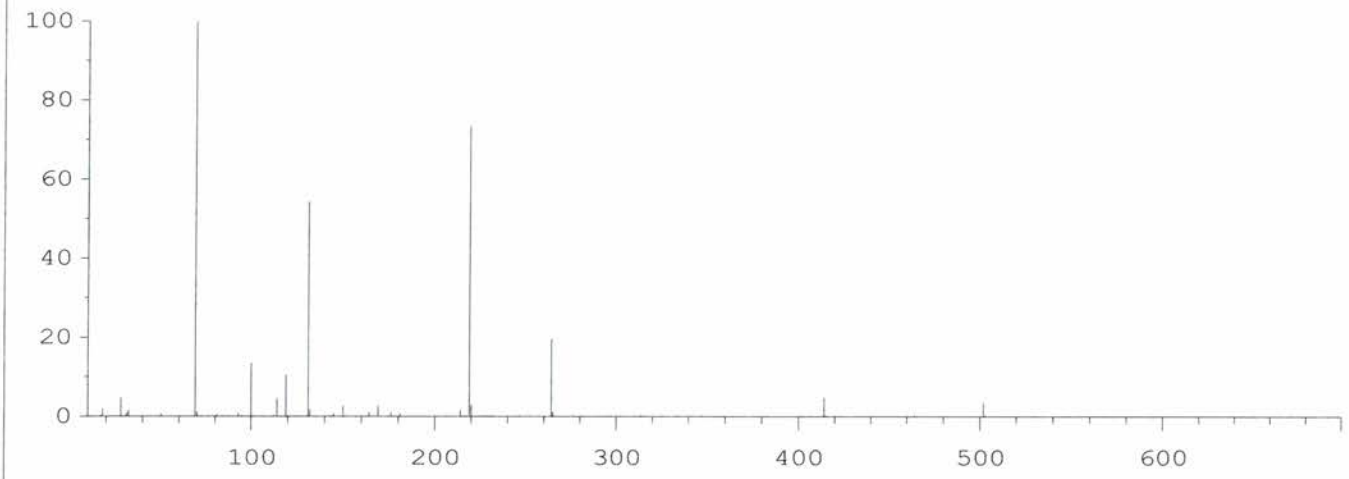


Ion Pol	Pos	MassGain	421
		MassOffs	-9
Emission	34.6	AmuGain	2306
EIEnrgy	69.9	AmuOffs	130
Filament	1	Wid219	-0.001
		DC Pol	Neg
Repeller	23.76		
IonFcus	76.9	HEDEnab	On
EntLens	14.5	EMVolts	1906
EntOffs	17.07		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	290	Turbo Speed	100
MS Quad	180		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
120 peaks Base: 69.00 Abundance: 408960



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	408960	100.00	70.00	4528	1.11
219.00	300224	73.41	220.00	12413	4.13
502.00	14334	3.50	503.00	1293	9.02

Air/Water Check: H2O~1.97% N2~4.79% O2~1.62% CO2~0.15% N2/H2O~242.78%

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	160660
Repeller Maximum	35	volts using ion	219;	Gain Factor	1.61

MassGain Values(Samples): 421(3) 420(2) 420(1) 422(0) 421(FS)

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

MS7005a 190

Method Path : C:\GCMS7\MS70054\
Method File : AR70054.M
Title : PAH Calibration Table-2013A
Last Update : Mon Aug 12 08:18:55 2013
Response Via : Initial Calibration

Calibration Files
1 =MS70054B.D 2 =MS70054C.D 3 =MS70054D.D 4 =MS70054E.D 5 =MS70054F.D
6 =MS70054G.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	Fluorene-d10	----------ISTD----------							
2)	S	Naphthalene-d8	2.137	1.775	1.638	1.706	1.724	1.737	1.786	9.95
3)	T	cis/trans Decalin	0.401	0.332	0.297	0.299	0.301	0.298	0.321	12.88
4)	un	C1-Decalins	0.401	0.332	0.297	0.299	0.301	0.298	0.321	12.88
5)	un	C2-Decalins	0.401	0.332	0.297	0.299	0.301	0.298	0.321	12.88
6)	un	C3-Decalins	0.401	0.332	0.297	0.299	0.301	0.298	0.321	12.88
7)	un	C4-Decalins	0.401	0.332	0.297	0.299	0.301	0.298	0.321	12.88
8)	T	Naphthalene	2.236	1.905	1.792	1.850	1.879	1.893	1.926	8.16
9)	T	2-Methylnaphth...	1.404	1.169	1.085	1.135	1.157	1.193	1.191	9.30
10)	T	1-Methylnaphth...	1.295	1.109	1.024	1.070	1.080	1.093	1.112	8.49
11)	T	2,6-Dimethylna...	1.296	1.085	1.002	1.061	1.076	1.118	1.106	9.07
12)	T	1,6,7-Trimethy...	1.184	0.990	0.916	0.966	0.986	1.015	1.010	9.08
13)	un	C2-Naphthalenes	2.236	1.905	1.792	1.850	1.879	1.893	1.926	8.16
14)	un	C3-Naphthalenes	2.236	1.905	1.792	1.850	1.879	1.893	1.926	8.16
15)	un	C4-Naphthalenes	2.236	1.905	1.792	1.850	1.879	1.893	1.926	8.16
16)	T	Benzothiophene	1.763	1.503	1.413	1.471	1.487	1.495	1.522	8.03
17)	un	C1-Benzothioph...	1.763	1.503	1.413	1.471	1.487	1.495	1.522	8.03
18)	un	C2-Benzothioph...	1.763	1.503	1.413	1.471	1.487	1.495	1.522	8.03
19)	un	C3-Benzothioph...	1.763	1.503	1.413	1.471	1.487	1.495	1.522	8.03
20)	un	C4-Benzothioph...	1.763	1.503	1.413	1.471	1.487	1.495	1.522	8.03
21)	S	Acenaphthene-d10	1.172	0.969	0.897	0.946	0.963	0.986	0.989	9.59
22)	T	Biphenyl	1.897	1.628	1.511	1.582	1.598	1.633	1.641	8.07
23)	T	Acenaphthylene	2.114	1.738	1.606	1.693	1.763	1.953	1.811	10.36
24)	T	Acenaphthene	1.241	1.028	0.963	1.026	1.047	1.062	1.061	8.87
25)	T	Dibenzofuran	2.072	1.719	1.604	1.684	1.709	1.778	1.761	9.22
26)	T	Fluorene	1.650	1.369	1.255	1.342	1.365	1.416	1.400	9.55
27)	T	1-Methylfluorene	1.033	0.829	0.767	0.817	0.849	0.936	0.872	11.04
28)	un	C1-Fluorenes	1.650	1.369	1.255	1.342	1.365	1.416	1.400	9.55
29)	un	C2-Fluorenes	1.650	1.369	1.255	1.342	1.365	1.416	1.400	9.55
30)	un	C3-Fluorenes	1.650	1.369	1.255	1.342	1.365	1.416	1.400	9.55
31)	I	Pyrene-d10	----------ISTD----------							
32)	S	Phenanthrene-d10	0.960	0.815	0.748	0.800	0.816	0.904	0.841	9.19
33)	T	Carbazole	0.848	0.710	0.645	0.688	0.727	0.867	0.747	11.99
34)	T	Dibenzothiophene	0.980	0.859	0.799	0.849	0.868	0.923	0.880	7.19
35)	T	4-Methyldibenz...	0.854	0.760	0.704	0.769	0.794	0.834	0.786	6.91
36)	un	2/3-Methyldibe...	0.854	0.760	0.704	0.769	0.794	0.834	0.786	6.91
37)	un	1-Methyldibenz...	0.854	0.760	0.704	0.769	0.794	0.834	0.786	6.91
38)	un	C2-Dibenzothio...	0.980	0.859	0.799	0.849	0.868	0.923	0.880	7.19
39)	un	C3-Dibenzothio...	0.980	0.859	0.799	0.849	0.868	0.923	0.880	7.19
40)	un	C4-Dibenzothio...	0.980	0.859	0.799	0.849	0.868	0.923	0.880	7.19
41)	T	Phenanthrene	1.236	1.085	1.014	1.087	1.107	1.220	1.125	7.66
42)	T	Anthracene	1.048	0.958	0.910	1.003	1.044	1.194	1.026	9.53
43)	un	3-Methylphenan...	0.852	0.769	0.716	0.784	0.814	0.817	0.792	5.94
44)	un	2-Methylphenan...	0.852	0.769	0.716	0.784	0.814	0.817	0.792	5.94
45)	un	2-Methylanthra...	0.852	0.769	0.716	0.784	0.814	0.817	0.792	5.94
46)	un	4/9-Methylphen...	0.852	0.769	0.716	0.784	0.814	0.817	0.792	5.94
47)	T	1-Methylphenan...	0.852	0.769	0.716	0.784	0.814	0.817	0.792	5.94
48)	T	3,6-Dimethylph...	0.688	0.603	0.552	0.600	0.633	0.649	0.621	7.52
49)	T	Retene	0.303	0.255	0.231	0.251	0.264	0.304	0.268	11.11
50)	un	C2-Phenanthren...	1.236	1.085	1.014	1.087	1.107	1.220	1.125	7.66
51)	un	C3-Phenanthren...	1.236	1.085	1.014	1.087	1.107	1.220	1.125	7.66
52)	un	C4-Phenanthren...	1.236	1.085	1.014	1.087	1.107	1.220	1.125	7.66
53)	T	Naphthobenzoth...	1.413	1.211	1.122	1.221	1.324	1.378	1.278	8.75

Method Path : C:\GCMS7\MS70054\
Method File : AR70054.M
Title : PAH Calibration Table-2013A

54)	un	C1-Naphthobenz...	1.413	1.211	1.122	1.221	1.324	1.378	1.278	8.75
55)	un	C2-Naphthobenz...	1.413	1.211	1.122	1.221	1.324	1.378	1.278	8.75
56)	un	C3-Naphthobenz...	1.413	1.211	1.122	1.221	1.324	1.378	1.278	8.75
57)	un	C4-Naphthobenz...	1.413	1.211	1.122	1.221	1.324	1.378	1.278	8.75
58)	T	Fluoranthene	1.224	1.084	0.998	1.090	1.126	1.129	1.109	6.66
59)	T	Pyrene	1.426	1.199	1.092	1.161	1.193	1.355	1.238	10.23
60)	T	2-Methylfluora...	0.750	0.634	0.574	0.616	0.638	0.772	0.664	11.84
61)	T	Benzo(b)fluorene	0.727	0.626	0.558	0.619	0.666	0.702	0.650	9.46
62)	un	C1-Fluoranthen...	1.224	1.084	0.998	1.090	1.126	1.129	1.109	6.66
63)	un	C2-Fluoranthen...	1.224	1.084	0.998	1.090	1.126	1.129	1.109	6.66
64)	un	C3-Fluoranthen...	1.224	1.084	0.998	1.090	1.126	1.129	1.109	6.66
65)	un	C4-Fluoranthen...	1.224	1.084	0.998	1.090	1.126	1.129	1.109	6.66
66)	S	Chrysene-d12	1.263	1.146	1.071	1.175	1.258	1.120	1.172	6.50
67)	T	Benz(a)anthracene	1.363	1.135	1.033	1.143	1.237	1.309	1.203	10.19
68)	T	Chrysene/Triph...	1.380	1.268	1.176	1.284	1.399	1.159	1.278	7.79
69)	un	C1-Chrysenes	1.380	1.268	1.176	1.284	1.399	1.159	1.278	7.79
70)	un	C2-Chrysenes	1.380	1.268	1.176	1.284	1.399	1.159	1.278	7.79
71)	un	C3-Chrysenes	1.380	1.268	1.176	1.284	1.399	1.159	1.278	7.79
72)	un	C4-Chrysenes	1.380	1.268	1.176	1.284	1.399	1.159	1.278	7.79
73)	I	Benzo(a)pyrene-d12	----------ISTD----------							
74)	un	C29-Hopane	0.557	0.469	0.419	0.446	0.441	0.440	0.462	10.67
75)	un	18a-Oleanane	0.557	0.469	0.419	0.446	0.441	0.440	0.462	10.67
76)	T	C30-Hopane	0.557	0.469	0.419	0.446	0.441	0.440	0.462	10.67
77)	T	Benzo(b)fluora...	1.760	1.484	1.409	1.491	1.544	1.401	1.515	8.68
78)	T	Benzo(k,j)fluo...	1.631	1.388	1.288	1.380	1.444	1.287	1.403	9.09
79)	un	Benzo(a)fluora...	1.631	1.388	1.288	1.380	1.444	1.287	1.403	9.09
80)	T	Benzo(e)pyrene	1.776	1.494	1.402	1.469	1.507	1.343	1.498	9.98
81)	T	Benzo(a)pyrene	1.568	1.360	1.277	1.367	1.452	1.478	1.417	7.27
82)	T	Indeno(1,2,3-c...	1.629	1.346	1.264	1.371	1.459	1.545	1.436	9.41
83)	T	Dibenzo(a,h)an...	1.285	1.082	1.025	1.118	1.203	1.245	1.160	8.69
84)	un	C1-Dibenzo(a,h...	1.285	1.082	1.025	1.118	1.203	1.245	1.160	8.69
85)	un	C2-Dibenzo(a,h...	1.285	1.082	1.025	1.118	1.203	1.245	1.160	8.69
86)	un	C3-Dibenzo(a,h...	1.285	1.082	1.025	1.118	1.203	1.245	1.160	8.69
87)	T	Benzo(g,h,i)pe...	1.423	1.174	1.102	1.170	1.223	1.258	1.225	9.01
88)	S	Perylene-d12	1.494	1.150	1.071	1.122	1.187	1.264	1.215	12.46
89)	T	Perylene	1.639	1.350	1.300	1.387	1.492	1.469	1.439	8.42
90)	S	5(b)H-Cholane	0.255	0.203	0.188	0.195	0.196	0.206	0.207	11.78
91)	un	C20-TAS	1.941	1.570	1.393	1.408	1.454	1.525	1.549	13.16
92)	un	C21-TAS	1.941	1.570	1.393	1.408	1.454	1.525	1.549	13.16
93)	un	C26(20S)-TAS	1.941	1.570	1.393	1.408	1.454	1.525	1.549	13.16
94)	T	C26(20R)/C27(2...	1.941	1.570	1.393	1.408	1.454	1.525	1.549	13.16
95)	un	C28(20S)-TAS	1.941	1.570	1.393	1.408	1.454	1.525	1.549	13.16
96)	un	C27(20R)-TAS	1.941	1.570	1.393	1.408	1.454	1.525	1.549	13.16
97)	un	C28(20R)-TAS	1.941	1.570	1.393	1.408	1.454	1.525	1.549	13.16

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054B.D
Acq On : 10 Aug 2013 3:43 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 12 07:42:22 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Jul 09 09:34:31 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.455	176	368759m	251.05		0.00
31) Pyrene-d10	29.635	212	788477m	250.63		0.00
73) Benzo(a)pyrene-d12	38.386	264	650141m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.822	136	62811m	22.30		0.12
21) Acenaphthene-d10	19.672	164	34459m	23.87		0.00
32) Phenanthrene-d10	24.752	188	60483m	14.08		0.07
66) Chrysene-d12	33.809	240	79455m	28.16		-0.09
88) Perylene-d12	38.658	264	77605m	21.68		-0.04
90) 5(b)H-Cholane	34.235	217	13254m	16.09		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.176	138	11655m	23.64		
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	13.878	128	65692m	22.06		
9) 2-Methylnaphthalene	16.134	142	41290m	21.08		
10) 1-Methylnaphthalene	16.469	142	38016m	21.05		
11) 2,6-Dimethylnaphthalene	18.224	156	38078m	22.78		
12) 1,6,7-Trimethylnaphtha...	21.065	170	34789m	25.49		
13) C2-Naphthalenes	0.000		0	N.D.	d	
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.		
16) Benzothiophene	14.045	134	51469m	21.89		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.694	154	55214m	22.57		
23) Acenaphthylene	19.171	152	61620m	24.57		
24) Acenaphthene	19.784	154	36528m	24.12		
25) Dibenzofuran	20.369	168	60554m	22.66		
26) Fluorene	21.538	166	48573m	23.42		
27) 1-Methylfluorene	23.506	180	30570m	34.29		
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	25.583	167	52859m	13.19		
34) Dibenzothiophene	24.406	184	60818m	12.37		
35) 4-Methyldibenzothiophene	25.895	198	54203m	22.27		
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	24.822	178	77091m	18.05		
42) Anthracene	24.995	178	66167m	18.35		

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054B.D
Acq On : 10 Aug 2013 3:43 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 12 07:42:22 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Jul 09 09:34:31 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	26.934	192	53049m	20.56		
48) 3,6-Dimethylphenanthrene	28.007	206	43327m	15.66		
49) Retene	30.708	234	17044m	13.83		
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	32.955	234	89476m	33.88		
54) C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58) Fluoranthene	28.908	202	77106m	19.97		
59) Pyrene	29.704	202	89746m	16.76		
60) 2-Methylfluoranthene	30.466	216	47506m	16.66		
61) Benzo(b)fluorene	31.055	216	46145m	19.59		
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	33.770	228	85566m	36.56		
68) Chrysene/Triphenylene	33.886	228	86306m	25.53		
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	42.783	191	28942m	22.14		
77) Benzo(b)fluoranthene	37.300	252	91580m	25.29		
78) Benzo(k,j)fluoranthene	37.378	252	84385m	23.00		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.270	252	91899m	20.90		
81) Benzo(a)pyrene	38.464	252	81276m	22.99		
82) Indeno(1,2,3-c,d)pyrene	43.152	276	83170m	22.53		
83) Dibenzo(a,h)anthracene	43.225	278	66134m	21.31		
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87) Benzo(g,h,i)perylene	44.479	276	73231m	23.94		
89) Perylene	38.774	252	85196m	21.62		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.395	231	100813m	22.86		
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.		

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054B.D
Acq On : 10 Aug 2013 3:43 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 12 07:42:22 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Jul 09 09:34:31 2013
Response via : Initial Calibration

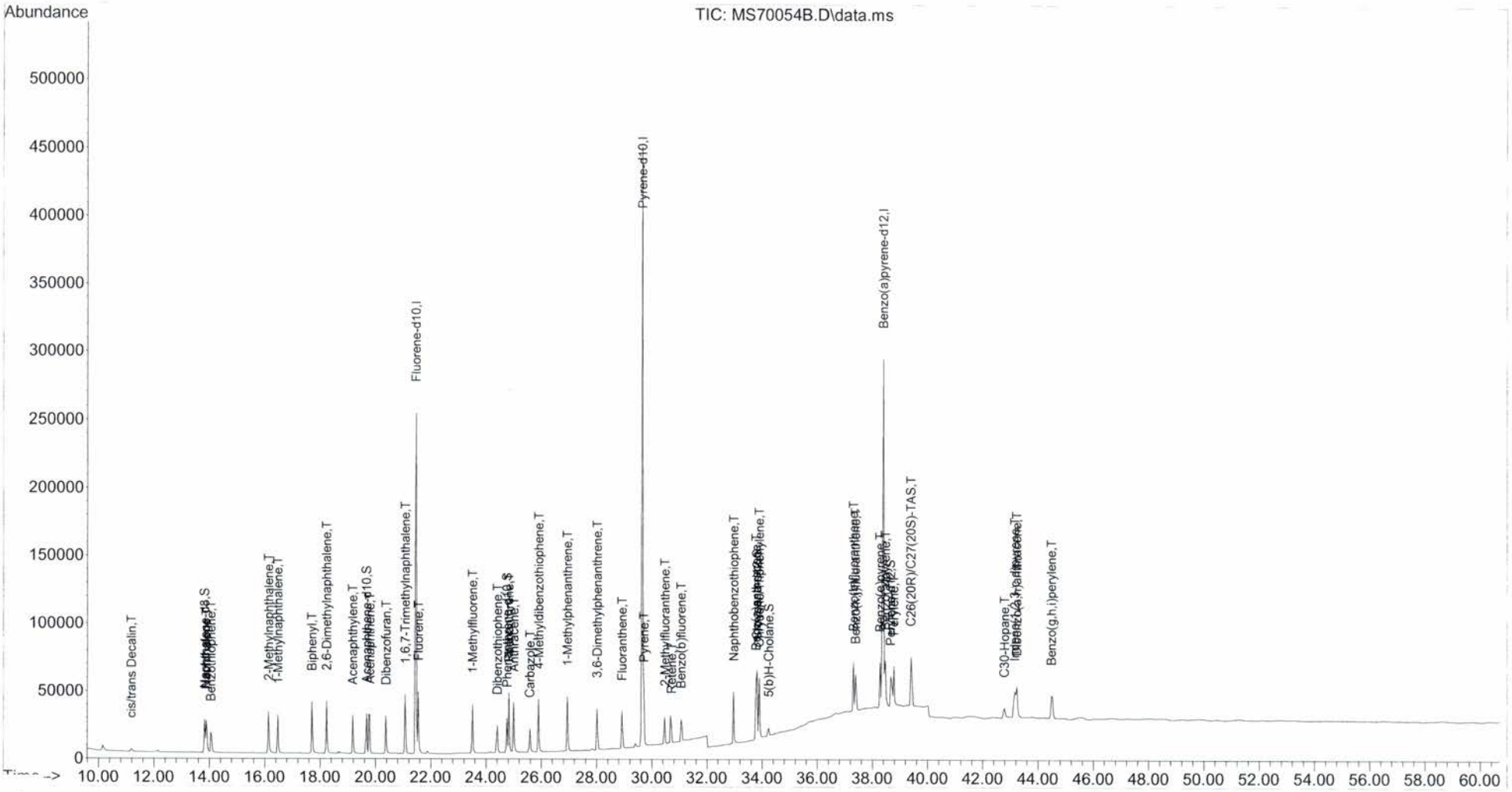
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054B.D
Acq On : 10 Aug 2013 3:43 pm
Operator : YM
Sample : AR-WKC1-020-030
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 12 07:42:22 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Tue Jul 09 09:34:31 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054C.D
Acq On : 10 Aug 2013 4:51 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 12 07:55:46 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 07:42:30 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.455	176	376109m	251.05		0.00
31) Pyrene-d10	29.635	212	761795m	250.63		0.00
73) Benzo(a)pyrene-d12	38.387	264	628248m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.822	136	266009m	100.11		0.00
21) Acenaphthene-d10	19.672	164	145238m	98.46		0.00
32) Phenanthrene-d10	24.752	188	247940m	97.80		0.00
66) Chrysene-d12	33.809	240	348285m	98.14		0.00
88) Perylene-d12	38.658	264	288641m	94.33		0.00
90) 5(b)H-Cholane	34.236	217	50857m	97.27		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.176	138	49212m	127.12		
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	13.878	128	285345m	98.65		
9) 2-Methylnaphthalene	16.134	142	175298m	98.01		
10) 1-Methylnaphthalene	16.469	142	166007m	100.26		
11) 2,6-Dimethylnaphthalene	18.224	156	162562m	97.88		
12) 1,6,7-Trimethylnaphtha...	21.065	170	148265m	98.25		
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	14.045	134	223771m	98.29		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.694	154	241762m	98.06		
23) Acenaphthylene	19.171	152	258233m	94.70		
24) Acenaphthene	19.756	154	154392m	96.97		
25) Dibenzofuran	20.369	168	256259m	97.35		
26) Fluorene	21.539	166	205550m	98.34		
27) 1-Methylfluorene	23.506	180	125203m	95.67		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.583	167	213738m	93.89		
34) Dibenzothiophene	24.406	184	257327m	97.05		
35) 4-Methyldibenzothiophene	25.895	198	232946m	98.32		
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	24.822	178	326895m	97.35		
42) Anthracene	24.995	178	291961m	95.37		

Data Path : C:\GCMS7\MS70054\
Data File : MS70054C.D
Acq On : 10 Aug 2013 4:51 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 12 07:55:46 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 07:42:30 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	26.934	192	231239m	96.35		
48) 3,6-Dimethylphenanthrene	28.007	206	183637m	98.00		
49) Retene	30.708	234	69347m	85.86		
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	32.955	234	370368m	95.72		
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	28.908	202	329955m	98.48		
59) Pyrene	29.704	202	364479m	97.71		
60) 2-Methylfluoranthene	30.466	216	193933m	97.10		
61) Benzo(b)fluorene	31.055	216	192032m	97.66		
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67) Benz(a)anthracene	33.770	228	344172m	96.86		
68) Chrysene/Triphenylene	33.886	228	383243m	101.98		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.	d	
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.783	191	117766m	463.05		
77) Benzo(b)fluoranthene	37.300	252	373076m	54.89		
78) Benzo(k,j)fluoranthene	37.378	252	346844m	51.16		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.270	252	373429m	99.73		
81) Benzo(a)pyrene	38.464	252	340681m	96.21		
82) Indeno(1,2,3-c,d)pyrene	43.152	276	332058m	90.44		
83) Dibenzo(a,h)anthracene	43.226	278	269173m	90.30		
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	44.479	276	291933m	93.31		
89) Perylene	38.775	252	339272m	93.82		
91) C20-TAS	0.000		0	N.D.	d	
92) C21-TAS	0.000		0	N.D.	d	
93) C26(20S)-TAS	0.000		0	N.D.	d	
94) C26(20R)/C27(20S)-TAS	39.395	231	394015m	100.53		
95) C28(20S)-TAS	0.000		0	N.D.	d	
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054C.D
Acq On : 10 Aug 2013 4:51 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 12 07:55:46 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 07:42:30 2013
Response via : Initial Calibration

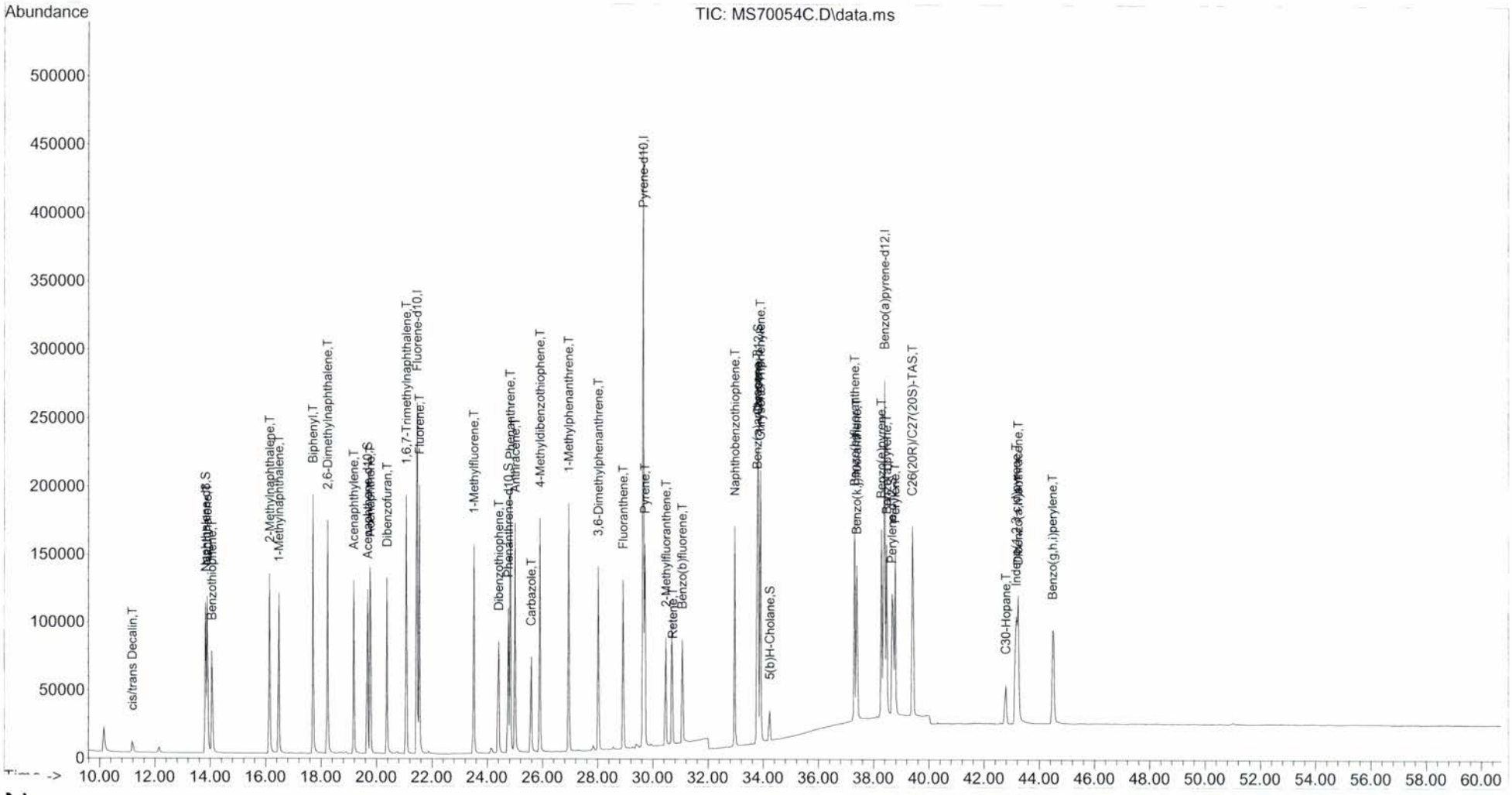
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054C.D
Acq On : 10 Aug 2013 4:51 pm
Operator : YM
Sample : AR-WKC2-100-030
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 12 07:55:46 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 07:42:30 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054D.D
Acq On : 10 Aug 2013 6:00 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 12 08:03:16 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 07:55:53 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.455	176	376939m	251.05		0.00
31) Pyrene-d10	29.635	212	762351m	250.63		0.00
73) Benzo(a)pyrene-d12	38.386	264	598092m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.822	136	615033m	230.22		0.00
21) Acenaphthene-d10	19.672	164	336982m	227.54		0.00
32) Phenanthrene-d10	24.752	188	569358m	223.55		0.00
66) Chrysene-d12	33.809	240	814913m	228.29		0.00
88) Perylene-d12	38.658	264	639778m	218.89		0.00
90) 5(b)H-Cholane	34.235	217	112193m	225.57		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.176	138	110072m	233.74		
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	13.878	128	672722m	232.27		
9) 2-Methylnaphthalene	16.134	142	407847m	227.62		
10) 1-Methylnaphthalene	16.468	142	383992m	230.78		
11) 2,6-Dimethylnaphthalene	18.223	156	376256m	225.99		
12) 1,6,7-Trimethylnaphtha...	21.065	170	343942m	227.09		
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	14.045	134	527130m	230.76		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.694	154	562038m	227.57		
23) Acenaphthylene	19.171	152	597833m	218.91		
24) Acenaphthene	19.756	154	362313m	227.20		
25) Dibenzofuran	20.368	168	599087m	226.85		
26) Fluorene	21.538	166	472030m	224.91		
27) 1-Methylfluorene	23.506	180	290100m	221.36		
28) C1-Fluorenes	0.000		0	N.D.	d	
29) C2-Fluorenes	0.000		0	N.D.	d	
30) C3-Fluorenes	0.000		0	N.D.	d	
33) Carbazole	25.583	167	486434m	212.98		
34) Dibenzothiophene	24.406	184	599155m	224.71		
35) 4-Methyldibenzothiophene	25.895	198	539745m	226.43		
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	24.821	178	764175m	225.49		
42) Anthracene	24.995	178	693785m	224.72		

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054D.D
Acq On : 10 Aug 2013 6:00 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 12 08:03:16 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 07:55:53 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	26.934	192	538782m	223.35		
48) 3,6-Dimethylphenanthrene	28.007	206	420152m	223.03		
49) Retene	30.708	234	156637m	192.73		
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	32.955	234	858367m	220.75		
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	28.908	202	759650m	225.39		
59) Pyrene	29.704	202	830180m	221.23		
60) 2-Methylfluoranthene	30.466	216	439452m	218.55		
61) Benzo(b)fluorene	31.054	216	427940m	216.49		
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	33.770	228	783618m	217.90		
68) Chrysene/Triphenylene	33.886	228	889024m	233.31		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.D.	d	
71) C3-Chrysenes	0.000		0	N.D.	d	
72) C4-Chrysenes	0.000		0	N.D.	d	
74) C29-Hopane	0.000		0	N.D.		
75) 18a-Oleanane	0.000		0	N.D.	d	
76) C30-Hopane	42.783	191	250125m	590.11		
77) Benzo(b)fluoranthene	37.300	252	843153m	142.77		
78) Benzo(k,j)fluoranthene	37.378	252	766079m	131.09		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.270	252	834233m	233.07		
81) Benzo(a)pyrene	38.464	252	761193m	224.93		
82) Indeno(1,2,3-c,d)pyrene	43.152	276	742424m	213.05		
83) Dibenzo(a,h)anthracene	43.225	278	606566m	214.34		
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	44.479	276	652235m	219.52		
89) Perylene	38.774	252	777250m	225.53		
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	39.395	231	832175m	223.12		
95) C28(20S)-TAS	0.000		0	N.D.		
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054D.D
Acq On : 10 Aug 2013 6:00 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 12 08:03:16 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 07:55:53 2013
Response via : Initial Calibration

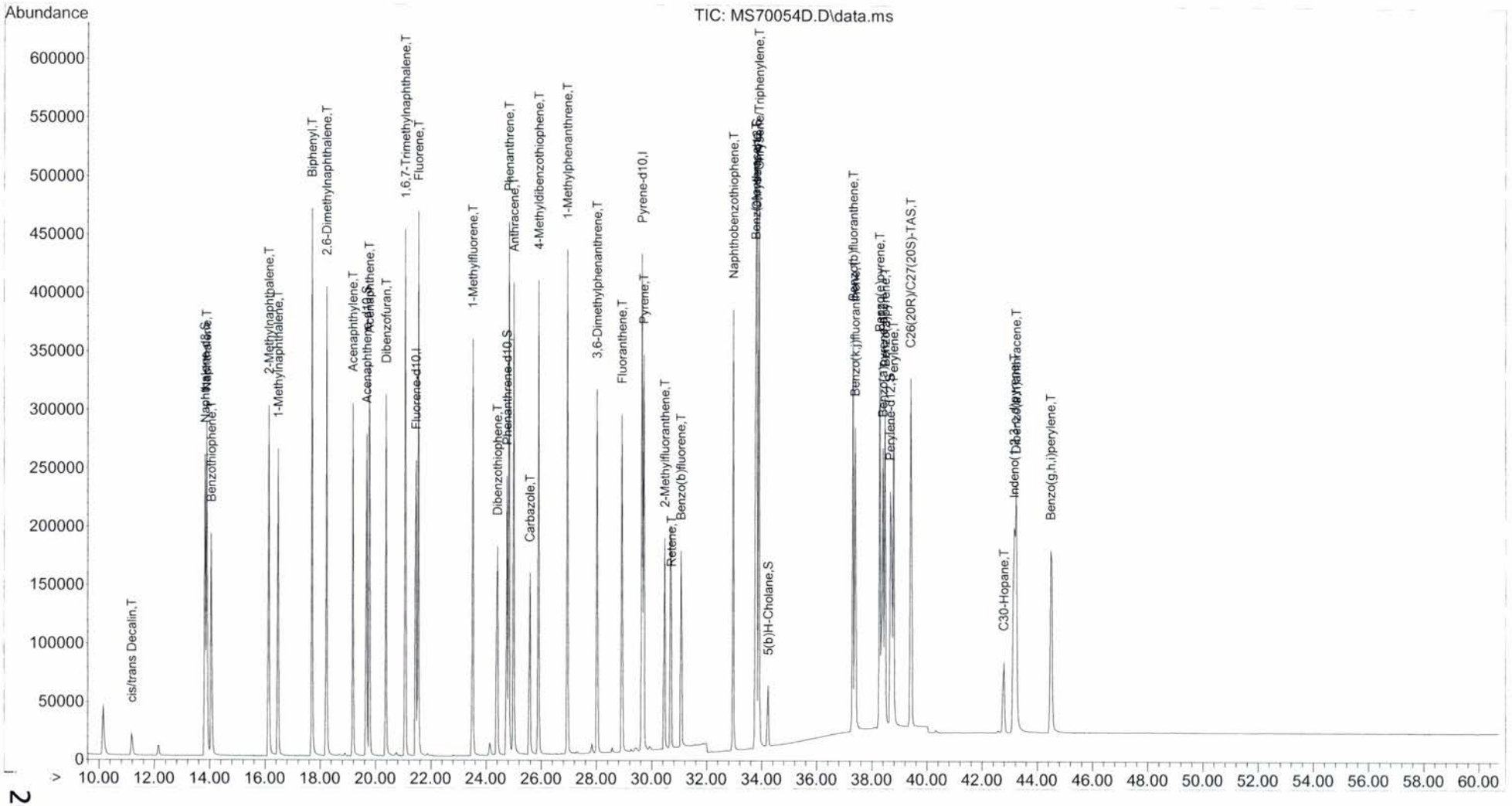
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054D.D
Acq On : 10 Aug 2013 6:00 pm
Operator : YM
Sample : AR-WKC3-250-030
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 12 08:03:16 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 07:55:53 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054E.D
Acq On : 10 Aug 2013 7:08 pm
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 12 08:09:12 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:03:22 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.455	176	380459m	251.05		0.00
31) Pyrene-d10	29.635	212	760445m	250.63		0.00
73) Benzo(a)pyrene-d12	38.386	264	601041m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.822	136	1293196m	478.98		0.00
21) Acenaphthene-d10	19.672	164	717114m	479.49		0.00
32) Phenanthrene-d10	24.752	188	1214748m	478.24		0.00
66) Chrysene-d12	33.809	240	1783414m	500.49		0.00
88) Perylene-d12	38.697	264	1347434m	457.91		0.04
90) 5(b)H-Cholane	34.235	217	234153m	467.91		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.176	138	223719m	468.94		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.878	128	1402176m	479.65		
9) 2-Methylnaphthalene	16.134	142	860751m	476.17		
10) 1-Methylnaphthalene	16.469	142	809775m	481.54		
11) 2,6-Dimethylnaphthalene	18.224	156	804057m	478.83		
12) 1,6,7-Trimethylnaphtha...	21.065	170	732249m	478.76		
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	14.045	134	1107929m	480.37		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.694	154	1187752m	476.87		
23) Acenaphthylene	19.171	152	1272875m	462.31		
24) Acenaphthene	19.756	154	779352m	484.56		
25) Dibenzofuran	20.368	168	1269387m	475.99		
26) Fluorene	21.538	166	1019016m	481.12		
27) 1-Methylfluorene	23.506	180	623678m	471.88		
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	25.583	167	1033754m	454.59		
34) Dibenzothiophene	24.406	184	1270626m	477.05		
35) 4-Methyldibenzothiophene	25.895	198	1176164m	494.49		
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	24.822	178	1633925m	481.81		
42) Anthracene	24.995	178	1526941m	494.11		

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054E.D
Acq On : 10 Aug 2013 7:08 pm
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 12 08:09:12 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:03:22 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	26.934	192	1176075m	488.45		
48)	3,6-Dimethylphenanthrene	28.007	206	911274m	484.51		
49)	Retene	30.708	234	339806m	418.79		
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51)	C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52)	C4-Phenanthrenes/Anthr...	0.000		0	N.D.		
53)	Naphthobenzothiophene	32.955	234	1864318m	480.56		
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	28.908	202	1655061m	491.96		
59)	Pyrene	29.704	202	1760976m	470.07		
60)	2-Methylfluoranthene	30.466	216	941734m	468.85		
61)	Benzo(b)fluorene	31.055	216	947978m	480.76		
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	33.770	228	1729826m	479.50		
68)	Chrysene/Triphenylene	33.886	228	1936574m	506.61		
69)	C1-Chrysenes	0.000		0	N.D.	d	
70)	C2-Chrysenes	0.000		0	N.D.	d	
71)	C3-Chrysenes	0.000		0	N.D.	d	
72)	C4-Chrysenes	0.000		0	N.D.	d	
74)	C29-Hopane	0.000		0	N.D.	d	
75)	18a-Oleanane	0.000		0	N.D.	d	
76)	C30-Hopane	42.783	191	535512m	908.93		
77)	Benzo(b)fluoranthene	37.300	252	1793467m	332.03		
78)	Benzo(k,j)fluoranthene	37.378	252	1650461m	312.31		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.270	252	1755978m	487.11		
81)	Benzo(a)pyrene	38.464	252	1637337m	480.68		
82)	Indeno(1,2,3-c,d)pyrene	43.152	276	1617347m	462.90		
83)	Dibenzo(a,h)anthracene	43.225	278	1329918m	469.14		
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	44.516	276	1392243m	466.98		
89)	Perylene	38.774	252	1666248m	479.60		
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	39.395	231	1690418m	451.14		
95)	C28(20S)-TAS	0.000		0	N.D.		
96)	C27(20R)-TAS	0.000		0	N.D.	d	
97)	C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054E.D
Acq On : 10 Aug 2013 7:08 pm
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 12 08:09:12 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:03:22 2013
Response via : Initial Calibration

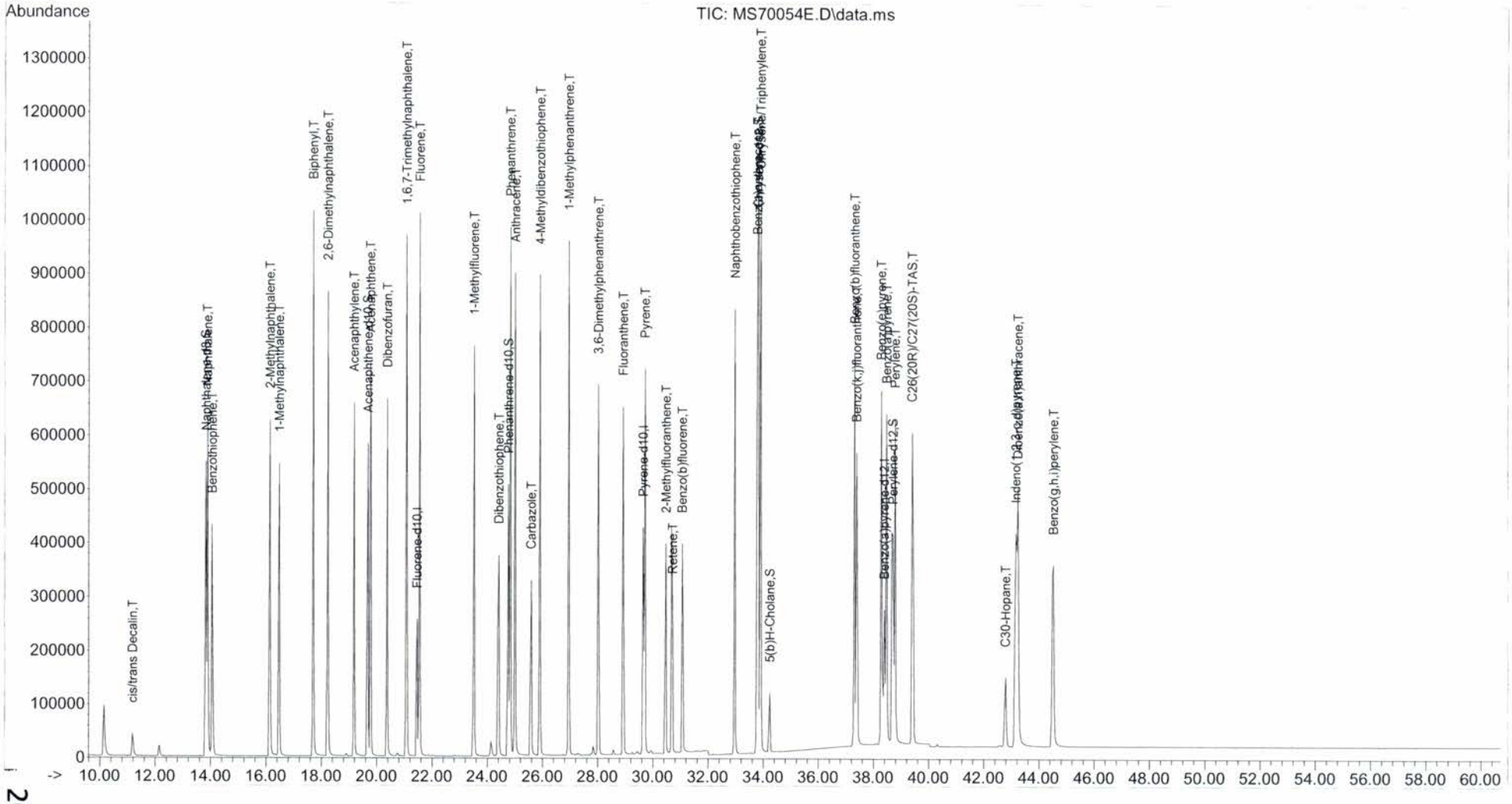
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054E.D
Acq On : 10 Aug 2013 7:08 pm
Operator : YM
Sample : AR-WKC4-500-030
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 12 08:09:12 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:03:22 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054F.D
Acq On : 10 Aug 2013 8:17 pm
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 12 08:13:15 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:09:22 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.455	176	371044m	251.05		0.00
31) Pyrene-d10	29.635	212	742572m	250.63		0.00
73) Benzo(a)pyrene-d12	38.386	264	603535m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.822	136	2549923m	967.27		0.00
21) Acenaphthene-d10	19.672	164	1424014m	975.37		0.00
32) Phenanthrene-d10	24.752	188	2420734m	974.52		0.00
66) Chrysene-d12	33.809	240	3727509m	1070.85		0.00
88) Perylene-d12	38.697	264	2862981m	968.18		0.00
90) 5(b)H-Cholane	34.235	217	471779m	938.24		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.176	138	439827m	941.92		
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	13.878	128	2777501m	975.32		
9) 2-Methylnaphthalene	16.134	142	1711970m	972.30		
10) 1-Methylnaphthalene	16.468	142	1593899m	970.79		
11) 2,6-Dimethylnaphthalene	18.223	156	1590295m	971.45		
12) 1,6,7-Trimethylnaphtha...	21.065	170	1457021m	976.31		
13) C2-Naphthalenes	0.000		0	N.D.		
14) C3-Naphthalenes	0.000		0	N.D.	d	
15) C4-Naphthalenes	0.000		0	N.D.		
16) Benzothiophene	14.045	134	2184306m	970.95		
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	17.694	154	2340225m	963.74		
23) Acenaphthylene	19.171	152	2585504m	963.79		
24) Acenaphthene	19.756	154	1550497m	988.14		
25) Dibenzofuran	20.368	168	2513909m	965.99		
26) Fluorene	21.538	166	2020987m	977.60		
27) 1-Methylfluorene	23.506	180	1264223m	981.19		
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	25.583	167	2135126m	963.81		
34) Dibenzothiophene	24.406	184	2536762m	974.97		
35) 4-Methyldibenzothiophene	25.895	198	2371099m	1020.35		
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	24.821	178	3250276m	979.15		
42) Anthracene	24.995	178	3103884m	1025.12		

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054F.D
Acq On : 10 Aug 2013 8:17 pm
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 12 08:13:15 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:09:22 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	26.934	192	2383981m	1013.58		
48) 3,6-Dimethylphenanthrene	28.007	206	1877646m	1021.85		
49) Retene	30.708	234	700111m	883.05		
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	32.955	234	3948213m	1042.17		
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	28.908	202	3339710m	1016.36		
59) Pyrene	29.704	202	3533987m	965.66		
60) 2-Methylfluoranthene	30.466	216	1904414m	969.95		
61) Benzo(b)fluorene	31.054	216	1990295m	1033.83		
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	33.770	228	3659055m	1033.34		
68) Chrysene/Triphenylene	33.886	228	4119749m	1097.89		
69) C1-Chrysenes	0.000		0		N.D.	d
70) C2-Chrysenes	0.000		0		N.D.	d
71) C3-Chrysenes	0.000		0		N.D.	d
72) C4-Chrysenes	0.000		0		N.D.	d
74) C29-Hopane	0.000		0		N.D.	d
75) 18a-Oleanane	0.000		0		N.D.	d
76) C30-Hopane	42.783	191	1063542m	1386.31		
77) Benzo(b)fluoranthene	37.300	252	3729972m	767.65		
78) Benzo(k,j)fluoranthene	37.378	252	3468427m	739.53		
79) Benzo(a)fluoranthene	0.000		0		N.D.	d
80) Benzo(e)pyrene	38.270	252	3619775m	997.74		
81) Benzo(a)pyrene	38.464	252	3492835m	1019.37		
82) Indeno(1,2,3-c,d)pyrene	43.152	276	3457221m	987.30		
83) Dibenzo(a,h)anthracene	43.225	278	2874186m	1012.51		
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	44.516	276	2922719m	978.16		
89) Perylene	38.774	252	3601383m	1031.32		
91) C20-TAS	0.000		0		N.D.	d
92) C21-TAS	0.000		0		N.D.	d
93) C26(20S)-TAS	0.000		0		N.D.	d
94) C26(20R)/C27(20S)-TAS	39.395	231	3506323m	931.92		
95) C28(20S)-TAS	0.000		0		N.D.	
96) C27(20R)-TAS	0.000		0		N.D.	d
97) C28(20R)-TAS	0.000		0		N.D.	d

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054F.D
Acq On : 10 Aug 2013 8:17 pm
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 12 08:13:15 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:09:22 2013
Response via : Initial Calibration

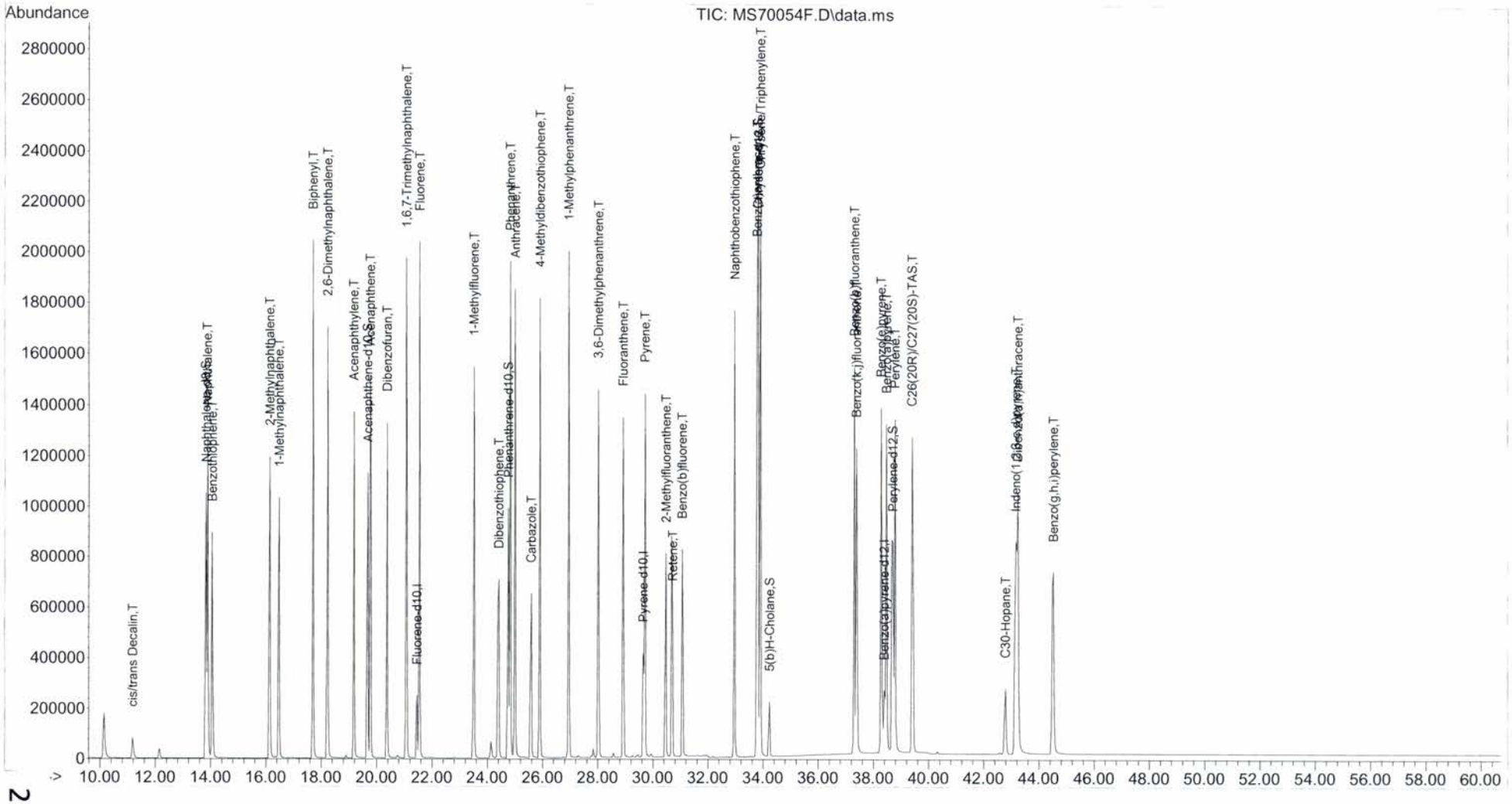
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054F.D
Acq On : 10 Aug 2013 8:17 pm
Operator : YM
Sample : AR-WKC5-1000-030
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 12 08:13:15 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:09:22 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054G.D
Acq On : 10 Aug 2013 9:25 pm
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 12 08:18:38 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:13:24 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.455	176	373668m	251.05		0.00
31) Pyrene-d10	29.635	212	737567m	250.63		0.00
73) Benzo(a)pyrene-d12	38.387	264	647755m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.822	136	12933164m	4865.55		0.00
21) Acenaphthene-d10	19.672	164	7342137m	4990.00		0.00
32) Phenanthrene-d10	24.752	188	13314328m	5387.86		0.00
66) Chrysene-d12	33.809	240	16487985m	4780.96		0.00
88) Perylene-d12	38.697	264	16349986m	5165.28		0.00
90) 5(b)H-Cholane	34.235	217	2669121m	4951.32		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.176	138	2196612m	4630.32		
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	13.878	128	14084950m	4913.34		
9) 2-Methylnaphthalene	16.134	142	8885214m	5013.90		
10) 1-Methylnaphthalene	16.469	142	8122857m	4910.24		
11) 2,6-Dimethylnaphthalene	18.224	156	8319677m	5050.67		
12) 1,6,7-Trimethylnaphtha...	21.065	170	7552134m	5028.01		
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	14.045	134	11060102m	4882.69		
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	17.694	154	12041954m	4928.13		
23) Acenaphthylene	19.171	152	14416260m	5344.15		
24) Acenaphthene	19.756	154	7918147m	5012.13		
25) Dibenzofuran	20.369	168	13169363m	5024.74		
26) Fluorene	21.539	166	10559434m	5070.18		
27) 1-Methylfluorene	23.506	180	7014683m	5406.13		
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	25.583	167	12642660m	5753.58		
34) Dibenzothiophene	24.406	184	13396680m	5179.91		
35) 4-Methyldibenzothiophene	25.895	198	12377522m	5358.14		
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	24.822	178	17794823m	5385.07		
42) Anthracene	24.995	178	17621812m	5847.65		

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054G.D
Acq On : 10 Aug 2013 9:25 pm
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 12 08:18:38 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:13:24 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	26.934	192	11894770m	5101.75		
48) 3,6-Dimethylphenanthrene	28.007	206	9555642m	5233.82		
49) Retene	30.708	234	4001551m	5076.99		
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	32.955	234	20402347m	5419.57		
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	28.908	202	16627602m	5099.23		
59) Pyrene	29.704	202	19944956m	5483.32		
60) 2-Methylfluoranthene	30.466	216	11431380m	5857.36		
61) Benzo(b)fluorene	31.055	216	10421062m	5452.89		
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	33.770	228	19215573m	5434.97		
68) Chrysene/Triphenylene	33.886	228	16958164m	4524.29		
69) C1-Chrysenes	0.000		0	N.D.	d	
70) C2-Chrysenes	0.000		0	N.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	42.783	191	5692042m	5637.19		
77) Benzo(b)fluoranthene	37.300	252	18161529m	3984.43		
78) Benzo(k,j)fluoranthene	37.417	252	16580286m	3832.78		
79) Benzo(a)fluoranthene	0.000		0	N.D.	d	
80) Benzo(e)pyrene	38.270	252	17301011m	4442.62		
81) Benzo(a)pyrene	38.464	252	19086721m	5182.99		
82) Indeno(1,2,3-c,d)pyrene	43.152	276	19644441m	5245.61		
83) Dibenzo(a,h)anthracene	43.226	278	15962968m	5264.08		
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	44.516	276	16134883m	5049.99		
89) Perylene	38.774	252	19024105m	5076.13		
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	39.395	231	19732874m	4894.70		
95) C28(20S)-TAS	0.000		0	N.D.		
96) C27(20R)-TAS	0.000		0	N.D.	d	
97) C28(20R)-TAS	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054G.D
Acq On : 10 Aug 2013 9:25 pm
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 12 08:18:38 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:13:24 2013
Response via : Initial Calibration

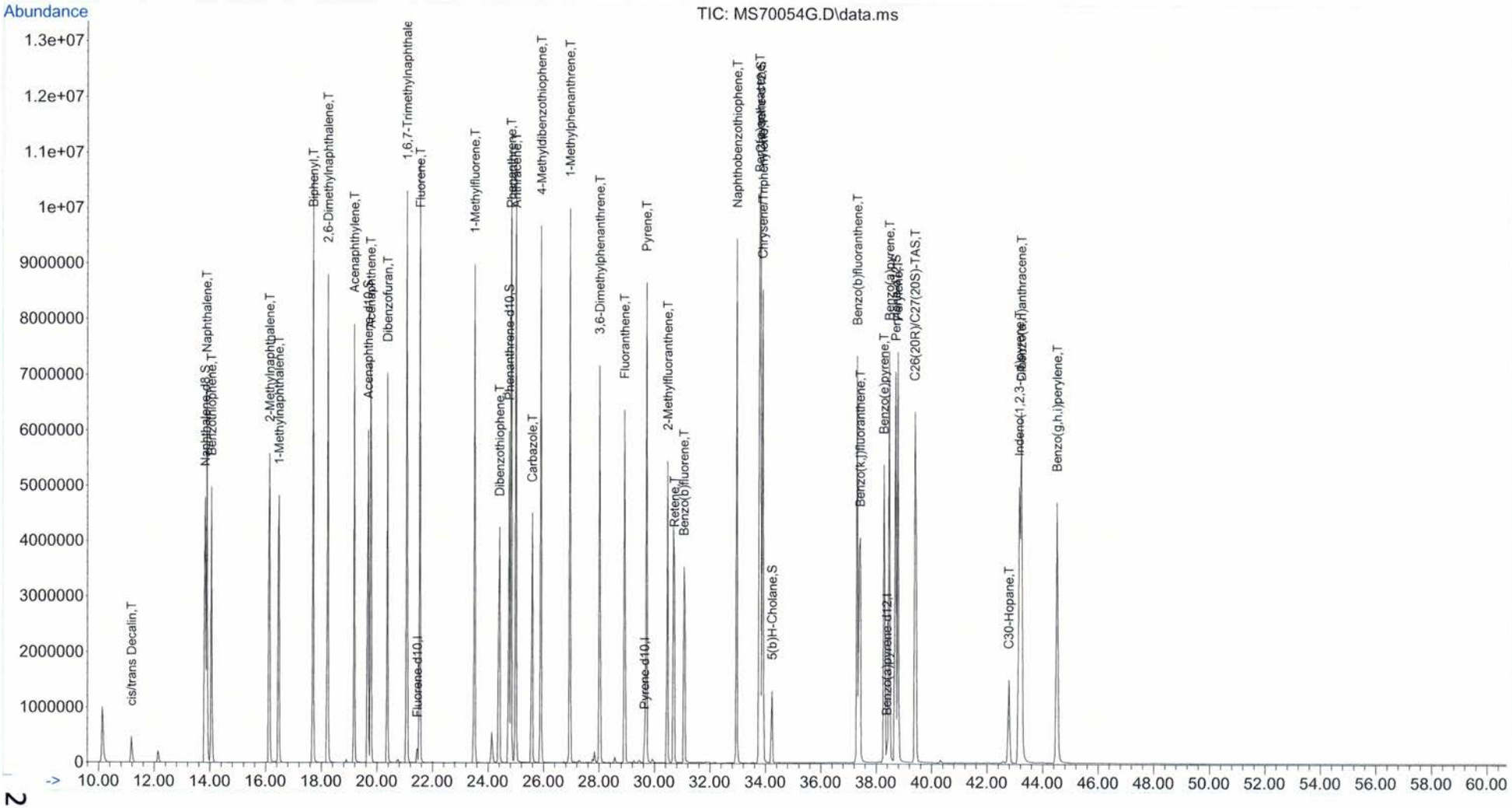
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054G.D
Acq On : 10 Aug 2013 9:25 pm
Operator : YM
Sample : AR-WKC6-5000-030
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 12 08:18:38 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:13:24 2013
Response via : Initial Calibration



B&B Laboratories
Project J13034
Report 13-3090

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Mass Discrimination Sheet

Client Project #B0086003.1301/1302

File Name	Sample Name	Benzo(g,h,i)perylene Concentration (ng/mL)	Phenanthrene Concentration (ng/mL)	Benzo(g,h,i)perylene/ Phenanthrene ratio	Q
MS70052I.D	AR-WKICV-250-003	273	293	0.93	

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

Data Path : C:\GCMS7\MS70054\
Data File : MS70054I.D
Acq On : 10 Aug 2013 11:42 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 12 20:54:54 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 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	106	0.00
2	S	Naphthalene-d8	1.786	1.629	8.8	106	0.00
3	T	cis/trans Decalin	0.321	0.347	-8.1	124	0.00
4	un	C1-Decalins	0.321	0.000	100.0#	0#	-11.98#
5	un	C2-Decalins	0.321	0.000	100.0#	0#	-13.46#
6	un	C3-Decalins	0.321	0.000	100.0#	0#	-15.83#
7	un	C4-Decalins	0.321	0.000	100.0#	0#	-18.25#
8	T	Naphthalene	1.926	2.154	-11.8	127	0.00
9	T	2-Methylnaphthalene	1.191	1.351	-13.4	132	0.00
10	T	1-Methylnaphthalene	1.112	1.268	-14.0	131	0.00
11	T	2,6-Dimethylnaphthalene	1.106	1.198	-8.3	127	0.00
12	T	1,6,7-Trimethylnaphthalene	1.010	1.110	-9.9	129	0.00
13	un	C2-Naphthalenes	1.926	0.000	100.0#	0#	-18.59#
14	un	C3-Naphthalenes	1.926	0.000	100.0#	0#	-20.37#
15	un	C4-Naphthalenes	1.926	0.000	100.0#	0#	-22.08#
16	T	Benzothiophene	1.522	1.728	-13.5	130	0.00
17	un	C1-Benzothiophenes	1.522	0.000	100.0#	0#	-15.49#
18	un	C2-Benzothiophenes	1.522	0.000	100.0#	0#	-18.25#
19	un	C3-Benzothiophenes	1.522	0.000	100.0#	0#	-20.31#
20	un	C4-Benzothiophenes	1.522	0.000	100.0#	0#	-22.01#
21	S	Acenaphthene-d10	0.989	0.883	10.7	104	0.00
22	T	Biphenyl	1.641	1.842	-12.2	129	0.00
23	T	Acenaphthylene	1.811	1.828	-0.9	121	0.00
24	T	Acenaphthene	1.061	1.192	-12.3	131	0.00
25	T	Dibenzofuran	1.761	1.973	-12.0	130	0.00
26	T	Fluorene	1.400	1.533	-9.5	130	0.00
27	T	1-Methylfluorene	0.872	0.000	100.0#	0#	-23.51#
28	un	C1-Fluorenes	1.400	0.000	100.0#	0#	-23.51#
29	un	C2-Fluorenes	1.400	0.000	100.0#	0#	-24.89#
30	un	C3-Fluorenes	1.400	0.000	100.0#	0#	-27.28#
31	I	Pyrene-d10	1.000	1.000	0.0	104	0.00
32	S	Phenanthrene-d10	0.841	0.750	10.8	104	0.00
33	T	Carbazole	0.747	0.705	5.6	114	0.00
34	T	Dibenzothiophene	0.880	0.992	-12.7	130	0.00
35	T	4-Methyldibenzothiophene	0.786	0.000	100.0#	0#	-25.90#
36	un	2/3-Methyldibenzothiophene	0.786	0.000	100.0#	0#	-26.16#
37	un	1-Methyldibenzothiophene	0.786	0.000	100.0#	0#	-26.52#
38	un	C2-Dibenzothiophenes	0.880	0.000	100.0#	0#	-28.04#
39	un	C3-Dibenzothiophenes	0.880	0.000	100.0#	0#	-28.80#
40	un	C4-Dibenzothiophenes	0.880	0.000	100.0#	0#	-30.88#
41	T	Phenanthrene	1.125	1.228	-9.2	126	0.00
42	T	Anthracene	1.026	1.067	-4.0	122	0.00
43	un	3-Methylphenanthrene	0.792	0.000	100.0#	0#	-26.73#
44	un	2-Methylphenanthrene	0.792	0.000	100.0#	0#	-26.73#
45	un	2-Methylanthracene	0.792	0.000	100.0#	0#	-26.73#
46	un	4/9-Methylphenanthrene	0.792	0.000	100.0#	0#	-26.93#

Data Path : C:\GCMS7\MS70054\
Data File : MS70054I.D
Acq On : 10 Aug 2013 11:42 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 12 20:54:54 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 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	0.792	0.885	-11.7	129	0.00
48	T	3,6-Dimethylphenanthrene	0.621	0.000	100.0#	0#	-28.01#
49	T	Retene	0.268	0.000	100.0#	0#	-30.71#
50	un	C2-Phenanthrenes/Anthracene	1.125	0.000	100.0#	0#	-28.56#
51	un	C3-Phenanthrenes/Anthracene	1.125	0.000	100.0#	0#	-29.43#
52	un	C4-Phenanthrenes/Anthracene	1.125	0.000	100.0#	0#	-31.99#
53	T	Naphthobenzothiophene	1.278	0.000	100.0#	0#	-32.96#
54	un	C1-Naphthobenzothiophenes	1.278	0.000	100.0#	0#	-34.24#
55	un	C2-Naphthobenzothiophenes	1.278	0.000	100.0#	0#	-35.71#
56	un	C3-Naphthobenzothiophenes	1.278	0.000	100.0#	0#	-36.91#
57	un	C4-Naphthobenzothiophenes	1.278	0.000	100.0#	0#	-38.00#
58	T	Fluoranthene	1.109	1.236	-11.5	129	0.00
59	T	Pyrene	1.238	1.328	-7.3	127	0.00
60	T	2-Methylfluoranthene	0.664	0.000	100.0#	0#	-30.47#
61	T	Benzo(b)fluorene	0.650	0.000	100.0#	0#	-31.05#
62	un	C1-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-30.67#
63	un	C2-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-32.18#
64	un	C3-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-33.81#
65	un	C4-Fluoranthenes/Pyrenes	1.109	0.000	100.0#	0#	-35.09#
66	S	Chrysene-d12	1.172	1.071	8.6	104	0.00
67	T	Benz(a)anthracene	1.203	1.216	-1.1	123	0.00
68	T	Chrysene/Triphenylene	1.278	1.483	-16.0	132	0.00
69	un	C1-Chrysenes	1.278	0.000	100.0#	0#	-35.59#
70	un	C2-Chrysenes	1.278	0.000	100.0#	0#	-36.91#
71	un	C3-Chrysenes	1.278	0.000	100.0#	0#	-38.08#
72	un	C4-Chrysenes	1.278	0.000	100.0#	0#	-39.74#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	97	0.00
74	un	C29-Hopane	0.462	0.000	100.0#	0#	-40.35#
75	un	18a-Oleanane	0.462	0.000	100.0#	0#	-42.05#
76	T	C30-Hopane	0.462	0.000	100.0#	0#	-42.78#
77	T	Benzo(b)fluoranthene	1.515	1.692	-11.7	117	0.00
78	T	Benzo(k,j)fluoranthene	1.403	1.668	-18.9	126	-0.04
79	un	Benzo(a)fluoranthene	1.403	0.000	100.0#	0#	-37.30#
80	T	Benzo(e)pyrene	1.498	1.717	-14.6	119	0.00
81	T	Benzo(a)pyrene	1.417	1.573	-11.0	120	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.436	1.543	-7.5	119	0.00
83	T	Dibenzo(a,h)anthracene	1.160	1.318	-13.6	125	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.160	0.000	100.0#	0#	-48.61#
85	un	C2-Dibenzo(a,h)anthracenes	1.160	0.000	100.0#	0#	-50.38#
86	un	C3-Dibenzo(a,h)anthracenes	1.160	0.000	100.0#	0#	-50.86#
87	T	Benzo(g,h,i)perylene	1.225	1.331	-8.7	117	-0.04
88	S	Perylene-d12	1.215	1.066	12.3	97	-0.04
89	T	Perylene	1.439	1.585	-10.1	118	0.00
90	S	5(b)H-Cholane	0.207	0.179	13.5	92	0.00
91	un	C20-TAS	1.549	0.000	100.0#	0#	-33.34#
92	un	C21-TAS	1.549	0.000	100.0#	0#	-34.24#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS7\MS70054\
Data File : MS70054I.D
Acq On : 10 Aug 2013 11:42 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 12 20:54:54 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 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	1.549	0.000	100.0#	0# -38.70#
94 T	C26(20R)/C27(20S)-TAS	1.549	0.000	100.0#	0# -39.40#
95 un	C28(20S)-TAS	1.549	0.000	100.0#	0# -39.94#
96 un	C27(20R)-TAS	1.549	0.000	100.0#	0# -40.68#
97 un	C28(20R)-TAS	1.549	0.000	100.0#	0# -41.82#

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054I.D
Acq On : 10 Aug 2013 11:42 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 12 20:54:54 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorene-d10	21.455	176	399943m	251.05		0.00
31) Pyrene-d10	29.635	212	795124m	250.63		0.00
73) Benzo(a)pyrene-d12	38.386	264	580846m	250.32		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.822	136	649254m	228.18		0.00
21) Acenaphthene-d10	19.672	164	351705m	223.27		0.00
32) Phenanthrene-d10	24.752	188	594966m	223.07		0.00
66) Chrysene-d12	33.809	240	849773m	228.50		0.00
88) Perylene-d12	38.658	264	618659m	219.51		-0.04
90) 5(b)H-Cholane	34.235	217	103651m	215.69		0.00
Target Compounds						Qvalue
3) cis/trans Decalin	11.176	138	136775m	267.23		
4) C1-Decalins	0.000		0	N.D.	d	
5) C2-Decalins	0.000		0	N.D.	d	
6) C3-Decalins	0.000		0	N.D.	d	
7) C4-Decalins	0.000		0	N.D.	d	
8) Naphthalene	13.878	128	857709m	279.56		
9) 2-Methylnaphthalene	16.134	142	538662m	284.01		
10) 1-Methylnaphthalene	16.468	142	504522m	284.87		
11) 2,6-Dimethylnaphthalene	18.223	156	477036m	270.63		
12) 1,6,7-Trimethylnaphtha...	21.065	170	442209m	274.96		
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	14.045	134	683977m	282.12		
17) C1-Benzothiophenes	0.000		0	N.D.	d	
18) C2-Benzothiophenes	0.000		0	N.D.	d	
19) C3-Benzothiophenes	0.000		0	N.D.	d	
20) C4-Benzothiophenes	0.000		0	N.D.	d	
22) Biphenyl	17.694	154	726959m	278.01		
23) Acenaphthylene	19.171	152	722020m	250.23		
24) Acenaphthene	19.756	154	475665m	281.33		
25) Dibenzofuran	20.368	168	781699m	278.63		
26) Fluorene	21.538	166	611724m	274.37		
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.		
33) Carbazole	25.583	167	553751m	233.53		
34) Dibenzothiophene	24.406	184	776054m	278.02		
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	24.821	178	965333m	270.48		
42) Anthracene	24.995	178	848619m	260.64		

Data Path : C:\GCMS7\MS70054\
Data File : MS70054I.D
Acq On : 10 Aug 2013 11:42 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 12 20:54:54 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 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	26.934	192	694273m	276.26		
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	28.908	202	981313m	279.02		
59) Pyrene	29.704	202	1053151m	268.21		
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	33.770	228	962611m	252.21		
68) Chrysene/Triphenylene	33.886	228	1169289m	288.43		
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	37.300	252	983710m	279.90		
78) Benzo(k,j)fluoranthene	37.378	252	963582m	296.00		
79) Benzo(a)fluoranthene	0.000		0		N.D.	d
80) Benzo(e)pyrene	38.270	252	991847m	285.25		
81) Benzo(a)pyrene	38.464	252	910651m	276.99		
82) Indeno(1,2,3-c,d)pyrene	43.152	276	879884m	264.16		
83) Dibenzo(a,h)anthracene	43.225	278	757683m	281.60		
84) C1-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
85) C2-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
86) C3-Dibenzo(a,h)anthrac...	0.000		0		N.D.	d
87) Benzo(g,h,i)perylene	44.479	276	765029m	269.14		
89) Perylene	38.774	252	920122m	275.48		
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\MS70054\
Data File : MS70054I.D
Acq On : 10 Aug 2013 11:42 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 12 20:54:54 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration

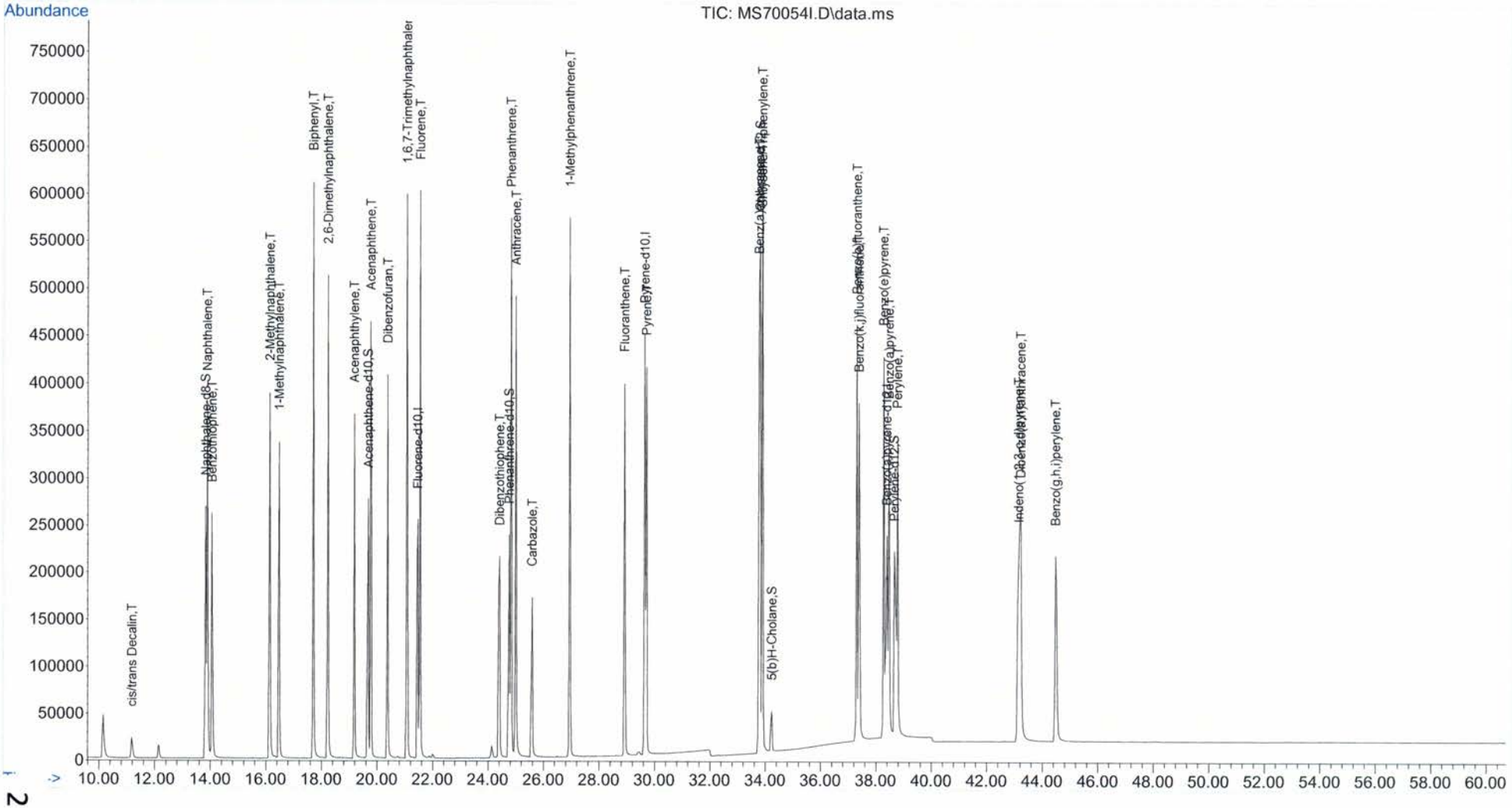
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS7\MS70054\
Data File : MS70054I.D
Acq On : 10 Aug 2013 11:42 pm
Operator : YM
Sample : AR-WKICV-250-004
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 12 20:54:54 2013
Quant Method : C:\GCMS7\MS70054\AR70054.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Mon Aug 12 08:18:55 2013
Response via : Initial Calibration



PAH Mass Discrimination Ratio

B&B Laboratories
Project J13034
Report 13-3092

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
MS70054B.D	AR-WKC1-020-030	23.9	18.0	1.33	
MS70054C.D	AR-WKC2-100-030	93.3	97.4	0.96	
MS70054D.D	AR-WKC3-250-030	220	225	0.97	
MS70054E.D	AR-WKC4-500-030	467	482	0.97	
MS70054F.D	AR-WKC5-1000-030	978	979	1.00	
MS70054G.D	AR-WKC6-5000-030	5050	5385	0.94	
MS70054I.D	AR-WKICV-250-004	269	270	1.00	
MS70054J.D	AR-WKCC-250-038	226	243	0.93	
MS70054L.D	AR-WKCC-250-038	225	250	0.90	

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 13-3092

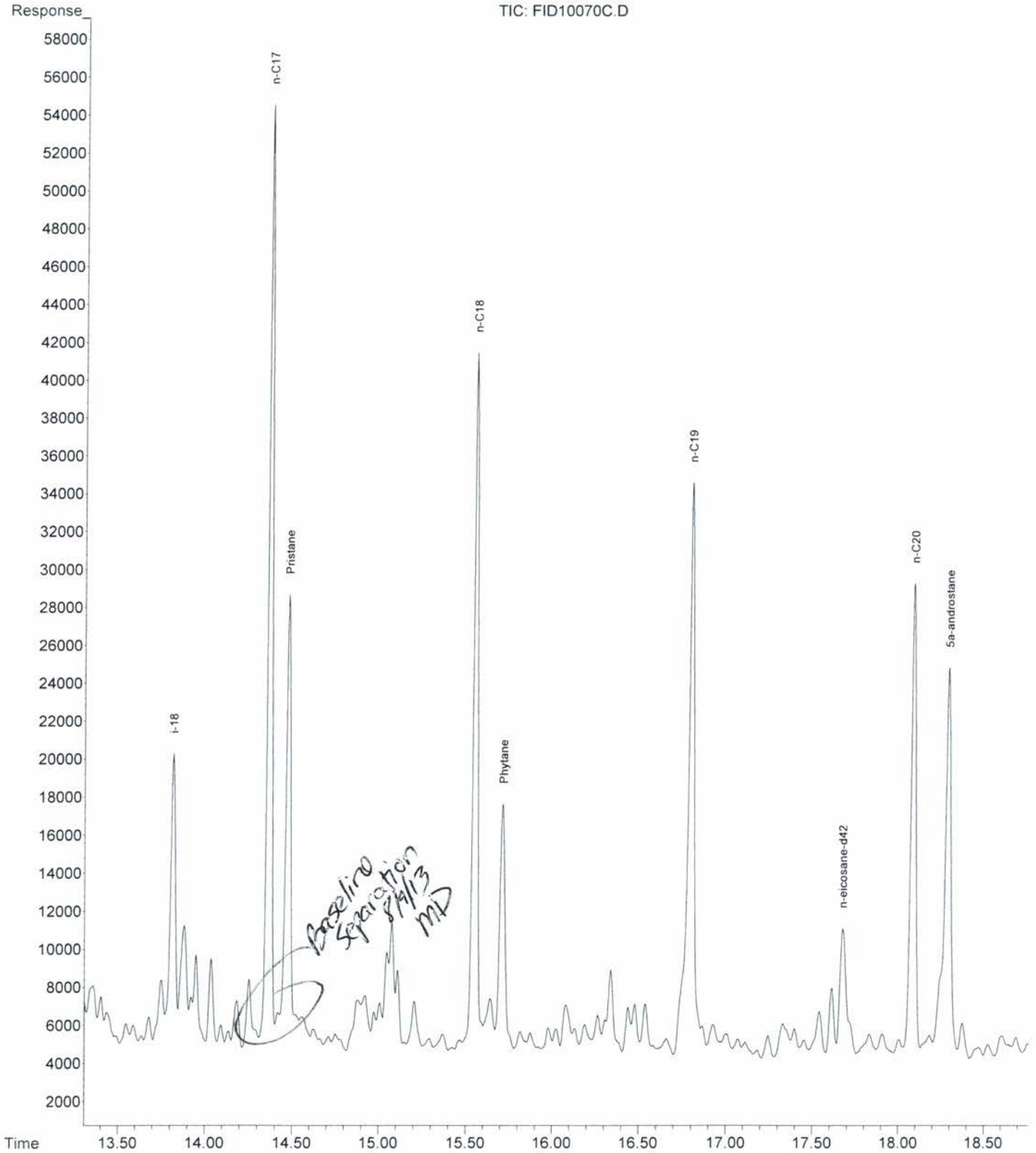
Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
The Area of the Internal Standards in the Associated Calibration Standard

Client Project #B0086003.1302

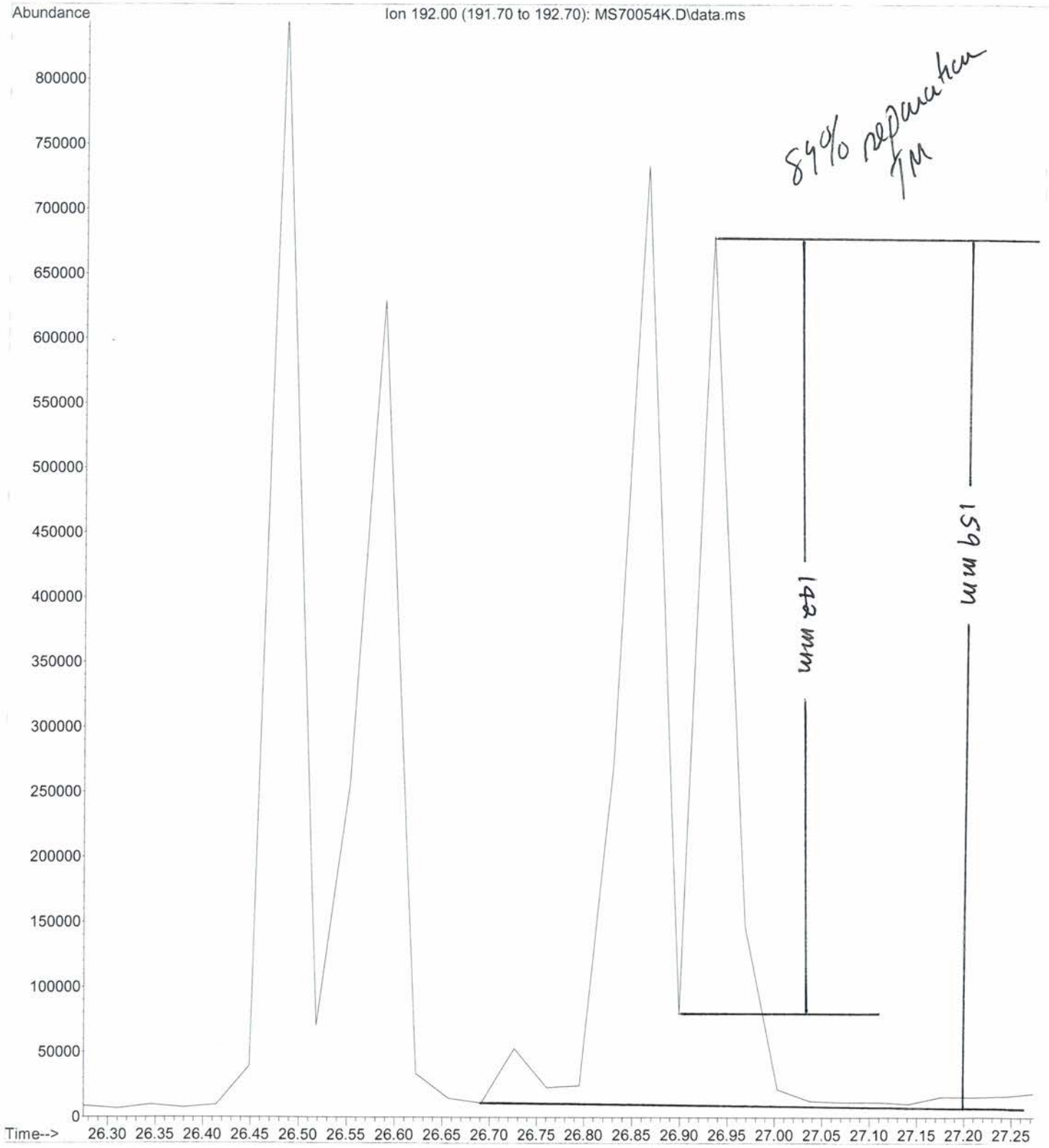
File Name	Sample Name	Internal Standard 1 Fluorene-d10			Internal Standard 2 Pyrene-d10			Internal Standard 3 Benzo(a)pyrene-d12		
		Response (Area)	50% (Area)	200% (Area)	Response (Area)	50% (Area)	200% (Area)	Response (Area)	50% (Area)	200% (Area)
MS70054D.D	AR-WKC3-250-030	376939	188470	753878	762351	381176	1524702	598092	299046	1196184
MS70054I.D	AR-WKICV-250-004	399943			795124			580846		
MS70054J.D	**AR-WKCC-250-038**	**320672**	**160336**	**641344**	**599675**	**299838**	**1199350**	**424918**	**212459**	**849836**
ENV3072A.D	Procedural Blank	307136			659559			524279		
ENV3072B.D	Blank Spike	322156			673370			535695		
ENV3072C.D	Blank Spike Dupl.	315495			663369			522249		
ARC1695.D	SED-DA-EB-05-080313	300501			674338			495196		
ARC1697.D	SO-DA-EB-01-080213	301697			626546			458026		
ARC1699.D	SED-DA-EB-06-080613	308369			642341			466931		
MS70054L.D	**AR-WKCC-250-038**	**323090**	**161545**	**646180**	**583030**	**291515**	**1166060**	**454002**	**227001**	**908004**

SRM-2779 Reference Oil Aliphatic and PAH Resolution Checks

File :P:\2013\J13034\Aliphatics\ENV 3072\FID10070\FID10070C.D
Operator : Meghan Dailey
Acquired : 08-Aug-2013, 19:03:04 using AcqMethod ALIFRONT.M
Instrument : HP5890
Sample Name: AL-WKSRM2779-20-01
Misc Info :
Vial Number: 3



File :C:\GCMS7\MS70054\MS70054K.D
Operator : YM
Acquired : 11 Aug 2013 1:59 am using AcqMethod PAH-2012.M
Instrument : GCMSD
Sample Name: AR-SRM2779-WK4.0-002
Misc Info :
Vial Number: 11



Supporting Documents

Shipping, Sample Receiving, and Project Initiation Documents

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/06/13 SDG#: 13080601

Sender: Arcadis - Mayflower AR

1. Number of Shipping Containers: 3 Arcadis: Daniel Mays

Comments: 1 of 3, large blue cooler

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

Airbill Number: 7958 0588 0377 Comments: PON

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

4. Chain of Custody Records?
(No) Yes Comments: In Cooler 2

5. General Sample Conditions:
Frozen (Cool) Unrefrigerated
Dry Ice Blue Ice (Ice) Temperature/Comments: 5.0°C / temp blank 1.6°C CT4

6. List of Broken Containers:

None

7. Number of Samples Expected: 3 coolers Number of Samples Received: _____

8. Problems/Discrepancies:

received sample: 8oz jar
SED-OA-DUP-04-080313
for PAH, TPH, TEH : not on COC

Cooler 1:
21 seds

9. Resolutions:

notified Lyndi Mott/Daniel Mays via email 8/06/13

10. Checked in by: Amanda Brewster Date: 8/06/13

large blue cooler

Sdg 13080601
Cooler 1 of 3

Ice type:
Cooler temp:
Temp blank: yes 5.0/1.6
Thermometer: 4
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: 05AUG13
ACTWGT: 86.0 LB MAN
CAD: /POS1400
DIMS: 24x13x13 IN
BILL SENDER

TO
B AND B LABS
14391 S DOWLING RD
B
COLLEGE STATION TX 77845
(979) 693-8446 REF:
INV: PO: DEPT:

819 2

FedEx Express

3 of 3
MPS# 0681 7958 0588 0377
Mstr# 8022 2781 6876

TUE - 06 AUG 10:30A
PRIORITY OVERNIGHT

0200

XH CLLA

77845
TX-US IAH

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/06/13 SDG#: 13080601

Sender: Arcadis - Mayflower AR

1. Number of Shipping Containers: 3 Arcadis - Daniel Mays

Comments: 2 of 3, large blue cooler

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

Airbill Number: 8022 2781 6876 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 2

5. General Sample Conditions:
Frozen (Cool) Unrefrigerated
Dry Ice Blue Ice (Ice)
Temperature/Comments: 0.2°C / temp blank 1.2°C (T4

6. List of Broken Containers:

None

7. Number of Samples Expected: 3 coolers Number of Samples Received: _____

8. Problems/Discrepancies:

None

Cooler 2:
20 seds
2 waters

9. Resolutions:

N/A

10. Checked in by: Amanda Brewster Date: 8/06/13

large blue cooler

Ice type:
Cooler temp
Temp blank: yes 1,2
Thermometer: 4
Custody Seal:

SDG 13080601
Cooler 2 of 3

FedEx Express NEW Package US Airbill

FedEx Tracking Number 8022 2781 6876

0200

1 From
Date 8-5-2013
Sender's Name Daniel Mays Phone 919 872-1417
Company ARCADIS
Address 801 Corporate Center Dr Ste 300
Dept/Floor/Suite/Room
City Raleigh State NC ZIP 27607

2 Your Internal Billing Reference

3 To
Recipient's Name B+B Laboratories Inc Phone 979-693-0446
Company B+B Labs
Address 14391B South Dowling Rd
We cannot deliver to P.O. boxes or P.O. ZIP codes.
Dept/Floor/Suite/Room
Address
Use this line for the HOLD location address or for continuation of your shipping address.
City College Station State TX ZIP 77845

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

4 Express Package Service
NOTE: Service order has changed. Please select carefully.
Packages up to 150 lbs.
For shipments 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.
- [X] 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.

2nd 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
- [X] Other

6 Special Handling and Delivery Signature Options
- [ ] SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

Signature Options
- [X] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. Not available for FedEx Express Saver.
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. Not available for residential delivery.

Does this shipment contain dangerous goods?
- [X] 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.
- [X] Sender — Acct. No. in Section 1 will be billed
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

Total Packages 3
Total Weight ____ lbs.
Credit Card Auth

Our liability is limited to US$100 unless you declare a higher value. See the current FedEx Service Guide for details.

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8022 2781 6876

fedex.com 1.800.GoFedEx 1.800.463.3339

64

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/06/13 SDG#: 13080601

Sender: Arcadis - Mayflower AR

1. Number of Shipping Containers: 3 Arcadis: Daniel Mays

Comments: 3 of 3, large blue cooler

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

Airbill Number: 7958 0588 0366

Comments: PON

3. Custody Seals on Container?
No (Yes) (Intact) Not Intact

Comments: on top of duct tape

4. Chain of Custody Records?
(No) Yes

Comments

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

Temperature/Comments: 0.0°c / temp blank 1.1°c (T4

6. List of Broken Containers:

None

7. Number of Samples Expected: 3 coolers Number of Samples Received: _____

8. Problems/Discrepancies:

SED-DA-009 (0.5-1.0) is this for PAH 44 analytes? not indicated

Cooler 3: 21 seds 2 waters

9. Resolutions: on COC

asked Lyndi/Daniel for clarification via

10. Checked in by: amanda Bumpstead Date: 8/06/13

email 8/06/13

large blue cooler

Ice type: Wet Ice
Cooler temp: 0.0
Temp blank: yes 1.1
Thermometer: 4
Custody seal:

Sdg 13080601
Cooler 3 of 3

Eurofins | Lancaster Laboratories

486676

CUSTODY SEAL

DATE: 8-5-2013

SIGNATURE:

2425 New Holland Pike, Lancaster, PA 17601-994 (717) 656-2300

IGIN ID:MPJA (979) 693-3446
& B LABORATORIES
391 S DOWLING RD STE B
OLLEGE STATION, TX 778453473
NITED STATES US

SHIP DATE: 05AUG13
ACTWGT: 68.0 LB MAN
CAD: /POS1400
DIMS: 24x13x13 IN
BILL SENDER

B AND B LABS
14391 S DOWLING RD
B
COLLEGE STATION TX 77845
(979) 693-3446
INV:
PO:
REF:
DEPT:

RT 819 2 A 0366 08.06 FZ

FedEx Express

J131113021201126

2 of 3
MPS# 0681 7958 0588 0366
Mstr# 8022 2781 6876
0200

TUE - 06 AUG 10:30A
PRIORITY OVERNIGHT

XH CLLA

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: B0086003.1301 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs 8270SIM					Comments
SO-DA-011(0-0.5)	8-2-13	810	Soil	None	4 oz jar	1	X				3	44 PAH List
SO-DA-011(0.5-1.0)	8-2-13	815	Soil	None	4 oz jar	1	X				3	44 PAH List
SO-DA-011(1.0-1.5)	8-2-13	820	Soil	None	4 oz jar	1	X				3	44 PAH List
SO-DA-011(0-0.5)MS/MSD	8-2-13	810	Soil	None	4 oz jar	2	X				3,3	44 PAH List
SO-DA-010(0-0.5)	8-2-13	920	Soil	None	4 oz jar	1	X				3	44 PAH List
SO-DA-010(0.5-1.0)	8-2-13	925	Soil	None	4 oz jar	1	X				3	44 PAH List
SO-DA-010(1.0-1.5)	8-2-13	930	Soil	None	4 oz jar	1	X				3	44 PAH List
SO-DA-DUP-02-080213	8-2-13		Soil	None	4 oz jar	1	X				3	44 PAH List
SO-DA-009(0-0.5)	8-2-13	1000	Soil	None	4 oz jar	1	X				3	44 PAH List
SO-DA-009(0.5-1.0)	8-2-13	1005	Soil	None	4 oz jar	1	X				3	44 PAH List
					Total # of Containers	11						

Other Instructions

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jonathan Flonefelt	ARCADIS	8/5/13	1615	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: B0086003.1301 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs and 8270 SIM TEH mod. 8015				Analyses #		Comments
SO-DA-009(1.0-1.5)	8-2-13	1010	Soil	None	4 oz jar	1	X				3		44 PAH List
SO-DA-008(0-0.5)	8-2-13	1030	Soil	None	4 oz jar	1	X				3		44 PAH List
SO-DA-008(0.5-1.0)	8-2-13	1035	Soil	None	4 oz jar	1	X				3		44 PAH List
SO-DA-008(1.0-1.5)	8-2-13	1040	Soil	None	4 oz jar	1	X				3		44 PAH List
SO-DA-007(0-0.5)	8-2-13	1100	Soil	None	4 oz jar	1	X				3		44 PAH List
SO-DA-007(0.5-1.0)	8-2-13	1105	Soil	None	4 oz jar	1	X				3		44 PAH List
SO-DA-007(1.0-1.5)	8-2-13	1110	Soil	None	4 oz jar	1	X				3		44 PAH List
SO-DA-EB-01-080213	8-2-13	1300	Water	None	1L Amber	2	X				3,3		44 PAH List
SED-DA-009(0-0.5)	8-2-13	1415	Sed	None	8 oz jar	1	X	X			1		Full PAH List
SED-DA-009(0.5-1.0)	8-2-13	1420	Sed	None	4 oz jar	1	X				3		
					Total # of Containers	11							

Other Instructions

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jonathan Flowers	ARCADIS	8/5/13	1615	Printed Name:			
Signature:	↓	↓	↓	Signature:			
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

CHAIN OF CUSTODY RECORD

B&B Laboratories, Inc.

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

TDI Brooks

Client: ARCADIS

Project ID: B0086003.1301 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs mod. 8270 SIM	Analyses: TEH mod. 8015	Analyses	Other Instructions / Comments
SED-DA-009(1.0-1.5)	8-2-13	1425	Sed	None	4oz	1	X		3	HHPAH List
SED-DA-008(0-0.5)	8-3-13	745			8oz	1		X	1	Full List
SED-DA-008(0.5-1.0)		750			4oz				2	
SED-DA-008(1.0-1.5)		755			4oz				2	
SED-DA-005(0-0.5)MS/MSD		745			8oz	2		X	1	Full List
SED-DA-007(0-0.5)		900			8oz			X	1	Full List
SED-DA-007(0.5-1.0)		905			4oz				2	
SED-DA-007(1.0-1.5)		910			4oz				2	
SED-DA-006(0-0.5)		1030			8oz			X	1	Full List
SED-DA-006(0.5-1.0)		1035			4oz				2	

Total # of Containers: 10

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jonathan Flamenco	ARCADIS	8/5/13	1615	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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TDI Brooks

Client: ARCADIS

Project ID: B0086003.1301 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs + SVOCs SIM	Analyses: TEH modified SCG	Analyses:	Analyses:	Analyses: #	Other Instructions	Comments
SED-DA-006 (1.0-1.5)	8/2/13	1040	Sed	None	4 oz jar	1	X				2		4/4 PAH List
SED-DA-005 (0-0.5)		1130			8 oz			X			1		Full List
SED-DA-005 (0.5-1.0)		1135			4 oz						2		4/4 PAH List
SED-DA-005 (1.0-1.5)		1140			4 oz						2		4/4 PAH List
SED-DA-010 (0-0.5)		1410			8 oz			X			1		Full List
SED-DA-010 (0.5-1.0)		1415			4 oz						2		4/4 PAH List
SED-DA-010 (1.0-1.5)		1420			4 oz						2		4/4 PAH List
SED-DA-011 (0-0.5)		1500			8 oz			X			3		Full List
SED-DA-011 (0.5-1.0)		1505			4 oz						2		4/4 PAH List
SED-DA-011 (1.0-1.5)	↓	1510	↓	↓	4 oz	↓	↓				2		↓
					Total # of Containers	10							

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jonathan Flemerfelt	ARCADIS	8/5/13	1615	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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TDI Brooks

Client: ARCADIS

Project ID: BCC 86003.1301 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Analyses: PAHs + 8270 S.im; TEH by mod 8015

Other Instructions: [illegible]

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs + 8270 S.im	TEH by mod 8015					Comments
SED-DA-ER-05-080313	8/3/13	1630	W	None	2 LAG	2	X	X			2,2		Full List
~~SED-DA-TB-05-080313~~	~~8/3/13~~	~~1640~~	~~W~~	~~HCl~~	~~VOA~~	~~2~~	~~X~~	~~X~~					~~Full List~~
SED DA-012 (0-0.5)	8/4/13	930	SED	None	8 oz	1	X	X			2		↓
SED DA-012 (0-0.5) MS/MSD	↓	930	↓	↓	8 oz	2	X	X			2,2		↓
SED-DA-012 (0.5-1.0)	↓	935	↓	↓	4 oz	1	X				1		44 PAHs List
SED-DA-012 (1.0-1.5)	↓	940	↓	↓	4 oz	1	X				1		44 PAHs List
SED-DA-013 (0-0.5)	↓	1015	↓	↓	8 oz	1	X	X			2		Full List
SED-DA-013 (0.5-1.0)	↓	1020	↓	↓	4 oz	1	X				1		44 PAH List
SED-DA-013 (1.0-1.5)	↓	1025	↓	↓	4 oz	1	X				1		44 PAH List
SED DA-DG-004 (0-0.5)	↓	950	↓	↓	8 oz	1					1		Full List

Total # of Containers: 11

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jonathan Flanner, ftl	ARCADIS	8/5/13	1615	Printed Name: [illegible]	[illegible]	[illegible]	[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

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TDI Brooks

Client: ARCADIS

Project ID: B0086003 1301 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs + 8270 SIM	TEH by mod 8015			Cooler #		Comments
SED-DA-BG-005(0-0.5)	8/4/13	955	Sed	none	8oz	1	X	X			1		Full List
SED-DA-BG-006(0-0.5)	8/4/13	930	Sed	X	8oz	1	X	X			1		Full List
SED-DA-014(0-0.5)	8/5/13	945	X		8oz		X	X			2		Full List
SED-DA-014(0.5-1.0)		950			4oz		X				1		PAHs 44 List
SED-DA-015(0-0.5)		1130			8oz		X	X			2		Full List
SED-DA-015(0.5-1.0)		1135			4oz		X				1		44 PAH List
SED-DA-015(1.0-1.5)		1140			4oz		X				1		44 PAH List
SED-DA-016(0-0.5)	8/6	1230			8oz		X	X			2		Full List
SED-DA-016(0.5-1.0)		1235			4oz		X				1		44 PAH List

Total # of Containers: 9

Analyses

Other Instructions

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jonathan Flemetti	ARCADIS	8/5/13	1615	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: B0056003.1301 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs + 8270 SIM	Analyses: TEH by mod 8015	Analyses	Analyses	Analyses	Analyses	Other Instructions / Comments
SED-DA-017 (0-0.5)	8/5/13	1245	Sed	none	8oz	1	X	X			2		Full List
SED-DA-017 (0.5-1.0)	8/5/13	1250	Sed	↓	4oz	1	X				1		4H PAH List

Total # of Containers: 2

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jonathan Flamstell	ARCADIS	8/5/13	1615	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

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

received 8/06/13

Job #: J13034

SDG: 13080601

Client: Arcadis- Mayflower AR

Initiation Date: 8/06/13

Number of Samples: 2

Matrix: waters

Due Date: 45 days: 9/19/13

Comments: PAH, TPH, ALI
collected 8/02-8/03
extract by 8/08/13

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): DCM

Spike Standard(s): PAH, ALI Volume(s): DCM

Internal Standard(s): PAH, ALI Volume(s): DCM

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

Comments:

Sample Custodian Signature: Amanda Brewster Date: 8/06/13

Laboratory Manager Signature: _____ Date: 8/6/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64380	J13034	Arcadis - Mayflower AR	ARC1695	SED-DA-EB-05-080313	08/03/13	08/06/13	PAH, TPH, ALI	WATER	1 of 2	13080601	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302
64382	J13034	Arcadis - Mayflower AR	ARC1697	SO-DA-EB-01-080213	08/02/13	08/06/13	PAH, TPH, ALI	WATER	1 of 2	13080601	Cooler 3	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13080601
Client: Arcadis- Mayflower AR
Initiation Date: 8/06/13

Number of Samples: 40
Matrix: soil/sediment
Due Date: 45 days: 9/19/13
Comments: PAH: 44 analytes
received 8/06/13

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

SEE BACK FOR SPECIFIC STANDARDS TO USE

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

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

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

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

Comments:

PAH std + list

Sample Custodian Signature: Amanda Brewster Date: 8/06/13

Laboratory Manager Signature: _____ Date: 8/6/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64326	J13034	Arcadis - Mayflower AR	ARC1641	SED-DA-012 (0.5-1.0)	08/04/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64327	J13034	Arcadis - Mayflower AR	ARC1642	SED-DA-012 (1.0-1.5)	08/04/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64328	J13034	Arcadis - Mayflower AR	ARC1643	SED-DA-013 (0.5-1.0)	08/04/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64329	J13034	Arcadis - Mayflower AR	ARC1644	SED-DA-013 (1.0-1.5)	08/04/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64333	J13034	Arcadis - Mayflower AR	ARC1648	SED-DA-014 (0.5-1.0)	08/05/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64334	J13034	Arcadis - Mayflower AR	ARC1649	SED-DA-015 (0.5-1.0)	08/05/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64335	J13034	Arcadis - Mayflower AR	ARC1650	SED-DA-015 (1.0-1.5)	08/05/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64336	J13034	Arcadis - Mayflower AR	ARC1651	SED-DA-016 (0.5-1.0)	08/05/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64337	J13034	Arcadis - Mayflower AR	ARC1652	SED-DA-017 (0.5-1.0)	08/05/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64339	J13034	Arcadis - Mayflower AR	ARC1654	SED-DA-008 (0.5-1.0)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64340	J13034	Arcadis - Mayflower AR	ARC1655	SED-DA-008 (1.0-1.5)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64341	J13034	Arcadis - Mayflower AR	ARC1656	SED-DA-007 (0.5-1.0)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64342	J13034	Arcadis - Mayflower AR	ARC1657	SED-DA-007 (1.0-1.5)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64343	J13034	Arcadis - Mayflower AR	ARC1658	SED-DA-006 (0.5-1.0)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64344	J13034	Arcadis - Mayflower AR	ARC1659	SED-DA-006 (1.0-1.5)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64345	J13034	Arcadis - Mayflower AR	ARC1660	SED-DA-005 (0.5-1.0)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64346	J13034	Arcadis - Mayflower AR	ARC1661	SED-DA-005 (1.0-1.5)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64347	J13034	Arcadis - Mayflower AR	ARC1662	SED-DA-010 (0.5-1.0)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64348	J13034	Arcadis - Mayflower AR	ARC1663	SED-DA-010 (1.0-1.5)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64349	J13034	Arcadis - Mayflower AR	ARC1664	SED-DA-011 (0.5-1.0)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64350	J13034	Arcadis - Mayflower AR	ARC1665	SED-DA-011 (1.0-1.5)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64359	J13034	Arcadis - Mayflower AR	ARC1674	SO-DA-011 (0-0.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64360	J13034	Arcadis - Mayflower AR	ARC1675	SO-DA-011 (0.5-1.0)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64361	J13034	Arcadis - Mayflower AR	ARC1676	SO-DA-011 (1.0-1.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64362	J13034	Arcadis - Mayflower AR	ARC1677	SO-DA-011 (0-0.5) MS/MSD	08/02/13	08/06/13	PAH	SOIL	44 analytes, 1 of 2	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64364	J13034	Arcadis - Mayflower AR	ARC1679	SO-DA-010 (0-0.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64365	J13034	Arcadis - Mayflower AR	ARC1680	SO-DA-010 (0.5-1.0)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64366	J13034	Arcadis - Mayflower AR	ARC1681	SO-DA-010 (1.0-1.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64367	J13034	Arcadis - Mayflower AR	ARC1682	SO-DA-DUP-02-080213	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64368	J13034	Arcadis - Mayflower AR	ARC1683	SO-DA-009 (0-0.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64369	J13034	Arcadis - Mayflower AR	ARC1684	SO-DA-009 (0.5-1.0)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64370	J13034	Arcadis - Mayflower AR	ARC1685	SO-DA-009 (1.0-1.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64371	J13034	Arcadis - Mayflower AR	ARC1686	SO-DA-008 (0-0.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64372	J13034	Arcadis - Mayflower AR	ARC1687	SO-DA-008 (0.5-1.0)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64373	J13034	Arcadis - Mayflower AR	ARC1688	SO-DA-008 (1.0-1.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64374	J13034	Arcadis - Mayflower AR	ARC1689	SO-DA-007 (0-0.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64375	J13034	Arcadis - Mayflower AR	ARC1690	SO-DA-007 (0.5-1.0)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64376	J13034	Arcadis - Mayflower AR	ARC1691	SO-DA-007 (1.0-1.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64377	J13034	Arcadis - Mayflower AR	ARC1692	SED-DA-009 (0.5-1.0)	08/02/13	08/06/13	PAH	SED	44 analytes? not indicated on COC	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64378	J13034	Arcadis - Mayflower AR	ARC1693	SED-DA-009 (1.0-1.5)	08/02/13	08/06/13	PAH	SED	44 analytes	13080601	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: 130806O1

Client: Arcadis-Mayflower AR

Initiation Date: 8/06/13

Number of Samples: 19

Matrix: sediments

Due Date: 45 days: 9/19/13

Comments: PAH, TPH, ALI

received 8/06/13

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 NIST	☐ Blank Spike
☐	Blank Spike Duplicate	☐	Matrix Spike _____
☑	Matrix Spike Duplicate _____	☐	Duplicate _____

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH ALI Volume(s): 1ml

Spike Standard(s): PAH ALI Volume(s): 100ul

Internal Standard(s): PAH ALI Volume(s): 100ul

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

Comments:

ALI ARC1685 & MSD/475
ARC1667

Sample Custodian Signature: amanda Brewster Date: 8/06/13

Laboratory Manager Signature: _____ Date: 8/6/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64318	J13034	Arcadis - Mayflower AR	ARC1633	SED-DA-009 (0-0.5)	08/02/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64319	J13034	Arcadis - Mayflower AR	ARC1634	SED-DA-008 (0-0.5)	08/03/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64320	J13034	Arcadis - Mayflower AR	ARC1635	SED-DA-008 (0-0.5) MS/MSD	08/03/13	08/06/13	PAH, TPH, ALI	SED	1 of 2	13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64322	J13034	Arcadis - Mayflower AR	ARC1637	SED-DA-007 (0-0.5)	08/03/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64323	J13034	Arcadis - Mayflower AR	ARC1638	SED-DA-006 (0-0.5)	08/03/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64324	J13034	Arcadis - Mayflower AR	ARC1639	SED-DA-005 (0-0.5)	08/03/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64325	J13034	Arcadis - Mayflower AR	ARC1640	SED-DA-010 (0-0.5)	08/03/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64330	J13034	Arcadis - Mayflower AR	ARC1645	SED-DA-BG-004 (0-0.5)	08/04/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64331	J13034	Arcadis - Mayflower AR	ARC1646	SED-DA-BG-005 (0-0.5)	08/04/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64332	J13034	Arcadis - Mayflower AR	ARC1647	SED-DA-BG-006 (0-0.5)	08/04/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64338	J13034	Arcadis - Mayflower AR	ARC1653	SED-DA-DUP-04-080313	08/03/13	08/06/13	PAH, TPH, ALI	SED	not listed on COC	13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64351	J13034	Arcadis - Mayflower AR	ARC1666	SED-DA-012 (0-0.5)	08/04/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64352	J13034	Arcadis - Mayflower AR	ARC1667	SED-DA-012 (0-0.5) MS/MSD	08/04/13	08/06/13	PAH, TPH, ALI	SED	1 of 2	13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64354	J13034	Arcadis - Mayflower AR	ARC1669	SED-DA-013 (0-0.5)	08/04/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64355	J13034	Arcadis - Mayflower AR	ARC1670	SED-DA-014 (0-0.5)	08/05/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64356	J13034	Arcadis - Mayflower AR	ARC1671	SED-DA-015 (0-0.5)	08/05/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64357	J13034	Arcadis - Mayflower AR	ARC1672	SED-DA-016 (0-0.5)	08/05/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64358	J13034	Arcadis - Mayflower AR	ARC1673	SED-DA-017 (0-0.5)	08/05/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64379	J13034	Arcadis - Mayflower AR	ARC1694	SED-DA-011 (0-0.5)	08/03/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302

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Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
64318	J13034	Arcadis - Mayflower AR	ARC1633	SED-DA-009 (0-0.5)	08/02/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64319	J13034	Arcadis - Mayflower AR	ARC1634	SED-DA-008 (0-0.5)	08/03/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64320	J13034	Arcadis - Mayflower AR	ARC1635	SED-DA-008 (0-0.5) MS/MSD	08/03/13	08/06/13	PAH, TPH, ALI	SED	1 of 2	13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64321	J13034	Arcadis - Mayflower AR	ARC1636	SED-DA-008 (0-0.5) MS/MSD	08/03/13	08/06/13	HOLD	SED	2 of 2	13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64322	J13034	Arcadis - Mayflower AR	ARC1637	SED-DA-007 (0-0.5)	08/03/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64323	J13034	Arcadis - Mayflower AR	ARC1638	SED-DA-006 (0-0.5)	08/03/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64324	J13034	Arcadis - Mayflower AR	ARC1639	SED-DA-005 (0-0.5)	08/03/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64325	J13034	Arcadis - Mayflower AR	ARC1640	SED-DA-010 (0-0.5)	08/03/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64326	J13034	Arcadis - Mayflower AR	ARC1641	SED-DA-012 (0.5-1.0)	08/04/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64327	J13034	Arcadis - Mayflower AR	ARC1642	SED-DA-012 (1.0-1.5)	08/04/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64328	J13034	Arcadis - Mayflower AR	ARC1643	SED-DA-013 (0.5-1.0)	08/04/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64329	J13034	Arcadis - Mayflower AR	ARC1644	SED-DA-013 (1.0-1.5)	08/04/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64330	J13034	Arcadis - Mayflower AR	ARC1645	SED-DA-BG-004 (0-0.5)	08/04/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64331	J13034	Arcadis - Mayflower AR	ARC1646	SED-DA-BG-005 (0-0.5)	08/04/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64332	J13034	Arcadis - Mayflower AR	ARC1647	SED-DA-BG-006 (0-0.5)	08/04/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64333	J13034	Arcadis - Mayflower AR	ARC1648	SED-DA-014 (0.5-1.0)	08/05/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64334	J13034	Arcadis - Mayflower AR	ARC1649	SED-DA-015 (0.5-1.0)	08/05/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64335	J13034	Arcadis - Mayflower AR	ARC1650	SED-DA-015 (1.0-1.5)	08/05/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64336	J13034	Arcadis - Mayflower AR	ARC1651	SED-DA-016 (0.5-1.0)	08/05/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64337	J13034	Arcadis - Mayflower AR	ARC1652	SED-DA-017 (0.5-1.0)	08/05/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64338	J13034	Arcadis - Mayflower AR	ARC1653	SED-DA-DUP-04-080313	08/03/13	08/06/13	PAH, TPH, ALI	SED	not listed on COC	13080601	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64339	J13034	Arcadis - Mayflower AR	ARC1654	SED-DA-008 (0.5-1.0)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64340	J13034	Arcadis - Mayflower AR	ARC1655	SED-DA-008 (1.0-1.5)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64341	J13034	Arcadis - Mayflower AR	ARC1656	SED-DA-007 (0.5-1.0)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64342	J13034	Arcadis - Mayflower AR	ARC1657	SED-DA-007 (1.0-1.5)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64343	J13034	Arcadis - Mayflower AR	ARC1658	SED-DA-006 (0.5-1.0)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64344	J13034	Arcadis - Mayflower AR	ARC1659	SED-DA-006 (1.0-1.5)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64345	J13034	Arcadis - Mayflower AR	ARC1660	SED-DA-005 (0.5-1.0)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64346	J13034	Arcadis - Mayflower AR	ARC1661	SED-DA-005 (1.0-1.5)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64347	J13034	Arcadis - Mayflower AR	ARC1662	SED-DA-010 (0.5-1.0)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64348	J13034	Arcadis - Mayflower AR	ARC1663	SED-DA-010 (1.0-1.5)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64349	J13034	Arcadis - Mayflower AR	ARC1664	SED-DA-011 (0.5-1.0)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64350	J13034	Arcadis - Mayflower AR	ARC1665	SED-DA-011 (1.0-1.5)	08/03/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 2	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64351	J13034	Arcadis - Mayflower AR	ARC1666	SED-DA-012 (0-0.5)	08/04/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64352	J13034	Arcadis - Mayflower AR	ARC1667	SED-DA-012 (0-0.5) MS/MSD	08/04/13	08/06/13	PAH, TPH, ALI	SED	1 of 2	13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64353	J13034	Arcadis - Mayflower AR	ARC1668	SED-DA-012 (0-0.5) MS/MSD	08/04/13	08/06/13	HOLD	SED	2 of 2	13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64354	J13034	Arcadis - Mayflower AR	ARC1669	SED-DA-013 (0-0.5)	08/04/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64355	J13034	Arcadis - Mayflower AR	ARC1670	SED-DA-014 (0-0.5)	08/05/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64356	J13034	Arcadis - Mayflower AR	ARC1671	SED-DA-015 (0-0.5)	08/05/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64357	J13034	Arcadis - Mayflower AR	ARC1672	SED-DA-016 (0-0.5)	08/05/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64358	J13034	Arcadis - Mayflower AR	ARC1673	SED-DA-017 (0-0.5)	08/05/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 2	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64359	J13034	Arcadis - Mayflower AR	ARC1674	SO-DA-011 (0-0.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64360	J13034	Arcadis - Mayflower AR	ARC1675	SO-DA-011 (0.5-1.0)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64361	J13034	Arcadis - Mayflower AR	ARC1676	SO-DA-011 (1.0-1.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64362	J13034	Arcadis - Mayflower AR	ARC1677	SO-DA-011 (0-0.5) MS/MSD	08/02/13	08/06/13	PAH	SOIL	44 analytes, 1 of 2	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64363	J13034	Arcadis - Mayflower AR	ARC1678	SO-DA-011 (0-0.5) MS/MSD	08/02/13	08/06/13	HOLD	SOIL	2 of 2	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64364	J13034	Arcadis - Mayflower AR	ARC1679	SO-DA-010 (0-0.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64365	J13034	Arcadis - Mayflower AR	ARC1680	SO-DA-010 (0.5-1.0)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64366	J13034	Arcadis - Mayflower AR	ARC1681	SO-DA-010 (1.0-1.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64367	J13034	Arcadis - Mayflower AR	ARC1682	SO-DA-DUP-02-080213	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64368	J13034	Arcadis - Mayflower AR	ARC1683	SO-DA-009 (0-0.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64369	J13034	Arcadis - Mayflower AR	ARC1684	SO-DA-009 (0.5-1.0)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64370	J13034	Arcadis - Mayflower AR	ARC1685	SO-DA-009 (1.0-1.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64371	J13034	Arcadis - Mayflower AR	ARC1686	SO-DA-008 (0-0.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64372	J13034	Arcadis - Mayflower AR	ARC1687	SO-DA-008 (0.5-1.0)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64373	J13034	Arcadis - Mayflower AR	ARC1688	SO-DA-008 (1.0-1.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64374	J13034	Arcadis - Mayflower AR	ARC1689	SO-DA-007 (0-0.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64375	J13034	Arcadis - Mayflower AR	ARC1690	SO-DA-007 (0.5-1.0)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64376	J13034	Arcadis - Mayflower AR	ARC1691	SO-DA-007 (1.0-1.5)	08/02/13	08/06/13	PAH	SOIL	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64377	J13034	Arcadis - Mayflower AR	ARC1692	SED-DA-009 (0.5-1.0)	08/02/13	08/06/13	PAH	SED	44 analytes? not indicated on COC	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64378	J13034	Arcadis - Mayflower AR	ARC1693	SED-DA-009 (1.0-1.5)	08/02/13	08/06/13	PAH	SED	44 analytes	13080601	Cooler 3	Arcadis: Daniel Mays	4oz clear glass jar		B0086003.1302
64379	J13034	Arcadis - Mayflower AR	ARC1694	SED-DA-011 (0-0.5)	08/03/13	08/06/13	PAH, TPH, ALI	SED		13080601	Cooler 3	Arcadis: Daniel Mays	8oz clear glass jar		B0086003.1302
64380	J13034	Arcadis - Mayflower AR	ARC1695	SED-DA-EB-05-080313	08/03/13	08/06/13	PAH, TPH, ALI	WATER	1 of 2	13080601	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
64381	J13034	Arcadis - Mayflower AR	ARC1696	SED-DA-EB-05-080313	08/03/13	08/06/13	HOLD	WATER	2 of 2	13080601	Cooler 2	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
64382	J13034	Arcadis - Mayflower AR	ARC1697	SO-DA-EB-01-080213	08/02/13	08/06/13	PAH, TPH, ALI	WATER	1 of 2	13080601	Cooler 3	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302
[illegible]	J13034	Arcadis - Mayflower AR	ARC1698	SO-DA-EB-01-080213	08/02/13	08/06/13	HOLD	WATER	2 of 2	13080601	Cooler 3	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302

amanda brewster

From: amanda brewster <amandabrewster@tdi-bi.com>
Sent: Tuesday, August 06, 2013 3:21 PM
To: 'Mays, Daniel'; Parmelee, Rhiannon (Rhiannon.Parmelee@arcadis-us.com); 'Jennifer.Chandler@arcadis-us.com'; 'Dennis.Capria@arcadis-us.com'; Mott, Lyndi (Lyndi.Mott@arcadis-us.com)
Cc: Juan Ramirez (juanramirez@tdi-bi.com); Donell Frank; 'tommcdonald@tdi-bi.com' (tommcdonald@tdi-bi.com)
Subject: Samples received 8/06/13 - a few questions
Attachments: COC 8-06-13.pdf

Hi Daniel,

We received your samples this morning in good condition.

Cooler 1 arrived at an internal temperature of 5.0ºC and the temperature blank was 1.6ºC.
Cooler 2 arrived at an internal temperature of 0.2ºC and the temperature blank was 1.2ºC.
Cooler 3 arrived at an internal temperature of 0.0ºC and the temperature blank was 1.1ºC.
A PDF of the COCs are attached for your records.

There were a few discrepancies I was hoping you could help clarify:

We received an 8oz jar of sediment labeled: SED-DA-DUP-04-080313 for PAH, TPH (TEH), but this sample was not listed on the COC. Is this sample intended for analysis by our laboratory?

The COC lists sediment sample: SED-DA-009 (0.5-1.0), 4oz jar but does not indicate what analysis you would like for the sample. Should this be for the "44 PAH list" like the rest of the 4oz jars?

Please let me know how you would like to proceed.

Regards,
Amanda

From: Mays, Daniel [mailto:Daniel.Mays@arcadis-us.com]
Sent: Tuesday, August 06, 2013 4:56 AM
To: amanda brewster
Subject: XOM-Mayflower Cooler Tracking #'s

Good Morning Amanda,

The tracking number for 3 coolers shipped from Mayflower yesterday 8-5-2013 was 8022 2781 6876.

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.

amanda brewster

From: Mays, Daniel <Daniel.Mays@arcadis-us.com>
Sent: Tuesday, August 06, 2013 5:46 PM
To: amanda brewster; Parmelee, Rhiannon; Chandler, Jennifer; Capria, Dennis; Mott, Lyndi
Cc: Juan Ramirez; Donell Frank; tommcdonald@tdi-bi.com
Subject: RE: Samples received 8/06/13 - a few questions

Good Evening Amanda,

SED-DA-DUP-04-080313 should be analyzed for PAH, TPH.

Please analyze SED-DA-009 (0.5-1.0) for the 44 PAH List like the others.

Thanks,
Danny Mays

From: amanda brewster [mailto:amandabrewster@tdi-bi.com]
Sent: Tuesday, August 06, 2013 3:21 PM
To: Mays, Daniel; Parmelee, Rhiannon; Chandler, Jennifer; Capria, Dennis; Mott, Lyndi
Cc: Juan Ramirez; Donell Frank; tommcdonald@tdi-bi.com
Subject: Samples received 8/06/13 - a few questions

Hi Daniel,

We received your samples this morning in good condition.

Cooler 1 arrived at an internal temperature of 5.0ºC and the temperature blank was 1.6ºC.
Cooler 2 arrived at an internal temperature of 0.2ºC and the temperature blank was 1.2ºC.
Cooler 3 arrived at an internal temperature of 0.0ºC and the temperature blank was 1.1ºC.
A PDF of the COCs are attached for your records.

There were a few discrepancies I was hoping you could help clarify:

We received an 8oz jar of sediment labeled: SED-DA-DUP-04-080313 for PAH, TPH (TEH), but this sample was not listed on the COC. Is this sample intended for analysis by our laboratory?

The COC lists sediment sample: SED-DA-009 (0.5-1.0), 4oz jar but does not indicate what analysis you would like for the sample. Should this be for the "44 PAH list" like the rest of the 4oz jars?

Please let me know how you would like to proceed.

Regards,
Amanda

From: Mays, Daniel [mailto:Daniel.Mays@arcadis-us.com]
Sent: Tuesday, August 06, 2013 4:56 AM
To: amanda brewster
Subject: XOM-Mayflower Cooler Tracking #'s

Good Morning Amanda,

The tracking number for 3 coolers shipped from Mayflower yesterday 8-5-2013 was 8022 2781 6876.

Regards,

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

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 8/07/13 SDG#: 13080701

Sender: Arcadis- Mayflower AR

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

Comments: large blue cooler

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

Airbill Number: 8022 2781 5891 Comments: PON

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

4. Chain of Custody Records?
No (Yes) Comments None

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

Temperature/Comments: 0.6°C / temp blank 0.3°C (T4

6. List of Broken Containers:

None

7. Number of Samples Expected: 1 cooler Number of Samples Received: 21 sed/soil
2 water

8. Problems/Discrepancies:

None

9. Resolutions:

N/A

10. Checked in by: Amanda Brewster Date: 8/07/13

large blue cooler

Ice type: wet Ice
Cooler temp: 0.6
Temp blank: yes 0.3
Thermometer: 4
Custody seal:

Sdg 13080701
Cooler 1 of 1

eurofins | Lancaster Laboratories

486707
CUSTODY SEAL
2425 New Holland Pike, Lancaster, PA 17601-5994 (717) 656-[illegible]00

DATE: 8-6-13
SIGNATURE: [signature]

FedEx Express NEW Package US Airbill

FedEx Tracking Number 8022 2781 5891

0200

1 From
Date 8-[illegible]-13
Sender's Name [illegible] Phone
Company [illegible]
Address [illegible] Dept/Floor/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/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 same 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 a signature for delivery.
- Direct Signature — Someone at recipient's address may sign for delivery. Fee applies.
- Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. Fee applies 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/Check

Total Packages [illegible] Total Weight [illegible] lbs. Credit Card Auth. [illegible]

To [illegible] is limited to [illegible] unless you declare a higher value. See the current FedEx Service Guide for details.

8022 2781 5891

PS lot 3

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:

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs by 8270 SIM	Analyses: TEH by mod 8015	Other Instructions	Comments
SED-DA-039 (0-0.5)	5/6/13	800		none	8oz	1	X	X		Full List
SED-DA-039 (0-0.5)ms		800			8oz	1		X		Full List
SED-DA-039 (0-0.5)msd		800			8oz	1		X		Full List
SED-DA-039 (0.5-1.0)		805			4oz	1				44 PAHs List
SED-DA-039 (1.0-1.5)		810			4oz	1				44 PAHs List
SED-DA-040 (0-0.5)		900			8oz	1		X		Full List
SED-DA-040 (0.5-1.0)		905			4oz	1				44 PAH List
SED-DA-040 (1.0-1.5)		910			4oz	1				44 PAH List
SED-DA-Dup-05-050613					8oz	1		X		Full List
SED-DA-EB-06-050613		800	Water		LAG	2		X		Full list
					Total # of Containers	11				

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jonathan Flomerfelt	ARCADIS	5/6/13	1630	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

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 B0086083.1301

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mayo

Pg 2 of 3

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	Analyses: PAHs + 8270 SIM	Other Instructions	Comments
SO-DA-016 (0-0.5)	5/6/13	1045	Soil	None	4 oz	1	X		44 PAH List
SO-DA-016 (0.5-1.0)		1050			4 oz				
SO-DA-016 (1.0-1.5)		1055			4 oz				
SO-DA-017 (0-0.5)		1120			4 oz				
SO-DA-017 (0-0.5) MS		1120			4 oz				
SO-DA-017 (0.5-1.0)		1125			4 oz				
SO-DA-017 (1.0-1.5)		1130			4 oz				
SO-DA-018 (0-0.5)		1330			4 oz				
SO-DA-018 (0.5-1.0)		1335			4 oz				
SO-DA-018 (1.0-1.5)		1340			4 oz				
					Total # of Containers	10			

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jonathan Flanagan	ARCADIS	5/6/13	1630	Printed Name: Angelica Bruister	B&B Labs	5/7/13	11:45
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

B&B

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 B0086600.1301

B&B Contact: Juan Ramirez

Sampler Signature: Daniel Mays [signature]

Pg 3 of 3

Analyses: PAHs + 8270 s.i.m.

Other Instructions: [illegible] cooler 1 of 1 (3)

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs + 8270 s.i.m.					Comments
SO-DA-Dup-03-080613	8/6/13		Soil	none	4 oz	1	X					44 PAH List
SO-DA-017 (0-0.5) MSD	↓	1120	↓	↓	↓	1	X					44 PA List

Total # of Containers: 2

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jonathan Flanerfelt	ARCADIS	8/6/13	1630	Printed Name: [illegible]	B&B Labs	[illegible]	[illegible]
Signature: [signature]	↓	↓	↓	Signature: [signature]			
Printed Name:				Printed Name:			
Signature:				Signature:			

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

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

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64384	J13034	Arcadis - Mayflower AR	ARC1699	SED-DA-EB-06-080613	08/06/13	08/07/13	PAH, TPH, ALI	WATER	1 of 2	13080701	Cooler 1	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302
64385	J13034	Arcadis - Mayflower AR	ARC1700	SED-DA-EB-06-080613	08/06/13	08/07/13	HOLD	WATER	2 of 2	13080701	Cooler 1	Arcadis: Daniel Mays	1L amber glass BR bottle	B0086003.1302
64386	J13034	Arcadis - Mayflower AR	ARC1701	SED-DA-039 (0-0.5)	08/06/13	08/07/13	PAH, TPH, ALI	SED		13080701	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64387	J13034	Arcadis - Mayflower AR	ARC1702	SED-DA-039 (0-0.5) MS	08/06/13	08/07/13	PAH, TPH, ALI	SED	MS	13080701	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64388	J13034	Arcadis - Mayflower AR	ARC1703	SED-DA-039 (0-0.5) MSD	08/06/13	08/07/13	PAH, TPH, ALI	SED	MSD	13080701	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64389	J13034	Arcadis - Mayflower AR	ARC1704	SED-DA-039 (0.5-1.0)	08/06/13	08/07/13	PAH	SED	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64390	J13034	Arcadis - Mayflower AR	ARC1705	SED-DA-039 (1.0-1.5)	08/06/13	08/07/13	PAH	SED	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64391	J13034	Arcadis - Mayflower AR	ARC1706	SED-DA-040 (0-0.5)	08/06/13	08/07/13	PAH, TPH, ALI	SED		13080701	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64392	J13034	Arcadis - Mayflower AR	ARC1707	SED-DA-040 (0.5-1.0)	08/06/13	08/07/13	PAH	SED	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64393	J13034	Arcadis - Mayflower AR	ARC1708	SED-DA-040 (1.0-1.5)	08/06/13	08/07/13	PAH	SED	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64394	J13034	Arcadis - Mayflower AR	ARC1709	SED-DA-DUP-05-080613	08/06/13	08/07/13	PAH, TPH, ALI	SED		13080701	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64395	J13034	Arcadis - Mayflower AR	ARC1710	SO-DA-016 (0-0.5)	08/06/13	08/07/13	PAH	SOIL	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64396	J13034	Arcadis - Mayflower AR	ARC1711	SO-DA-016 (0.5-1.0)	08/06/13	08/07/13	PAH	SOIL	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64397	J13034	Arcadis - Mayflower AR	ARC1712	SO-DA-016 (1.0-1.5)	08/06/13	08/07/13	PAH	SOIL	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64398	J13034	Arcadis - Mayflower AR	ARC1713	SO-DA-017 (0-0.5)	08/06/13	08/07/13	PAH	SOIL	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64399	J13034	Arcadis - Mayflower AR	ARC1714	SO-DA-017 (0-0.5) MS	08/06/13	08/07/13	PAH	SOIL	44 analytes, MS	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64400	J13034	Arcadis - Mayflower AR	ARC1715	SO-DA-017 (0.5-1.0)	08/06/13	08/07/13	PAH	SOIL	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64401	J13034	Arcadis - Mayflower AR	ARC1716	SO-DA-017 (1.0-1.5)	08/06/13	08/07/13	PAH	SOIL	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64402	J13034	Arcadis - Mayflower AR	ARC1717	SO-DA-018 (0-0.5)	08/06/13	08/07/13	PAH	SOIL	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64403	J13034	Arcadis - Mayflower AR	ARC1718	SO-DA-018 (0.5-1.0)	08/06/13	08/07/13	PAH	SOIL	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64404	J13034	Arcadis - Mayflower AR	ARC1719	SO-DA-018 (1.0-1.5)	08/06/13	08/07/13	PAH	SOIL	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64405	J13034	Arcadis - Mayflower AR	ARC1720	SO-DA-DUP-03-080613	08/06/13	08/07/13	PAH	SOIL	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64406	J13034	Arcadis - Mayflower AR	ARC1721	SO-DA-017 (0-0.5) MSD	08/06/13	08/07/13	PAH	SOIL	44 analytes, MSD	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13080701
Client: Arcadis-Mayflower AR
Initiation Date: 8/07/13

Number of Samples: 1
Matrix: water
Due Date: 45 days: 9/20/13
Comments: collected 8/06/13
extract by 8/12/13
received 8/06/13

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, A-C1 Volume(s): 1.0ml

Spike Standard(s): PAH, A-C1 Volume(s): 1.0ml

Internal Standard(s): PAH, A-C1 Volume(s): 1.0ml

Final Extract Volume (ml): 1.0 Final Solvent: DCM2

Comments:

Sample Custodian Signature: Amanda Brewster Date: 8/07/13

Laboratory Manager Signature: [signature] Date: 8/7/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	a	Project #
64384	J13034	Arcadis - Mayflower AR	ARC1699	SED-DA-EB-06-080613	08/06/13	08/07/13	PAH, TPH, ALI	WATER	1 of 2	13080701	Cooler 1	Arcadis: Daniel Mays	1L amber glass BR bottle		B0086003.1302

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13080701
Client: Arcadis-MayflowerAR
Initiation Date: 8/07/13

Number of Samples: 5
Matrix: sediments
Due Date: 45 days: 9/20/13
Comments: PAH, TPH, ALI
received 8/07/13

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): 2-FH, ACL Volume(s): 100ml

Spike Standard(s): PAH, ACL Volume(s): 100ml

Internal Standard(s): PAH, ACL Volume(s): 100ml

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

Comments: USE MS
ARC A02 - MS
ARC1203 - MSD

Sample Custodian Signature: amanda Brewster Date: 8/07/13

Laboratory Manager Signature: _____ Date: 8/7/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64386	J13034	Arcadis - Mayflower AR	ARC1701	SED-DA-039 (0-0.5)	08/06/13	08/07/13	PAH, TPH, ALI	SED		13080701	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64387	J13034	Arcadis - Mayflower AR	ARC1702	SED-DA-039 (0-0.5) MS	08/06/13	08/07/13	PAH, TPH, ALI	SED	MS	13080701	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64388	J13034	Arcadis - Mayflower AR	ARC1703	SED-DA-039 (0-0.5) MSD	08/06/13	08/07/13	PAH, TPH, ALI	SED	MSD	13080701	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64391	J13034	Arcadis - Mayflower AR	ARC1706	SED-DA-040 (0-0.5)	08/06/13	08/07/13	PAH, TPH, ALI	SED		13080701	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302
64394	J13034	Arcadis - Mayflower AR	ARC1709	SED-DA-DUP-05-080613	08/06/13	08/07/13	PAH, TPH, ALI	SED		13080701	Cooler 1	Arcadis: Daniel Mays	8oz clear glass jar	B0086003.1302

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B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13084
SDG: 13080701
Client: Arcadis - Mayflower AR
Initiation Date: 8/07/13

Number of Samples: 16
Matrix: Soil / sediment
Due Date: 45 days: 9/20/13
Comments: PAH: 44 analytes
received 8/07/13

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 NIST	☐	Blank Spike
☐ Blank Spike Duplicate		☒	Matrix Spike ____
☒ Matrix Spike Duplicate ____		☐	Duplicate ____

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, TCL — Volume(s): 1 ml

Spike Standard(s): PAH, TCL — Volume(s): 1 ml

Internal Standard(s): PAH, TCL — Volume(s): 1 ml

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

Comments:

done ARCPAH as MS
ARCPAH as MSD

Sample Custodian Signature: Amanda Brewster — Date: 8/07/13

Laboratory Manager Signature: ____ — Date: 8/7/13

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
64389	J13034	Arcadis - Mayflower AR	ARC1704	SED-DA-039 (0.5-1.0)	08/06/13	08/07/13	PAH	SED	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64390	J13034	Arcadis - Mayflower AR	ARC1705	SED-DA-039 (1.0-1.5)	08/06/13	08/07/13	PAH	SED	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64392	J13034	Arcadis - Mayflower AR	ARC1707	SED-DA-040 (0.5-1.0)	08/06/13	08/07/13	PAH	SED	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64393	J13034	Arcadis - Mayflower AR	ARC1708	SED-DA-040 (1.0-1.5)	08/06/13	08/07/13	PAH	SED	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64395	J13034	Arcadis - Mayflower AR	ARC1710	SO-DA-016 (0-0.5)	08/06/13	08/07/13	PAH	SOIL	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64396	J13034	Arcadis - Mayflower AR	ARC1711	SO-DA-016 (0.5-1.0)	08/06/13	08/07/13	PAH	SOIL	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64397	J13034	Arcadis - Mayflower AR	ARC1712	SO-DA-016 (1.0-1.5)	08/06/13	08/07/13	PAH	SOIL	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64398	J13034	Arcadis - Mayflower AR	ARC1713	SO-DA-017 (0-0.5)	08/06/13	08/07/13	PAH	SOIL	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64399	J13034	Arcadis - Mayflower AR	ARC1714	SO-DA-017 (0-0.5) MS	08/06/13	08/07/13	PAH	SOIL	44 analytes, MS	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64400	J13034	Arcadis - Mayflower AR	ARC1715	SO-DA-017 (0.5-1.0)	08/06/13	08/07/13	PAH	SOIL	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64401	J13034	Arcadis - Mayflower AR	ARC1716	SO-DA-017 (1.0-1.5)	08/06/13	08/07/13	PAH	SOIL	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64402	J13034	Arcadis - Mayflower AR	ARC1717	SO-DA-018 (0-0.5)	08/06/13	08/07/13	PAH	SOIL	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64403	J13034	Arcadis - Mayflower AR	ARC1718	SO-DA-018 (0.5-1.0)	08/06/13	08/07/13	PAH	SOIL	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64404	J13034	Arcadis - Mayflower AR	ARC1719	SO-DA-018 (1.0-1.5)	08/06/13	08/07/13	PAH	SOIL	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64405	J13034	Arcadis - Mayflower AR	ARC1720	SO-DA-DUP-03-080613	08/06/13	08/07/13	PAH	SOIL	44 analytes	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302
64406	J13034	Arcadis - Mayflower AR	ARC1721	SO-DA-017 (0-0.5) MSD	08/06/13	08/07/13	PAH	SOIL	44 analytes, MSD	13080701	Cooler 1	Arcadis: Daniel Mays	4oz clear glass jar	B0086003.1302

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amanda brewster

From: amanda brewster <amandabrewster@tdi-bi.com>
Sent: Wednesday, August 07, 2013 11:28 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 8/07/13
Attachments: COC 8-07-13.pdf

Hi Daniel,

We received your samples today in good condition.
The internal temperature of the cooler was 0.6ºC and the temperature blank was 0.3ºC.
A PDF of the COC is attached for your records.

Regards,
Amanda

From: Mays, Daniel [mailto:Daniel.Mays@arcadis-us.com]
Sent: Tuesday, August 06, 2013 6:16 PM
To: amanda brewster
Subject: B+B Laboratories Cooler Shipment

Good Evening Amanda,

We shipped 1 cooler to B+B 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.
Please consider the environment before printing this email.

Laboratory Bench Sheet Logs

B&B LABORATORIES ENVIRONMENTAL EXTRACTION LOG

13080701

MATRIX
- ☐ OTHER
- ☒ WATER
- ☐ SEDIMENT
- ☐ TISSUE

Job #: J13034 SDG #: 13080601,

Client: Arcadis ~~Exxon Mob~~ Mayflower AR (CK 8/16)

Analysis: ☒ PAH ☐ PESTS ☐ PCB ☒ ALI

Other:

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-1000-026
Pest/PCB: —
Aliphatic: AL-WKSK-100-020
Other: —

GC Int Std: 100 µL
PAH: AR-WKIS-2500-002
Pest/PCB: —
Aliphatic: AL-WKIS-500-001
Other: —

Turbo Vap II
Bath T (C):
Pressure (>20psi):
Check Water Level:
Turbo Vap Date:

General Comments:
Report 13-3092

	Added	Witness
Surrogate:	8/7/13 CSS	8/7/13 CK
Spike:	8/7/13 CSS	8/7/13 CK
Internal:	8/8/13 CK	8-8-13 EM

	Sample Name	Client ID	Wet Wt. (g or L)	Dry Wt. %	Dry Wt. (g)	Extraction Comments
1	ENV3072A	Procedural Blank	1.00			
2	ENV3072B	Blank Spike	1.00			
3	ENV3072C	Blank Spike Duplicate	1.00			
4	ARC1695	SED-DA-EB-05-080313	1.07			
5	ARC1697	SO-DA-EB-01-080213	1.02			
6	ARC1699	SED-DA-EB-06-080613	1.06			
7						
8						
9						
10						
11						
12						

8/7/13 CK

Internal Chain of Custody

Extraction Prep		Extraction		Concentration		Short Columns	
Date: 8/7/13	Date: 8/7/13	Date: 8/7/13	Date: 8/7/13	Date: 8-8-13	Date: 8-8-13	Date: 8-8-13	Date: 8-8-13
Initials: CK	Initials: CSS	Initials: CSS	Initials: CSS	Initials: EM	Initials: EM	Initials: EM	Initials: EM

ENV 3072

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						

8/7/13 CK

Internal Chain of Custody

Concentration Short Columns		
Date:	8-8-13	8-18-13
Initials:	EN	EN
Columns SA1		
Date:		
Initials:		
Concentration SA1		
Date:		
Initials:		
Columns SA2		
Date:		
Initials:		
Concentration SA2		
Date:		
Initials:		
Transfer for HPLC		
Date:		
Initials:		
HPLC		
Date:		
Initials:		
Post-HPLC Concentration		
Date:		
Initials:		
Final Extract Transfer		
Date:	8-8-13	Initials: EN

Dry Weight Page

—

Lipid/EOM Page

EOM1014

Clean-up/Separation/Other Columns

—

Lot Numbers

DCM: 52195
Hexane: —
Hydromatrix: —
Water: DI045-B
Silica: BCBJ9493V
Alumina: TG14BZEMS
Sodium Sulfate: 2092C525
Pentane: —
Copper: —
Hydrochloric Acid: CK 52144
SPE Columns: —
Other: —

Sample Storage Box #

~~#423~~ 8/14/13 CK

J13034-1

HPLC Storage Box #

—

QC Review

Date	Initials
8/8/13	

Copied to Folders

8/8/13 CK

MATRIX: OTHER / SEDIMENT / (WATER)

Job #: J13034 SDG #: 13080601, 13080701

Client: Arcadis - Mayflower AR

General comments:

Lab Manager Date/Int: 8/8/13 JH

Transferred by Date/Int: 8/8/13 CK From ENV Pg: ENV3072 From DRY Pg:

Date/Int: 8/8/13 HA Bal. Cal. ✓

Date/Int: 8/8/13 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	ENV3072A	Procedural Blank	1.00		3	23.013	23.014	0.001	30		
2	ENV3072B	Blank Spike	1.00		3	24.646	24.663	0.017	510		
3	ENV3072C	Blank Spike Dup	1.00		3	21.836	21.846	0.010	300		
4	ARC1695	SED-DA-EB-05-080313	1.07		3	24.348	24.380	0.032	897		
5	ARC1697	SED-DA-EB-01-080213	1.02		3	22.630	22.632	0.002	59		
6	ARC1699	SED-DA-EB-06-080613	1.06	8/8/13 CK	3	24.120	24.135	0.015	425	8/8/13 CK	
7											
8											
9											
10											
11											
12											

EOM 1014

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											

8/18/13

$$EOM = \frac{(EOM\ Wt.\ (mg))\ (Final\ Extract\ Vol.\ (ml))}{(Smpl\ Wt/Vol.\ (g/L))\ (0.10\ ml)} \times 1000$$

$$\%RPD = \frac{(EOM_1 - EOM_2)}{(EOM_1 + EOM_2) \times 0.5} \times 100\%$$

	Initial Filter Wt (mg)	Filter & Sample Wt (mg)	Wt. of 100 µl Lipid Wt. (mg)
Solvent Blank	24.194	24.194	0.000
EOM Standard	24.083	34.066	9.983

The Relative Percent Difference (RPD) between duplicates must be ≤ 25%.

Date/Int:	RPD
Sample:	
Duplicate:	

EOM - ~~WKCL~~ QC
WKLC-10-004

Last Page